



POLICY REPORT

On the Path to Industrialization

A Review of Industrial Parks in Ethiopia

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On The Path to Industrialization:
A Review of Industrial Parks in Ethiopia

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Foreword

This report comes at an important moment in Ethiopia's development journey. Despite being one of the fastest growing economies in the world in recent years there has not been significant structural change and the manufacturing sector has not yet meaningfully contributed to Ethiopia's GDP. Around two million young people enter the labor market each year, creating an urgent need for rapid job creation outside of agriculture. Ethiopia has attracted the world's attention with its ambitious industrialization plans, particularly through its industrial parks. It has been over 7 years since the government revitalized its industrial parks program with a new policy framework and generation of public sector led parks across the country.

This report analyzes in great detail the early and promising results and lessons from these investments. I was particularly impressed by the analysis showing that the growth performance of industrial parks in Ethiopia is similar to the one experienced by Vietnam when it was at a similar stage in its development – this is promising given the tremendous success Vietnam's industrial zones have had since. I was also impressed by the analysis showing the very fast productivity growth experienced by the firms in Ethiopia's industrial zones. The report also explores where course corrections may be warranted to maximize the benefits such as job creation and technology transfer whilst managing the social and environmental risks this economic shift represents.

Given the significant upheaval and uncertainty both within Ethiopia and the wider world it is especially time to take stock and learn the lessons for the next phase of Ethiopia's industrialization efforts. This timely report provides a comprehensive review of the policy and implementation of the industrial parks in Ethiopia. It draws on novel analysis and empirical evidence and covers the full spectrum from policy objectives to practical implementation of industrial parks. The report is comprehensive, covering not just the economic impact of the parks but the social and environmental dimensions in addition to chapters reflecting on the governance, policy and financial aspects of park investments. This will allow the report to become a helpful resource for policy-makers, practitioners and academics alike. While the report focuses on the industrial park program, I believe it will also contribute to the wider policy discussion in Ethiopia as it proceeds with its transition from a public to a private sector led growth model. This report should also contribute to the policy discussion of special economic zones (SEZs) in other countries.

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This report was prepared by a World Bank team led by Senidu Fanuel (Senior Private Sector Specialist) and Matt Butler (Lead Economist, Consultant), under the guidance of Ousmane Dione, Asad Alam, Niraj Verma, Doina Petrescu and Marius Vismantas. The report is produced in two parts with Part A focusing on assessing the progress in achieving the high-level economic policy objectives of the industrial parks program, while Part B focuses on the review of the practices and lessons so far in the implementation of the Industrial Park program.

The following team members have led and contributed to the various chapters of the report. The overall report was organized and edited by Philip Grinsted and Senidu Fanuel.

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Abbreviations

AGOA	Africa Growth and Opportunity Act
AIP	Adama Industrial Park
AIV	Addis Industrial Village
BDIP	Bahir Dar Industrial Park
BLIP	Bole Lemi Industrial Park
BoLSA	Bureau of Labor and Social
Br	Ethiopian currency, the birr
CBE	Commercial Bank of Ethiopia
CETP	Central effluent treatment plant
CETU	Confederation of Ethiopian Trade Unions
CJCP	Competitiveness and Job Creation Project (a World Bank-funded program)
CRGE	Climate resilient green economy
CSA	Central Statistics Agency of Ethiopia
DBIP	Debre Berhan Industrial Park
DDIP	Dire Dawa Industrial Park
DRM	Disaster risk management
E&S	Environment and social
EBITDA	Earnings before interest tax depreciation and amortization
EBIT	Earnings before interest and tax
EBT	Earnings before tax
EC	Ethiopian calendar
EEP	Ethiopian Electric Power
EEU	Ethiopian Electric Utility
EIB	Ethiopian Investment Board
EIC	Ethiopian Investment Commission
EIDZC	Ethiopian Industrial Development Zone Corporation
EIEC	Ethiopian Industry Employers' Confederation
EIP	Eastern Industrial Park
EPA	Environment Protection Authority
ERR	Economic Rate of Return
ESA	Ethiopian Standards Agency
ESSD	Environment and Social Safeguard Department
ETIDI	Ethiopian Textile Industry Development Institute
ETP	Effluent treatment plant
EU	European Union
FDI	Foreign direct investment
FOB	Free on board

GDP	Gross Domestic Product
GSIP	George Shoe International Park
GTP-I	Growth and Transformation Plan Phase I
GTP-II	Growth and Transformation Plan Phase II
GVC	Global Value Chain
ha	hectare
HIP	Hawassa Industrial Park
HuIP	Huajian Industrial Park
IAIP	Integrated Agro Industrial Park
ICT	information and communication technology
ICT IP	Information and Communication Technology Industrial Park
IFC	International Finance Corporation
ILO	International Labour Organization
IMF	International Monetary Fund
IP	industrial park
IPDC	Industrial Parks Development Corporation
IRR	internal rate of return
IT	information technology
JCC	Job Creation Commission
JIP	Jimma Industrial Park
KAM	key account management
KIP	Kombolcha Industrial Park
MIP	Mekelle Industrial Park
MoA	memorandum of association
MoF	Ministry of Finance
Mol	Ministry of Industry
MoLSA	Ministry of Labor and Social Affairs (now Ministry of Labor and Skills)
MoLS	Ministry of Labor and Skills
MoPD	Ministry of Planning and Development
MoU	memorandum of understanding
MoUI	Ministry of Urban and Infrastructure
MoWE	Ministry of Water and Energy
MtCO ₂ e	metric tons of carbon dioxide equivalent
NPV	net present value
NTL	nighttime light
OSS	one-stop shop
PBP	payback period
PMO	Prime Minister's Office
PPP	public-private partnership
RERR	real economic rate of return
RIPDC	Regional Industrial Parks Development Corporation
ROI	return on investment
SAR	special administrative region
SEZ	special economic zone
SOE	state-owned enterprise
SNNPR	Southern Nations, Nationalities, and Peoples' Region
TRIMs	trade-related investment measure
TVET	technical and vocational education and training
UEUS	Urban Employment and Unemployment Survey
US\$	US dollars

VIIRS	Visible Infrared Imaging Radiometer Suite
VIP	Velocity Industrial Park
WB	World Bank
WTO	World Trade Organization
WWTP	Wastewater treatment plant
ZLD	zero liquid discharge

Executive Summary

Ethiopia's industrial park policy aims to stimulate job creation, export earnings, and technology transfer through private sector investment into manufacturing industries.

While Ethiopia has sustained high growth and poverty reduction over the past 20 years, this has been primarily led by the public sector. Ethiopia has been among the world's fastest-growing countries over the past decade. Between 2010 and 2020, gross domestic product (GDP) per capita increased by over 80 percent to US\$2,300 and since 2000 the rate of extreme poverty has fallen by almost half.¹ Public investments led the way, but this dominance of the state in economic activity hindered the competitiveness and growth of the private sector. Large public investments have been funded by external financing while keeping government consumption low, controlling the exchange rate, and maintaining negative real interest rates. Within Ethiopia's relatively closed financial sector, as credit to state-owned enterprises (SOEs) surged the availability of financing for the private sector declined.²

Structural transformation remains limited, and exports have declined or stalled, posing challenges to create new jobs that accommodate the burgeoning labor force. The manufacturing sector is around 5 percent of the GDP, barely changed from its level 20 years earlier. The labor market encounters serious challenges to productively employ a younger, relatively better-educated labor force. Even though labor market conditions have improved, Ethiopia faces the twin challenge of enhancing current job security and pay, while creating sufficient new jobs for the two million new entrants to the labor force every year.³ Deep macro-financial distortions and limited success in structural transformation has resulted in dependence on agriculture for most of Ethiopia's population, a largely informal economy, a lackluster private sector that has been unable to diversify its productive base and create an adequate number of quality jobs, and a shallow and repressed financial sector. The low competitiveness and productivity of the private sector contributed to a decline in merchandise exports to Ethiopia's GDP—from about 8 percent in the early 2010s to just 3 percent in 2019.⁴

After initiating the first industrial park in 2007, the government of Ethiopia launched a revamped industrial park policy in 2015 to address its socioeconomic development challenges. The initial industrial park was developed when a private investor from China set up the

1 Data from the World Bank Group. GDP per capita is measured in 2017 US dollars; extreme poverty, which is measured as a ratio of the share of the population living on less than US\$1.90 a day (2011 purchasing power parity), decreased from 58 percent in 1999 to 31 percent in 2015.]

2 Sanchez et al. 2021.

3 Sanchez et al. 2021.

4 Sanchez et al. 2021.

Eastern Industrial Park (EIP). While the goal was to mobilize investment from foreign private investors and learn how to develop and operate industrial parks, the industrial park concept was not formally introduced until Ethiopia's first Growth and Transformation Plan (GTP-I, 2010–15). The subsequent GTP-II (2015–20) increased the focus on industrial parks and formulated sector-specific targets, aiming to make Ethiopia a leader in light manufacturing in Africa. Ethiopia's policy goals with the industrial parks program are to (1) create employment opportunities, (2) generate export proceeds and enhance foreign exchange earnings, (3) create a socio-environmentally sustainable manufacturing industry, (4) establish backward and forward industrial linkages, and (5) transfer technology and know-how.

At the time of writing, there are 13 public and five private industrial parks that are operational.⁵ Most recently, due to the internal conflict, operations at Mekelle Industrial Park (IP) and two private IPs (DBL and Velocity IPs) have been stopped, and one Industrial Parks Development Corporation (IPDC)-owned IP (Kombolcha) has faced disruptions for several months. Whereas most of the publicly owned IPs focus on light manufacturing sectors—predominantly apparel and leather products that target the export market—the private IPs have a mix of sectors from apparel to cement and steel and serve both domestic and export markets. This report covers nine public and the five private IPs that were operational at the end of December 2020.⁶

This report assesses the early progress of Ethiopia's IP program with a particular emphasis on its economic contributions, its implementation, and the degree to which it is sustainable.

This report takes stock of the economic impact so far, aiming to support the government in improving the program's implementation. Acknowledging the early stages of Ethiopia's program and that meaningful economic effects of IPs, and special economic zones (SEZs) more broadly, take time to materialize, this report aims to provide guidance for Ethiopian policy makers on possible avenues toward maximizing the contribution of IPs to the country's structural transformation.⁷ The report is structured in two parts: Part A provides an economic impact assessment of Ethiopia's IP program to date, covering its direct and indirect economic contribution to creating jobs, stimulating exports, attracting investment, and creating linkages and spillovers—the government's key policy objectives of the program. Part B delves into a review of critical aspects around the implementation of the IP program: (1) its legal and governance framework, (2) planning and development, (3) operation and management, (4) labor practices and social inclusion, (5) environmental sustainability, and (6) financial sustainability.

The report comes at a difficult time for Ethiopia with an active conflict and suspension of duty-free access to the US market casting a shadow over the country and the development gains of the IPs. In addition to the negative impacts of the COVID-19 pandemic, the armed conflict in the northern part of the country has led to disruptions throughout the economy and directly to the suspension of activities in several IPs. Moreover, the US government suspended Ethiopia's duty-free market access under the African Growth and Opportunity Act (AGOA) effective January 1, 2022. AGOA is a law that grants qualifying Sub-Saharan African countries preferential market access to the US market and had driven a significant increase in US-bound exports from Ethiopia's IPs. Citing the escalating conflict, one flagship investor announced the closure of its factory. The situation remains fluid and hard to predict. The report's recommendations may need to be revisited when there is greater certainty on the political situation and the impact on the operations of IPs and investors.

Part A: Assessing the progress toward achieving policy objectives

1. Economic Impact: Ethiopia's industrial parks have quickly created a large number of jobs and exports but have not yet reached the scale to demonstrate a macroeconomic impact or meaningful backward and forward linkages.

In less than a decade, Ethiopia's industrial parks have directly created 90,000 jobs—a meaningful share of new formal private sector jobs but a small fraction of Ethiopia's rapidly growing labor force.⁸ The employment created benefits predominantly for women aged 18–25, a group for which employment is typically associated with a range of positive societal and economic

5 Industrial Parks Development Corporation (IPDC)-owned parks: Adama, Bahir Dar, Bole Lemi I, Bole Lemi II, Debre Berhan, Dire Dawa, Hawassa, Information and Communication Technology (ICT) Park, Jimma, Kilinto, Kombolcha, Mekelle and Semera. Privately owned parks: DBL, Eastern, George Shoes, Huajian, and Velocity.

6 The public IPs include Adama, Bahir Dar, Bole Lemi, Debre Berhan, Dire Dawa, Hawassa, Jimma, Kombolcha, and Mekelle. All five private IPs are included: DBL, Eastern, George Shoes, Huajian, and Velocity.

7 Industrial parks are a type of special economic zones (SEZs). While acknowledging the differences between types of SEZs (e.g., export processing zones, free trade zones, and IPs) the term IP is typically used in the Ethiopian context. However, for comparison purposes the terms IP and SEZ are used interchangeably in this report.

8 Wieser and Mesfin 2021 and employment data from the Ethiopian Investment Commission and the IPDC.

spillovers but which currently experience near double the unemployment levels in the wider population. IP jobs have typically been found to pay a premium over other alternatives with evidence this is growing further as productivity rises. However, workers report low levels of satisfaction with both pay and the quality of life in cities where most have recently moved.⁹ Due to modest job creation in the broader private sector, Ethiopia's IPs may account for as many as one in seven new formal private sector jobs. The total number of jobs industrial parks created to date, however, is less than 5 percent of Ethiopia's annual labor force growth.

With modest inward investments, net exports from Ethiopia's IPs grew rapidly pre-COVID, reaching US\$163 million in 2019/20 and approaching half of Ethiopia's total manufactured exports. Ethiopia's public IPs have attracted 66 investors and an estimated US\$740 million in inward investment since 2014/15.¹⁰ Since 2014/15, net exports (gross exports minus imports) from publicly owned IPs sustained an impressive average growth rate of 50 percent a year. While IP exports as a share of total exports remain low (5.1 percent in 2019/20), they account for a substantial share of all manufacturing exports (40 percent in 2019/20, up from just 11 percent five years earlier).¹¹ Textiles and garments dominate IP exports, accounting for around 95 percent of exports from publicly owned parks.¹² IPs accounted for 70 percent of the country's textile and garment exports in 2019/20 and this high degree of overlap between IPs and the Ethiopian garment industry is a recurrent theme throughout the report.¹³

While Ethiopia broadly follows benchmark countries' trends, so far, the IPs have had limited macroeconomic impact and do not yet meaningfully improve Ethiopia's foreign currency reserves. This report used Vietnam, Kenya, and Bangladesh as benchmark countries for Ethiopia given their programs' similar sectoral focus and comparable national income levels at the time of launching their respective programs.¹⁴ Even though a perfect comparison would be difficult given the different periods these programs were initiated, differences in macroeconomic policies and shifts in global value chains (GVCs), the analysis attempts to control for these variables and draw comparable parameters. Like Ethiopia, these countries showed moderate levels of export and job creation during their programs' initial five to seven years and a stark acceleration afterward, especially Vietnam. Ethiopia's IP exports contributed about 0.2 percent to its GDP, comparable to Bangladesh (0.1 percent) and Kenya (0.3 percent) seven years after program launch. Given the large scale of Vietnam's program, exports from its SEZs accounted for 2.4 percent of GDP after the same period.

If recent trends were to continue, the IPs would soon become Ethiopia's largest source of merchandise exports and a significant share of formal private sector jobs. However, at present they have not made a significant macroeconomic impact or diversification of export earnings. Extrapolating the growth rates of the past five years would mean the IPs' export earnings would surpass the combined total of the three largest agricultural exports by 2027. Job creation could also grow by a factor of five within the existing stock of existing IPs alone. However, the recent instability in the country and the loss of AGOA trade privileges call into question these upside scenarios and suggest a lower growth trajectory or even worse, reversal of the gains made in the past few years. Under AGOA, textile exports saw a major shift toward the United States, increasing rapidly from 10 percent in 2014 to 69 percent in 2019. Despite this opening of new export markets, Ethiopia's IPs have so far had limited macroeconomic impact: for example, export revenues of the IPs would cover just four days of the country's annual import bill of US\$15.6 billion (in 2019).

The indirect impact of the parks is less clear; firm level surveys show low levels of linkages with domestic suppliers, but novel datasets suggest evidence of economic spillovers into regional economies. At present, park investors are heavily dependent on imported inputs (such as fabric for garment manufacturing) with local purchasing representing less than 5 percent of all intermediate inputs. International investors have built a small number of modern fabric mills, which can double local value added, but challenges of quality and consistency are cited as short-run obstacles to full vertical linkages back to cotton. Deepening these linkages would both yield large returns and increase Ethiopia's attractiveness to GVC investors. Given the present lack of integration, it is not expected that technology transfer currently extends far beyond the training given to the first generation of Ethiopian staff. Hawassa city offers the clearest example of spillovers from the IPs, including housing construction linked to large numbers of migrant workers entering the city. A sharp spike in new business registrations and the use of nighttime light data also offer evidence of economic activity in and near the parks stimulating localized economic activity and job creation.

9 See Dom et al., forthcoming.

10 This figure includes both operational firms as well as firms at a pre-operational stage. However, the registered capital figures of IP firms are not being continuously updated as they are primarily being recorded at the time of their first registration. Actual numbers may therefore be higher.

11 Data on manufacturing exports are from the Ethiopian Ministry of Trade.

12 Based on firm-level data from IPDC.

13 This share would be even higher when considering textile and garment manufacturers in the private IPs.

14 In addition to these criteria, the availability of reliable data was a factor for choosing these three countries.

2. **Impact of conflict and AGOA:** The trade preferences under AGOA have been decisive for the industrial parks, and the government has limited scope to offset potential job losses that may result from its suspension.

The significant competitive advantage conferred by AGOA trade privileges had been a major driver of recent inward investment and the growth of jobs and export earnings. Depending on the product type and materials used, the duty advantages under AGOA allowed buyers importing into the United States to save up to 32 percent on the value of finished garment products manufactured in Ethiopia. Given that imported fabric can represent up to two-thirds of the value of finished products these duty savings could be equivalent to all local costs or Ethiopian economic value-added. By 2019, 70 percent of Ethiopia's textile and garment exports were destined for the United States, up from just 15 percent five years earlier. It is estimated that at least 56,000 jobs in industrial parks are at risk. In addition, the conflict forced the closure of four export-focused industrial parks and led to at least one flagship investor to close its manufacturing facility in Hawassa.¹⁵

The magnitude of these duty advantages limits what the Ethiopian government can do to offset the loss of AGOA savings with cost-saving instruments such as tax waivers or subsidies. A protracted conflict, on top of the loss of AGOA privileges, would risk additional investors leaving or deter new ones in the pipeline from investing. There is also likely to be a lagged effect as suppliers complete existing orders for US buyers but face reduced business thereafter. There is anecdotal evidence emerging of employers reducing employment levels and it seems inevitable that production will fall in 2022.

Needless to say, it is of paramount importance to make the restoration of peace and stability the highest priority and to engage with US policy makers and US buyers to seek a resumption of AGOA trade preferences. In the short run the government may consider efforts to ease the business environment and one-stop shop (OSS) service delivery. An intervention to subsidizing workers' wages as a means of maintaining employment levels appeared to have protected jobs under COVID-19 and might also be appropriate again but would be insufficient to offset the loss of competitiveness from AGOA's suspension. Longer term, the magnitude of expected losses without AGOA benefits underlines the importance of a strategy based on competing on more than price, including deepening vertical value chain integration (as a means of both lowering costs and offering enhanced flexibility and speed to market), enhancing Ethiopia's sustainability credentials, and diversifying products and markets. Even if AGOA were to be reinstated soon, the AGOA program is scheduled to expire in 2025, making it of paramount importance for the government to focus on addressing underlying competitiveness challenges such as cost of trade logistics, firm productivity, access to finance and foreign exchange, investor services, linkages, and vertical integration.

Part B: Assessing the implementation of the industrial park program

3. **Legal and governance framework:** While providing a solid base for Ethiopia's IPs, the laws should clarify better institutional mandates and governance structures, and establish procedures for park designation and development.

While Ethiopia's legal framework for industrial parks covers key aspects, it could go further in some areas while maintaining flexibility in terms of export requirements and sectoral focus. The legal framework follows a layered approach of different legislative acts. It gives industrial park laws legal primacy over other legislation and has a broad scope of technical and legal application. The framework defines the roles and responsibilities of key institutions like the Ethiopian Investment Board (EIB), Ethiopian Investment Commission (EIC), Industrial Parks Development Corporation (IPDC), and the Ministry of Industry (MoI). It also provides a special regulatory business environment for industrial parks and protects investors from certain constraints in the domestic investment environment. The establishment of OSSs in each industrial park eases administrative procedures for investors. However, comparing Ethiopian laws with international good practice reveals that the country could improve investor guarantees and protections, strengthen the effectiveness of commercial dispute resolution mechanisms, further reduce bureaucracy (for example, in terms of approval, occupancy, tax and customs procedures) and other investment-hindering provisions and exit procedures. Moreover, the legal framework could widen the focus on other types of productive economic activity in industrial parks and grant more flexibility concerning the share of export requirements depending on broader development policy objectives and economic imperatives. Lastly, while the current legal framework puts in place adequate provisions on social and environmental compliance, more can be done to incentivize compliance or disincentive noncompliance as part of the legal system and position the IPs as sustainable investment hubs.

¹⁵ At the time of writing, one IP (Kombolcha) had reopened but three others remained closed.

Crucial reform areas include further clarifying institutional responsibilities, establishing procedures for designating industrial parks, and encouraging private sector participation in park development and operation. The legal framework for industrial parks contains overlaps and duplications concerning regulatory and operational functions between EIB, EIC, IPDC and MoI that need to be clarified. Some of the lack of clarity relate to mandates around investment promotion and facilitation and de-jure practice of managing industrial park development and operation by both IPDC and EIC. There are also overlaps in terms of investor aftercare where the OSS is provided by EIC; however, there are also services provided by IPDC that create ambiguities for investors on who does what.

Despite these overlapping mandates, investors complain of lack of effective coordination in service provision as well as lack of high-level ownership and coordinated leadership and regulatory changes in the industrial park program, especially in the last couple of years. In addition, as per current provisions, potential park developers are not required to submit financial modelling, market demand, or transport economics and logistics studies for industrial parks approval—creating the risk of unsustainable industrial parks being approved. This is a critical aspect of setting up successful and commercially viable industrial parks; Ethiopia may consider requiring such procedures by adding them to existing laws. Moreover, while the Industrial Park Regulation entrusts IPDC with the development and operation of industrial parks, it does not encourage the outsourcing of operation and management to the private sector.

There are also opportunities to streamline and integrate the legal and institutional framework for the industrial parks led by the federal government and the Integrated Agro Industrial Parks. While this report focuses on the federally led industrial parks program and does not cover the Integrated Agro Industrial Parks (IAIPs), there are missed opportunities in terms of leveraging institutional capabilities and coordination. For instance, the IAIPs could have benefited better from the learnings and experiences by IPDC on the development and operation of industrial parks, and the legal framework could have enabled integrated planning, investment promoting, and resource leveraging. The industrial parks could also have benefited from the institutional arrangement for the implementation of IAIPs in terms of ownership of local authorities and the coordination platform at the federal level as well as links with the surrounding communities.

4. **Planning and development:** Developing multiple industrial parks in parallel without robust demand analyses and feasibility studies led to stretched public resources and capacity, suboptimal investor uptake, and gaps in provision of critical utilities.

While the government has slowed down the parallel development of IPs, undertaking multiple industrial park developments at the same time, especially for a program that was new to the country, had spread the government's resources too thin. Overall, Ethiopia's industrial park program lacked proper planning, robust demand analyses and feasibility studies, and sequencing of development based on occupancy. Hawassa Industrial Park (HIP), Bole Lemi II, and Kilinto are the exceptions. HIP was initiated and developed in response to tangible interest by an anchor investor, but multiple other industrial parks were initiated in parallel without a definite investment pipeline or a robust demand analysis. At the early stages of the program, a phased approach, informed by concrete investor demand, would have helped target financial resources and public sector capacity and ensured that infrastructure and construction projects were best suited for future users. While the pace and ambition of rolling out so many parks simultaneously garnered international attention, a more iterative approach may have improved feedback loops and lessons learned from completed projects and targeted development around anchor investors. Moreover, this pace of development cost the government by stretching limited financial and human resources, compromising delivery of fully complete infrastructure, delivery of investor aftercare, diluting the sectoral focus of the industrial parks during or after development and the financial viability of the IPs.

5. **Operation and management:** Overstretched public institutions and lack of effective coordination has compromised the quality of services to investors; and there is a need for effective coordination among EIC, IPDC, MoI, and other regulatory agencies (such as regulations on environment, labor, financial sector) and to involve experienced private operators to improve services.

Overall, there has been an improvement in the operation and management of Ethiopia's industrial parks over time, while several challenges—such as the provision of utilities—remain to be addressed. Since Ethiopia's industrial park program is relatively new, the government has adopted an approach of learning by doing, adjusting course during implementation even though some of these pitfalls could have been avoided with deliberate advance planning and adopting global lessons learned. Major concerns of investors include lack of water, frequent interruptions of power and telecom networks, labor issues, the cost and service delivery of banking operations, immigration challenges, and high logistics and transportation costs. Ethiopia may consider inviting experienced private sector operators to handle some or all of the industrial parks' operations and management as

the public institutions are overstretched to provide quality service to all investors in all of the operational IPs. International experience shows that experienced private sector operators may provide higher quality service. IPDC's recent efforts to bring in private developers and operators has been a noteworthy step, even though previous efforts to bring a private operator in HIP (and more recently in Jimma IP) were not successful.

Better provision of OSS services and key account management (KAM) systems requires coordination between EIC, IPDC, and other agencies as well as investment in well-functioning information technology (IT) systems. Even though EIC has an online investment management system in place, gaps remain concerning automating OSS services—for example, the lack of e-payment and online notarization of memoranda of understanding (MoUs) or memoranda of association (MoAs). Automation of services and better coordination between EIC, IPDC, and other agencies, such as the Ministry of Labor and Skills (MoLS) and Environment Protection Authority (EPA), would improve the OSS operation in all industrial parks, reduce the compliance burden on investors, and eliminate inconsistent regulations and requirements. EIC, as the regulatory agency for industrial parks, should conclude service agreements with key agencies to ensure they provide the necessary services at the OSS in the industrial parks.

6. Labor practices and social inclusion: Industrial parks offer critically needed economic opportunities for young women, but the transition into formal sector jobs and city life also poses risks around occupational health, sexual reproductive health, and vulnerability to gender-based violence that warrant targeted mitigation strategies.

Industrial parks offer economic opportunities but also expose (mostly young) women to hazards and risks that labor sourcing, awareness programs, and social protections could better mitigate. Industrial parks offer opportunities to young female domestic migrants who often enter the formal economy for the first time. However, many workers underestimate or are unaware of the living and working conditions that they need to adapt to when starting work at industrial parks and moving to an urban city, and they have limited access to support services. Labor sourcing programs can play a crucial role to ensure job seekers' expectations of industrial park employment are realistic and inform them of opportunities and risks—thereby also limiting worker turnover. The government may consider strengthening awareness programs to inform workers of their rights and responsibilities—for example, the option to take part in unions and collective bargaining. Importantly, a lack of social protection mechanisms—minimum wages, health insurance and social services like childcare, or psycho-social services—as well as lack of access to affordable housing, transport, and security make working and living conditions more challenging for workers and delay the creation of an industrial workforce. Lastly, there is a need for improved collective dispute resolution and a grievance redress mechanism, which currently are either nonexistent, weak, or not trusted and used by workers.

There is a need to develop an investment promotion strategy that attracts socially responsible investors to Ethiopia and to strengthen tripartite mechanisms, such as setting wages. While there are examples of investor good practice on issues such as wages and worker empowerment training, there is also considerable variation across employers. To mitigate social downsides of industrial parks, Ethiopia should develop an investment promotion strategy that positions the country as a sustainable sourcing location that does not compromise on social standards and compliance. Attracting the right firms and reputation-conscious brands may support putting the country on the right path on social sustainability in line with global value-chain trends. In addition, Ethiopia may consider strengthening tripartite labor mechanisms. For example, currently, foreign investors are not part of national wage-setting mechanisms (for example at the recently established wage board). Expediting the process for setting minimum wages would provide basic protections for workers and the context-appropriate benchmark that will assure future investors that require it. Recent efforts to establish a wage board, introduce the International Labour Organization's (ILO's) Better Works program, and establish workers grievance redress mechanisms are steps in the right direction to resolve some of these vulnerabilities.

7. Environmental sustainability: Like many countries, Ethiopia's industrial parks are exposed to the environmental risks of manufacturing industries, but they could serve as pilots for effective mitigation strategies and adoption of sustainable industrial parks.

Unsustainable water use is a key environmental concern in the industrial parks, which calls for updated regulations, better monitoring, improved facilities, and effective enforcement. The fact that a third of Ethiopia's population lacks access to water and another 28 percent have only limited access to safe water underlines the urgency for Ethiopia to follow an environmentally sustainable industrialization path. Even though textile and garment firms in industrial parks consume less water than their

industry peers in the country overall, they still use 70 percent more water than global benchmarks.¹⁶ Though current provisions require water permits for groundwater abstraction, there are no limits to water use and user fee models are insufficient. This poses the risk of depleting ground water while water supply issues are already a major concern of industrial park firms, leading to some firms to shift production elsewhere. Addressing these constraints requires comprehensive action from public authorities, including updating regulations, better monitoring, introducing new fee models to encourage greater water efficiency, investing in new facilities such as rainwater harvesting systems and incentivizing sustainable practices.

Handling waste is another environmental concern, including wastewater treatment, sludge management, and solid waste disposal. Water pollution from textile effluents in Ethiopia is one of the largest sources of industrial soil and water pollution. Wastewater treatment is not mandatory in Ethiopia, but firms must adhere to water discharge norms as per environmental regulations. While all operational IPs have wastewater treatment plants (WWTPs), they are not fully operational in some of the IPs and wastewater treatment fees are only charged in three industrial parks. Even where wastewater treatment plants are fully operational, the recycled water is often not effectively reused. There are examples of good practice, such as zero liquid discharge (ZLD) plants, which do not release park water into local ecosystems, dramatically reduce abstraction, and encourage water reuse. However, these systems consume high levels of energy, lack a sustainable approach for sludge management or disposal, and face operational and management challenges. Concerning solid waste management, the lack of segregation at source leads to an increase in waste and limits possibilities for segregation, recycling, and value generation. Even though small-scale initiatives of private recycling companies exist, improved solid waste management could increase recycle and reuse of waste and the environmental sustainability of the industrial parks.

There is an opportunity for Ethiopia to embed both labor standards and environmental sustainability more systematically into the industrial parks' legal framework and strategy with the benefit of designing national policies and turning Ethiopia into a responsible investment location. In line with the policy objectives of the industrial park program, the government can use the parks to try new approaches based on international good practices, catalyze better regulation and enforcement nationwide, and put Ethiopia on a more sustainable economic pathway. Besides being essential for Ethiopia's environment and population, these improvements have become a competitiveness edge as global buyers—responding to consumer demands—increasingly require commitments to sustainable practices. On both environmental and labor standards, a buyer's audit and compliance regimes often require practices and, particularly, reporting that go beyond domestic requirements and become the de facto standard regime for many investors. Improvements in labor standards and environmental sustainability can help position Ethiopia as a location for reputation-conscious international brands, especially where Ethiopia's overall competitiveness faces significant challenges without AGOA benefits.

8. Financial sustainability: Revenues from industrial parks have started covering operating expenses, but the significant capital outlay (of approximately US\$1 billion) will take time to show a positive return on investment (ROI).

Given their broader economic goals, direct revenue generation by industrial parks has not been the main performance yardstick, but nonetheless, earnings before interest and taxes (EBIT) show some progress toward financial sustainability. Ethiopia's nine publicly owned industrial parks covered under this study were constructed for approximately Ethiopian Birr (Br) 24 billion (US\$1 billion at historical exchange rates), the biggest being Hawassa with cost of Br 7 billion (US\$303 million). On average, factory sheds accounted for about half of all construction costs. Since operations began in 2015/16, IPDC has incurred total operating expenses for day-to-day park operations of Br 802 million (US\$24 million at historical rates). Over the same period, IPDC generated revenues of Br 2 billion (US\$57 million) from operations of the publicly owned industrial parks, predominantly from shed rental fees (representing 85 percent). These parks generated enough revenue to cover their operating expenses and maintained positive earnings before interest, tax, depreciation, and amortization (EBITDA) throughout the operational years. Considerable depreciation expenses for park development have dragged profits down, resulting in a negative EBIT.

However, current accounting practices may not reveal the true costs of the industrial parks, and (depending on how calculated) the profitability of the industrial parks may take longer to achieve. IPDC's head office expenses incurred during construction have not been systematically allocated to the industrial parks. Also, interest payments on the Eurobonds (secured by

the government from international markets and used to finance the development of several industrial parks) are currently made by the Ministry of Finance but not reflected in IPDC's accounts and therefore not accounted as cost of development of the IPs. So far, the government has paid out US\$348 million to serve the Eurobond interest payments, which by the end of the loan period in 2024 would reach US\$497 million. This negatively affects the proper measurement of the cost of development of industrial parks and their financial performance. All costs incurred in construction of the IPs, including the financial costs, shall be captured properly and used in measuring the financial performance of the industrial parks. Scenario analysis shows that the decision of how to allocate head office expenses, Eurobond interest payments, and foreign exchange losses substantially influences the year at which each industrial park may become profitable (ranging from mid-2022 to mid-2026). Much broadly, this also shows weakness in public investment management by the government in terms of efficient resource allocation, appropriate accounting, and the analysis of opportunity cost of investment decisions.

There are some untapped opportunities within the existing IPs to increase IPDC's financial performance further. Projections show that IPDC's monthly revenues could be increased by an additional Br 35 million (US\$687,000) if all the factory shed, office, commercial, and residential spaces within the nine IPs covered under this study are fully rented out.

Priority policy recommendations

Overall, Ethiopia's IPs are on the right path toward achieving their objectives.¹⁷ Current headwinds and lessons from the initial period require making adjustments to the IP program and rethinking Ethiopia's industrial policy more broadly. Restoring and maintaining peace is of utmost importance to the success of Ethiopia's industrial development. In addition, this report finds that regaining preferential trade access under AGOA will be critical for the IP program to stay on track in the short run but needs to be accompanied with measures to develop Ethiopia's value proposition to investors and buyers as one based on productivity, integrated value chains, and sustainable business practices, rather than just low costs. To unleash the catalytic role of industrial parks for Ethiopia's industrial development, this report makes the following priority policy recommendations shown in Table ES.1. More detailed and technical-level recommendations are found in the respective chapters and are summarized in appendix A.

¹⁷ These priority policy recommendations refer to the IP program more broadly but acknowledge substantial differences in the performance of individual parks. The latter is discussed in detail in the respective technical sections in the main part of the report.

TABLE ES.1. Priority Policy Recommendations

Recommendations	Responsible institutions
1. Maximizing the return on the IP investments by increasing capacity utilization within the existing IPs. Rather than constructing new public sector-led industrial parks, efforts should focus on increasing production within existing parks and making them a success, using the lessons learned from the successes of parks in Hawassa and Bole Lemi.	
1.1. As the IP program is at a critical juncture and the current political and economic environment is challenging, it is vital that the government takes strong leadership of the IP program and puts in place high-level strategic leadership and coordination mechanisms to ensure Ethiopia does not lose the gains made in the past few years and maximizes the returns from the significant public investments. The involvement of high-level policy makers (such as the Prime Minister’s Office, ministers, and key decision-makers) is critical to rethink the priorities for the IP program, fast-track solutions to regulatory bottlenecks, and assure investors of Ethiopia’s long-term commitment to creating a favorable business environment .	PMO, EIB, EIC, MoPD, MoF
1.2. Recognizing the challenges created by the loss of AGOA duty-free access to the US market, an urgent review of the pain points for existing investors and buyers (such as foreign exchange, banking charges, investor services, utilities) should be conducted with a view to fast-track improvements to the investment climate and OSS service delivery. <i>Short term</i>	PMO, EIC, MoF, IPDC
1.3. Prioritizing addressing existing infrastructure gaps (such as housing, utilities) and raising the quality and scope of OSS services in existing IPs. This would improve capacity utilization, productivity, and investor retention while enhancing social, environmental, and financial sustainability. <i>Short and medium term</i>	IPDC, EIC
1.4. Updating analysis of the competitiveness and viability of potential export value chains in Ethiopia to guide an updated industrial policy and investment promotion efforts. This should include (but also look beyond) garments and benchmark against existing market leaders. This should also address binding constraints that are compromising Ethiopia’s competitiveness (such as cost of logistics, investor services, and regulatory barriers), especially to plan for post-AGOA realities and longer-term industrialization efforts. <i>Short term</i>	MoI, EIC, PMO
2. Improving domestic linkages and deepening vertical value chains. A deeper, more developed value-chain ecosystem (such as more Tier 2 suppliers like fabric mills and dye houses) and improved linkages are essential to creating new jobs and achieving policy goals such as technology transfer and competitiveness of finished goods manufacturing.	
2.1. Adopting a National Linkages Policy and establishing a Local Content Unit (or similar) to institutionalize policies and lessons around linking local suppliers to investors. These may focus on addressing information gaps, matchmaking, and building capacity for local suppliers on meeting market requirements. <i>Short to medium term</i>	MoI, EIC
2.2. Accelerating efforts specifically to link cotton and other agricultural inputs to demand already created in the IPs (such as upgrading cotton seed varieties in use in Ethiopia, improving land availability, using the opportunity created by a modern spinning mill in Dire Dawa). <i>Medium to long term</i>	MoI, MoAs, EIC

(continues)

TABLE ES.1. Priority Policy Recommendations (Continued)

Recommendations	Responsible institutions
3. Improving labor productivity and working conditions. Build the capacity of workers and improve working conditions to raise satisfaction and productivity while reducing social risks and turnover levels.	
3.1. Ensuring that Ethiopia follows good practice on labor management to empower workers economically and socially. This should include supporting tripartite negotiations on wages and labor conditions, investing in essential services (such as housing, transport, and health services) and enforcing workplace standards . <i>Short and medium term</i>	MoLS, EIC, IPDC
3.2. Improving labor market efficiencies (such as via campaigns to improve information for potential workers about the realities of urban and working life and the ability of workers to select individual employers). <i>Short term</i>	MoLS, EIC, IPDC
4. Consistently following a demand-driven and integrated IP development strategy. To ensure successful and financially feasible IPs and maximize the benefits to regional economies, the development of IPs need to follow careful investor demand assessments and include IPs into urban and regional development plans (for both private and public IPs).	
4.1. Establishing improved guidelines for integrating the development of IPs within the urban plan for host cities. This will help manage the provision of basic services, water and power, transport infrastructure, and so on to better serve both IP investors and workers. Integrated planning should be done even for the already developed IPs, even though retroactively, to ensure that the IP needs are integrated and adequately planned along with urban development plans. <i>Short to medium term</i>	IPDC, MoUI, EIC
4.2. Requiring that developers systematically conduct demand assessments and full feasibility studies for IP development, including investment interest or demand; reasonable distance from labor supply, suppliers and distribution markets; proof of favorable transport economics; financial feasibility; and positive socioeconomic returns. EIC, as a regulator, should put in place such a requirement while reviewing requests for IP development. It would be helpful for the government to conduct demand analysis, even though retroactively, for the IPs that have low investor uptake. <i>Short term</i>	EIC, IPDC
5. Reinvigorating high-level leadership of the IP program, streamlining institutional and regulatory responsibilities and involving the private sector in IP operation and management. After lessons learned in the initial phase of Ethiopia’s IP program and experimentation with different operation and management models, there is an opportunity to recalibrate institutional roles and IP governance while reinvigorating political support for an ambitious IP agenda.	
5.1. Instituting previous practices at the highest level of government of regular, structured discussions and meetings with investors and buyers would help the government address investor concerns and challenges, as well as provide assurance to the private sector on the commitment of the government to work with investors. It would also help minimize contradictory and unpredictable regulatory changes and administrative decisions that further complicate doing business in Ethiopia by bringing all key stakeholders together. <i>Short term.</i>	PMO, EIB, EIC
5.2. Strengthening and clarifying the responsibilities of EIC relative to line ministries and regulators (such as through MoUs) to maximize the provision of OSS services and facilitate policy experimentation. Moreover, there is a need to clarify institutional and regulatory responsibilities between EIB, EIC, IPDC, and MoI—for instance, between EIC and IPDC on investment promotion. Effective coordination mechanism is also needed among federal and regional agencies. <i>Short term</i>	EIB, EIC, IPDC, MoI,

TABLE ES.1. Priority Policy Recommendations (Continued)

Recommendations	Responsible institutions
<p>5.3. Refocusing public sector engagement toward IP strategy, policy, planning, and provision of infrastructure by passing IP operation and management to the private sector (such as through outsourcing or public-private partnerships). Earlier mixed experiences with private operators may be mitigated through proper due diligence, improved competitive selection procedures, and contract management. <i>Short to medium term</i></p>	IPDC, EIC
<p>6. Embedding environmental sustainability. Investments in environmental sustainability are an important risk mitigation tool but also offer a competitive edge for Ethiopia in attracting reputation-conscious international buyers and manufacturers.</p>	
<p>6.1. Introducing adequate pricing of resources (especially water); improving monitoring and reporting on use/discharge of water, waste, and electricity; and upgrading environmental regulations and their enforcement. <i>Short to medium term</i></p>	EIC, EPA, MoWE
<p>6.2. Using IP incentives to encourage green investments and responsible behavior of investors (such as tax credits for investments in water efficiency). <i>Medium term</i></p>	EIC, EIB
<p>6.3. Targeting of investor outreach activities toward responsible investors with a long-term vision of engaging in Ethiopia. <i>Short to medium term</i></p>	EIC, IPDC

Note: EIB = Ethiopian Investment Board; EIC = Ethiopian Investment Commission; EPA = Environment Protection Authority; IP = industrial park; IPDC = Industrial Parks Development Corporation; MoA = memorandum of association; MoF = Ministry of Finance; MoI = Ministry of Industry; MoLS = Ministry of Labor and Skills; MoPD = Ministry of Planning and Development; MoU = memorandum of understanding; MoUI = Ministry of Urbanization and Infrastructure; MoWE = Ministry of Water and Energy; PMO = Prime Minister's Office; OSS = one-stop shop;

BOX ES.1:

Options for the Ethiopian Government in Response to the Suspension of AGOA Preferences

The magnitude of the competitive advantage conferred by the African Growth and Opportunity Act (AGOA) and the early stage of development of Ethiopia's textile and garment industry mean that options to offset the losses from AGOA's suspension are limited. Duty-free access to the US market under AGOA had driven the share of Ethiopian garments destined for the United States to increase from under 20 percent to almost 70 percent by 2019. The suspension creates a substantial demand shock for manufacturers in Ethiopia that will likely be difficult to offset in the short term. This is complicated by the fact that, despite rapid growth in productivity levels in recent years, Ethiopia's garment and textile industry has not yet matured sufficiently to be competitive with manufacturing locations in Asia without preferential access under AGOA. The more muted growth of exports to the European Union has in part been due to Ethiopia's not benefiting from advantage over Bangladesh into the European market (as it did to the United States) and to the tendency of European buyers to both make smaller order sizes and require manufacturers to respond to more frequently changing fashion seasons than for the US market. Although AGOA had been scheduled to expire in 2025, the suspension without the expected transition period represents a particular challenge.

At the time of writing, the full impact of the AGOA suspension has not yet been felt but a negative impact on jobs appears likely. Given that international buyers from the United States can place orders up to one year in advance, the full effect of the AGOA suspension will only become visible toward mid-2022. While donor and government-funded job retention schemes have played a role in delaying large-scale layoffs, there are reports of firms having already started to cut back on jobs. This report estimates that 56,000 jobs in Ethiopia—mostly held by women aged 18–25 years—are dependent on US exports under AGOA and are currently at risk.^a

The structure of the ready-made garment supply chain means that AGOA benefits fall principally to buyers. Buyers place orders with Ethiopia-based manufacturers at prices anchored around locations such as Bangladesh. When importing Ethiopian goods into the United States, buyers are not subject to the tariff duties paid from other locations. These duty advantages can range from 16 percent to 32 percent of the value of finished products, depending on the product type and materials used. For a men's shirt (Ethiopia's main US export product in 2019) with a unit price of around US\$6.00, the savings to US buyers can be as high as US\$2.00 per garment. When imported fabric is used, the Ethiopian local content of a US\$6.00 shirt is around US\$2.00, with labor costs representing more than half of this amount.

Therefore, the size of the duty advantage under AGOA limits the ability to fully offset AGOA savings using instruments such as tax waivers and subsidies on shed rentals or logistics fees. Figure BES.1 shows the production cost breakdown of a jacket manufactured in Ethiopia. After the loss of AGOA savings, the price to US buyers would increase by 28 percent, from \$11.46 to \$14.69 per unit. As figure BES.1.1 shows, even subsidizing half of all labor costs and half of factory overheads would still not be enough to offset the loss in competitiveness.

a. This estimate assumes that productivity levels are the same across garment manufacturers inside and outside IPs. In 2019/20, firms in IPDC-run parks accounted for about 70 percent of Ethiopia's textile and garment exports and employed over 56,000 workers. This means that there are about 80,400 workers employed in textile and garment manufacturing in Ethiopia. As 70 percent of those exports go to the US market, there are an estimated 56,000 workers who are directly involved in manufacturing of textiles and garment for the US market.

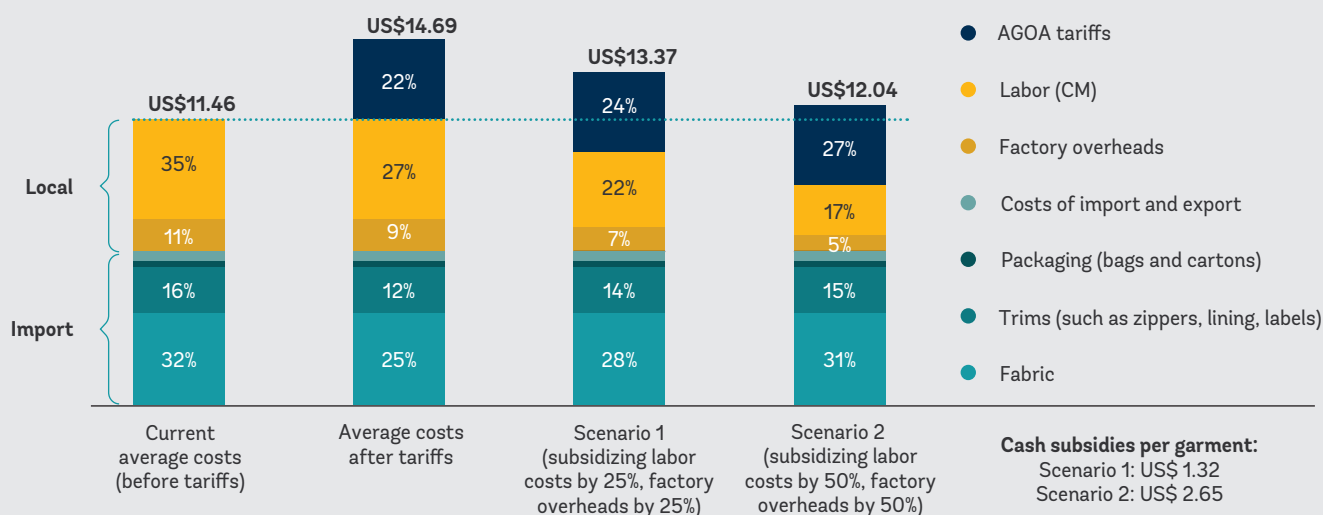
(continues)

BOX ES.1:

Options for the Ethiopian Government in Response to the Suspension of AGOA Preferences (Continued)

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FIGURE BES. 1.1. Breakdown of Average Unit Production Costs of a Jacket in Ethiopia (in US\$ and percent)



Source: Data shared by an anonymous industrial park company in Ethiopia.

Notes: The jacket is assumed to be HS 6103.33 or HS 6101.30.20. The figures shown are based on an average of four different types of the same category of jackets. Factories' profits are assumed to be spread out among other inputs and not indicated separately due to data availability. AGOA = Africa Growth and Opportunity Act; CM = cut-and-make

Not only is the financial impact of AGOA likely to put off buyers, but also reputation-conscious brands may be wary of security and associated risks. The channels through which this impact might be felt include the following:

- International buyers that import IP products into the United States may choose to place new orders outside Ethiopia because of the increased cost of post-AGOA import duties. This channel might be compounded by an increase in perceived risks—both reputational and operational—among international buyers who typically place orders several months in advance of shipment.
- Existing investors (both those directly affected, as in Mekelle, or those concerned by heightened risk levels) might temporarily scale back operations or even exit their investments, especially those that primarily focus on the US market and that made investment decisions mainly because of AGOA privileges. In addition to the lack of competitiveness in the European market as stated earlier, investors also report that production for the US market is relatively easier because of the nature of products while other more sophisticated markets like Europe require a more complex production setup as well as a short delivery lead time. This makes it more challenging for existing investors to quickly shift production to serve the European market.
- New investors considering investing in Ethiopia may defer a decision until perceived risk levels have receded.

BOX ES.1:

Options for the Ethiopian Government in Response to the Suspension of AGOA Preferences (Continued)

Table BES1.1 outlines some options that the government of Ethiopia could take to mitigate the worst impacts of the AGOA suspension. An overarching requirement is to make the restoration of peace and stability the highest priority.

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TABLE BES1.1. Options for the Government of Ethiopia to Minimize the Impact of AGOA Suspension

Measure	Timeframe
1. Engagement with US government on measures to reinstate Ethiopia's duty-free eligibility to US markets.	Immediate
2. Efforts to protect workers' basic incomes, for instance through salary subsidies or welfare packages.	Short term
3. Engagement with both manufacturers and US buyers and a high-level coordinated effort to address operational challenges to provide assurance that Ethiopia remains a viable sourcing location offering long-term and strategic benefits.	Short term
4. Improvements to the business climate and wider cost structure of the manufacturing sector and enhancing productivity. This might include obstacles around foreign exchange availability, banking charges, logistics, one-stop shop service delivery, skilled labor and so on.	Short to medium term
5. Help to diversify markets for Ethiopia-based manufacturers/exporters. There may be scope to support existing investors in seeking new markets. This could include improving access to regional markets, such as through the road corridor to Kenya (via Moyale), which would be especially relevant for fabric manufacturers able to supply the garment industry there. Another option could be to relax restrictions on manufacturers accessing domestic markets to offset a loss of export orders.	Medium term
6. A refocus of industrial strategy and investment promotion efforts to support diversification away from low value-added and price-sensitive products such as basic garments. Vertical integration (for instance into domestic cotton production) and cultivating a reputation for sustainable practices will help enhance Ethiopia's value proposition to investors as one that is more than solely based on low costs.	Medium term

Preface

While Ethiopia's industrial park (IP) program is still in its early stages, this report takes stock of the progress made so far and identifies areas for improvement with the aim of informing policy directions. International experience with industrial parks or special economic zones (SEZs) suggests that the economic effects of such initiatives take about 7 to 10 years to materialize.¹⁸ Acknowledging the early stages of Ethiopia's IP program, this report was prepared as part of a World Bank Analytical and Advisory Services program to provide a comprehensive insight into the IP program and provide suggestions for Ethiopian policy makers on possible avenues toward maximizing the contribution of industrial parks to Ethiopia's industrial development.

This report comes at a difficult time for Ethiopia with an active conflict and suspension of duty-free access to the US market casting a shadow over the country and development gains of the IPs. The armed conflict in the country had a direct impact in four separate parks which, combined, account for 6 percent of jobs in the IPs and 9 percent of IP exports. Furthermore, effective January 1, 2022, the US government suspended Ethiopia's duty-free market access under the African Growth and Opportunity Act (AGOA) due to human rights concerns. Citing the escalating conflict, one flagship investor in Hawassa industrial park announced the closure of its factory. The situation remains fluid and hard to predict. This report speaks to the impact at the time of writing and makes recommendations relevant to the implications of, for instance, the loss of AGOA trade privileges. When the situation stabilizes, these recommendations will likely need to be revisited based on greater certainty in the political situation, the impact on the operations of IPs and investors, and the international context such as trade access to key markets.

This report is structured in two parts: an economic impact assessment in part A and a review of the implementation of the IP program in part B. The report begins with an overview of the economic context and the history and current status of Ethiopia's industrial parks program and covers nine publicly owned and five privately owned operational IPs using data as of June 30, 2021. The remainder of the report is structured in two parts. Part A includes an economic impact assessment of Ethiopia's industrial park program, covering its direct and indirect economic impact on aspects such as creating jobs, stimulating exports, attracting investment, and creating linkages and spillovers—the key policy objectives of the industrial parks. Part B reviews critical aspects of the implementation of the industrial parks program: (1) adequacy of the legal and governance frameworks, (2) planning and development, (3) operation and management, (4) labor practices and social inclusion, (5) environmental sustainability, and (6) financial sustainability of the industrial parks. Each chapter presents policy recommendations for the assessed areas and considers cross-cutting topics by referring to other recommendations where applicable.

18 See, for example, the performance of benchmark countries Bangladesh, Kenya, and Vietnam considered in this report (details in box 1.2).

Economic Context of Ethiopia’s Industrial Park Program

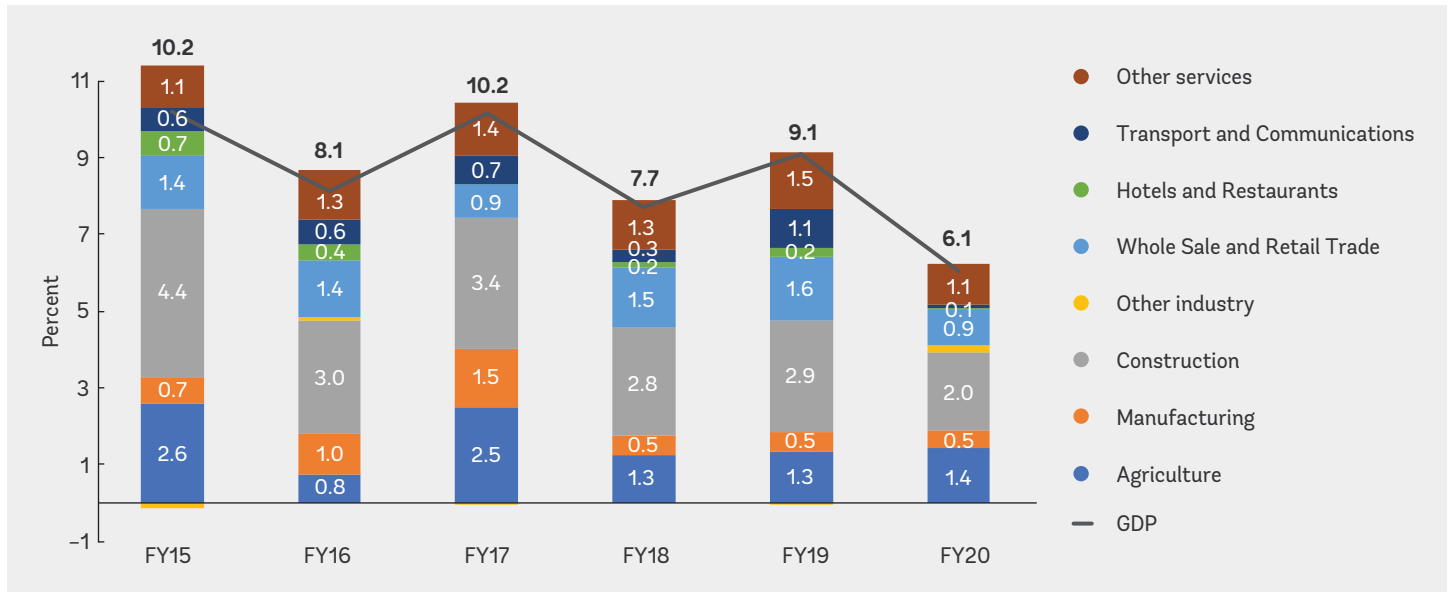
Ethiopia’s industrial park program needs to be seen within the country’s broader macro-economic context and financial constraints—particularly its weak private sector. While Ethiopia has been among the fastest-growing countries in the world during the past decade, the role of the private sector in economic growth has been more limited. Growth was mainly led by large public investments. The dominance of the state in economic activities has hindered the competitiveness and growth of the private sector. Large public investments have been funded by external financing, keeping government consumption low, controlling the exchange rate, and maintaining negative real interest rates. As credit to state-owned enterprises (SOEs) surged, availability of financing for the private sector declined.¹⁹

Despite high growth, structural transformation remains limited, and exports have stalled or declined. As figure P.1 shows, Ethiopia’s growth since 2015 has been largely driven by construction, agriculture, and wholesale and retail trade. The manufacturing sector contributed, on average, less than 1 percentage point to growth over this period. Industrial production in Ethiopia has been held back by a lack of access to finance, foreign exchange shortages, and gaps in infrastructure, such as power supply. This has had a pronounced negative impact on the competitiveness and productivity of the private sector, and consequently, on investment flows. Merchandise exports as a share of gross domestic product (GDP) declined from about 8 percent in the early 2010s to just 3 percent by 2019.²⁰ The economy displays signs of low economic complexity, which has been found to limit long-term growth. However, the country does show initial signs of structural transformation with the development of basic manufacturing capabilities and domestic services. The pace and success of Ethiopia’s structural transformation will depend on its ability to diversify sustainably into a more productive tradable sector.²¹

Agriculture has contributed the largest share of job creation in recent years, exposing the challenges for Ethiopian workers to move out of agriculture into higher-income occupations. Moreover, the Ethiopian labor market encounters serious challenges in productively employing the younger, relatively better-educated labor force in urban and rural areas alike. Even though labor market conditions have improved over time, with a labor force that is growing at a rate of two million per year, Ethiopia is faced with the twin challenges of improving current jobs in terms of stability and pay while creating sufficient new jobs to accommodate the burgeoning labor force.²²

19 Sanchez et al. 2021.
20 Sanchez et al. 2021.
21 Goldstein 2020.
22 Sanchez et al. 2021.

FIGURE P.1. Modest Contribution of Manufacturing to Ethiopia’s Growth



Source: Sanchez et al. 2021 (based on data from the Planning and Development Commission of Ethiopia).

There is growing evidence that an overvalued exchange rate is a major impediment to economic growth. The government maintained an overvalued exchange rate to favor cheap imports for massive public sector infrastructure investment. Meanwhile, reserve levels have become thinner at a time when poor export performance, coupled with increased debt service needs, has placed the economy at high risk of debt distress. The parallel market exchange rate premium increased from less than 10 percent in the mid-2010s to over 30 percent in early 2021, reflecting the shrinking availability of foreign currency. This, coupled with existing current account restrictions, is seen by foreign investors as the biggest challenge to investing in Ethiopia, hindering the country’s potential to attract and maximize the impact of foreign direct investment (FDI). Ethiopia is therefore facing an important policy trade-off: maintaining an overvalued exchange rate may benefit import pricing, but is incompatible with the objectives of boosting exports, earning foreign currency, and reducing the risk of debt distress.

Ethiopia’s regulatory framework is complex and costly, creating barriers to trade and investment. A key challenge is the excessive use of licenses compounded by unpredictable regulatory and administrative changes, the frequent use of onerous or unnecessary competence certification requirements, and weak institutional capacity.²³ Together with other constraints, these create a substantial barrier to investment and the overall ease of doing business. Consequently, interventions that make starting and operating a business easier, such as a level playing field and greater certainty of policies and regulations, are core to fundamentally improving the investment climate for the private sector. Recent efforts to streamline and simplify administrative processes and documentation requirements for business registration and licensing are moves in the right direction. At an overarching level, a comprehensive and coherent private sector development strategy that promotes the domestic sector as well as FDI is missing.

Access to credit has remained narrow, with a limited range of products and channels to serve broader business needs.²⁴ Only 30 percent of credit is directed to the private sector, and lending to private businesses stands at only 11 percent of the gross domestic product (GDP)—significantly less than the 20 percent of GDP median for Sub-Saharan Africa, 28 percent for Kenya, 22 percent for Rwanda, and 14 percent for Uganda. This is despite 16 banks out of a total of 18 being privately owned and is explained by the earlier development model that prioritized state needs over broader economic sectors with the state-owned Commercial Bank of Ethiopia (CBE) channeling deposits (aggregating about 18 percent of GDP) largely to SOEs. The skew in financing of infrastructure through state-owned banks and lack of meaningful competition between state-owned and private commercial banks has resulted in limited access to finance for the private sector. Relative to other countries in Africa, a much higher proportion of firms in Ethiopia (69 percent) are financing investment from internal resources, while that figure is only 24 percent in Kenya and 38 percent in Uganda.

²³ World Bank Group 2018. Also, see World Bank 2016a and World Bank 2016b.
²⁴ World Bank 2019b.

Access to finance is not the only way in which SOEs have enjoyed advantages over typical private sector investors. SOEs have dominated the economic space for decades in Ethiopia, benefiting from monopolistic powers in otherwise competitive sectors, subsidies from the government (both direct and indirect), and preferential access to credit and foreign exchange. This array of measures has swollen the role of SOEs in the economy and crowded out the private sector, both domestic and foreign investors.

While macro-financial distortions are key constraints to growth, Ethiopia is putting in place enabling legislation toward greater private sector activity. The government has adopted and/or revised key legislation including on investment, industrial parks, public-private partnerships, privatization, the Commercial Code, and capital markets while initiating capacity-building work toward managing associated fiscal risks. It is also revising the competition and public enterprises laws that will help signal to the private sector the government's commitments to good governance and level the playing field. While these are foundational elements of the adjustment process toward greater competition, continuing work on addressing the business ecosystem constraints are nonetheless needed for substantive results to be delivered on private sector investments.

Overview of Ethiopia's Industrial Park Program

1. Historical evolution of the industrial park program

Many countries have adopted a spatial-based development policy to facilitate industrial and urban development. Globally, IPs and SEZs have been used to address investment climate constraints (such as lack of infrastructure, cumbersome requirements to start and operate a business), attract foreign investment with a plug-and-play setup, and leverage foreign investment for technology and skills transfer to the domestic economy.²⁵ Although the development of IPs requires substantial investment, the amount is far less than the cost and effort of trying to improve the infrastructure and business environments for the entire country simultaneously. Industrial parks are also used to pilot investment climate reforms that allow governments to experiment with reforms in a smaller and contained environment before adopting them at a national level.

To spur economic transformation, the government of Ethiopia put in place an Industrial Development Strategy (IDS) as an appendage to its Agricultural Development-Led Industrialization program in the early 2000s. However, the IDS remained on the back burner for more than 10 years with a lack of policy focus contributing to sluggish growth of the manufacturing sector. Although Ethiopia's economy was growing rapidly, this was largely driven by the service sector and public investments. Exports of primary agricultural products also increased during the same period. However, imports of manufactured goods grew much faster than exports, widening the trade deficit and increasing external vulnerabilities.

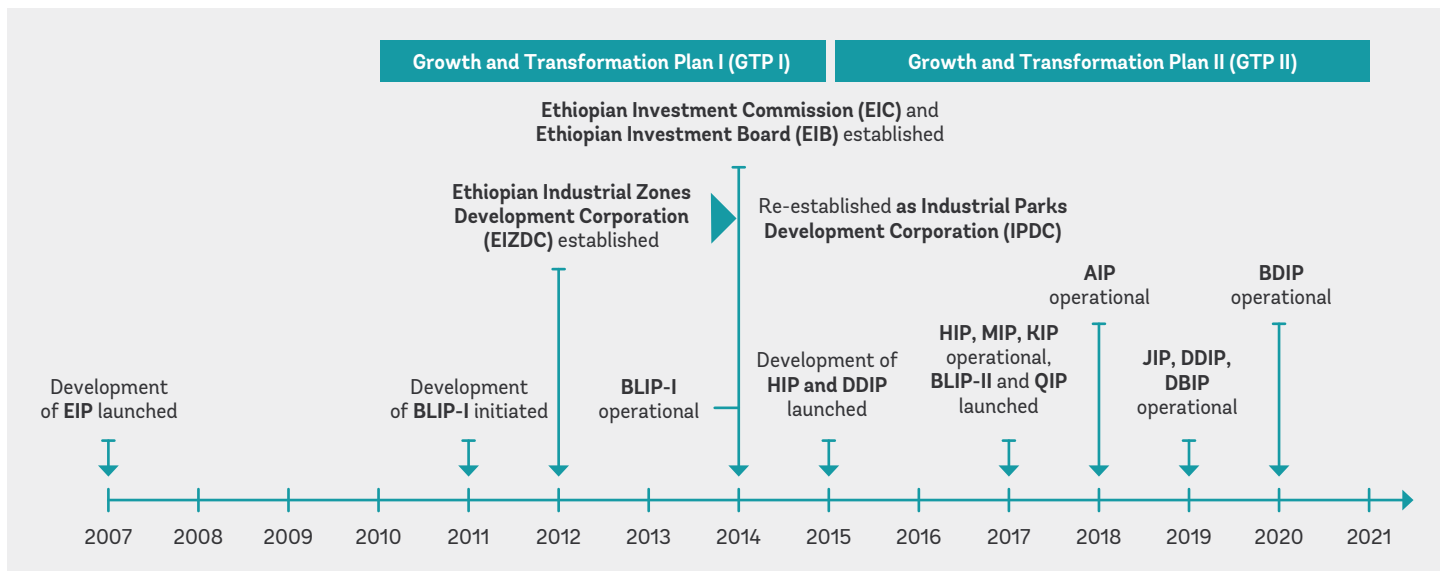
Recognizing the role manufacturing-led industrialization had played in the successful development strategies of the "Asian Tigers," Ethiopia's industrial park development started with a private developer in 2007.²⁶ To learn how to develop, operate, and mobilize investment from foreign private investors, the Ethiopian government planned to establish at least four IPs during its first Growth and Transformation Plan (GTP-I) (2010–15) and to promote the opportunity for selected investors from China and Turkey (see figure O.1). The first IP in Ethiopia, the Eastern Industrial Park (EIP), was started by a private developer and operator from China as a result of a bilateral governmental agreement between the two countries with the goal to attract investments from China. Located in Dukem, Oromiya region, about 30 kilometers southeast of Addis Ababa, the original plan was to establish a 5-square-kilometer zone operated by the Yonggang Group and the Qiyuan Group (a Chinese privately-owned steel manufacturer), which in five years, would entice 80 separate investment projects, creating 20,000 jobs. The first phase of the zone consists of 233 hectares.²⁷

²⁵ While acknowledging the importance of design differences between different types of SEZs and IPs, this report uses the terms IPs and SEZs interchangeably.

²⁶ "Asian Tigers" commonly refers to this group: Hong Kong SAR, China; Singapore; the Republic of Korea, and Taiwan, China.

²⁷ A request for a 167-hectare expansion for the second phase is currently under consideration by the local administration.

FIGURE 0.1. Key Milestones of Ethiopia’s Industrial Park Program



Source: World Bank representation based on data from IPDC.

Note: BLIP-I = Bole Lemi I IP; BLIP-II = Bole Lemi II IP; DBIP = Debre Berhan IP; DDIP = Dire Dawa IP; HIP = Hawassa IP; IP = industrial park; JIP = Jimma IP; KIP = Kombolcha IP; MIP = Mekelle IP; QIP = Kilinto IP.

Like most other Chinese SEZs/IPs in Africa, the EIP is 100 percent Chinese-owned, developed, and operated. In addition to the provision of land at an extremely favorable rate—an annual rate of 1 Ethiopian birr (around US\$0.05) per square meter for 99 years—the Ethiopian government also agreed to provide all the necessary infrastructure outside the zone and to cover the cost of 30 percent of the internal infrastructure. It hosted its first firm, the Zhongshun Cement Company, in 2010.²⁸ The EIP started by focusing on the production of construction materials as well as light industries, including the production of pharmaceuticals, electronics, chemicals, and leather.²⁹ However, this is now widely diversified and includes structural metals, ceramics, plastic materials, motorcycles, and food products.

As the EIP did not meet the government’s high expectations and ambitious targets, the government redirected its IP strategy toward publicly owned and developed industrial parks. The EIP faced multiple challenges both internal to the government as well as external, leading to disappointing results in terms of investment mobilization, generation of export revenue, and job creation—key government objectives of the project. For example, while EIP was expected to have 80 investors, by 2012, it had only mobilized nine investors.³⁰ There were also issues around land acquisition for the IP, including a lack of transparent due process for communities resettled for the parks’ construction. It took many years for EIP to get the electricity connection needed for investors to take operations to scale, particularly heavy industries that rely on a high and consistent power supply. Crucially, even though EIP was meant to develop the light manufacturing export sector, the government did not put any restrictions in terms of the sectors located within the IP, and EIP’s mix of sectors mostly serves the domestic market. The mixed results of EIP at the early stages led the government to follow a more proactive stance and develop and operate its own IPs.

In the early 2010s the government accelerated efforts around IP development with new legislation, establishment of institutions to lead efforts, and the building of its own IP. On July 16, 2012, the parliament approved the formation of the Ethiopian Industrial Zones Development Corporation (EIZDC). The corporation was established under the Ministry of Industry (MoI), to be in charge of developing and administering industrial zones nationwide, except for those that were under development by private investors such as the EIP. The Bole Lemi IP Phase I (BLIP-I) was initiated in 2011 as the first publicly developed IP in Ethiopia. The IP was initially developed covering 1.56 square kilometers of land to attract investment from the Republic of Korea with whom the government had been actively engaged to attract garment and textile investment for the export market. In addition to providing infrastructure and pre-built factory sheds,

28 Hager, Lin, and Xu 2019. See also UNDP 2015.

29 Giannecchini and Taylor 2018.

30 World Bank 2012a.

the government had also set a very favorable rate (US\$1 per square meter per month for the first five years) for the rent of the factory sheds and provided various fiscal and export incentives to attract investment to the IP. Currently, BLIP- I hosts 10 investors and covers 1.72 square kilometers.

As a result of limited institutional capacity and experience with development and operation, the development of BLIP-I took longer than expected and faced several challenges. The development of Bole Lemi I took over three years, with many deficiencies and gaps around infrastructure development and the provision of effective services to interested investors. The government issued a development contract to a large number of local contractors as a way of incentivizing and supporting the local construction industry. However, the government struggled to manage the multiple contractors that were engaged in the development. At the end of the construction of BLIP-I, investments from Korea remained below expectations, with only two Korean companies making an investment. As of June 30, 2021, BLIP-I had 10 investors from multiple countries (including Korea, China, and India) that rent 20 factory sheds and are predominantly engaged in producing garments and apparel for export to the United States and Europe.

After lacking an implementation strategy for IPs under GTP-I, the government launched a revamped and ambitious industrial park policy in support of its economic development strategy in 2014. GTP-II (2015–20) increased the focus on industrial parks and formulated sector-specific targets, aiming to make Ethiopia a leader in light manufacturing in Africa. Ethiopia's goals with the industrial parks program were to (1) create employment opportunities, (2) generate export proceeds and enhance foreign exchange earnings, (3) create a socio-environmentally sustainable manufacturing industry, (4) establish backward and forward industrial linkages, and (5) transfer technology and know-how. GTP-II continued to encourage those industries that are labor intensive and to maximize links with the agricultural sector. Under GTP-II there was an explicit recognition of the potential for IPs to contribute to the technological and skill upgrading. These would help support the government's structural transformation goal by creating jobs, increasing incomes, promoting exports, improving competitiveness, and enhancing technological capability and skills development.³¹

The government started systematically planning and developing an industrial parks development program in 2012 through a raft of legal reforms and targeted investments. In 2014 It reestablished the Ethiopian Industrial Development Zones Corporation (EIDZC) as the Industrial Parks Development Corporation (IPDC) as a semiautonomous state-owned enterprise (SOE) to be governed by a board of directors under Regulation No. 326/2014. Through Regulation No. 313/2014 it entrusted the Ethiopian Investment Commissions (EIC) with regulatory functions for IPs. A new industrial park proclamation was ratified in 2015 (Proclamation No. 886/2015), with subsequent regulations and amendment to the investment law and regime. Furthermore, the government was able to raise finance from the international bond market that provided the resources to start the development of the IPs. The World Bank had also committed resources to finance the development of Bole Lemi Phase II and Kilinto IPs in 2014. Under GTP-II, the government planned to develop four IPs (Bole Lemi Phase I and II, Kilinto, and Dire Dawa) to attract investment mostly from Asia, particularly China. The government's thinking on IPs in the earlier days was significantly influenced by the Chinese model of industrialization, as well as its close ties with the Chinese government and its scholars. There were expectations that the rising cost of labor in China, which was making the production of labor-intensive products such as garment and leather more expensive, would create an opportunity for Ethiopia to attract investment.

It is worth noting that these events were happening at a time when the political and leadership landscape within the government was changing, and political economy had significantly shaped the industrial parks program. The earlier efforts of EIP and BLIP-I, as well as the planning and financing of Bole Lemi Phase II and Kilinto IPs, were initiated under the close involvement and leadership of the former prime minister, Meles Zenawi and the then-ambassador to China. The developments of Hawassa Industrial Park and subsequent IPs were planned and initiated after the former prime minister passed and Prime Minister Hailemariam Desalegn and his leadership team came into power. This provides an important historical context as it explains the dynamics and power play among institutions and most of the differences in the models adopted and evolution of the IP program, including the Integrated Agro Industrial Parks (IAIP), the institutional arrangements, and mandates, and so on, which are discussed in the section on the governance and institutional framework.

In 2015, the government started an ambitious IP development program and initiated the process to develop Bole Lemi Phase II, Kilinto, and Hawassa Industrial Park (HIP) in parallel. While the HIP was not part of the original plan under GTP-II,

31 Hagar, Lin, and Xu 2019.

it was initiated by the government to respond to the investor interest by a US-based global apparel company, PVH Corp, which was at the time looking at East African countries in which to bring its supply chain partners for fully vertically integrated textile and garment manufacturing for US markets. The government made a commitment to PVH that it would provide plug-and-play manufacturing facilities, customized sheds for textiles (in addition to more standard garment) manufacture, Zero Liquid Discharge (ZLD) technologies, and internationally compliant building standards. A number of other reforms, such as inviting in the International Labour Organization (ILO) Better Work program into the country to carry out credible factory assessments, were initiated to provide further safeguards for reputation-conscious buyers and investors. The development of HIP began in July 2015, the first tenants moved in in 2016, and the first exports were made in March 2017. HIP was considered a flagship project by the government, and its development and operationalization received the utmost attention and engagement from the highest levels of the government.

The development of HIP followed a different model from its predecessors, in that it was built with most of the investors and their demands already identified and in close collaboration with the PVH Corp, the anchor investor. This early partnership has also enabled coordination among the various stakeholders and public and private sector dialogue at the IP level. International lessons on SEZ development show that the best model is to develop the IPs based on clear demand, with anchor investors identified before development is initiated.³² Active participation of the private sector early in designing industrial parks is important to limit course corrections at later stages, including, for instance, around exacting standards on health and safety or environmental treatment plants that might be required to serve target export markets. It also reduces the construction cost of sheds and enables the government to focus on essential horizontal infrastructure such as roads and providing utilities and power. At the time of its development, the government envisioned that HIP would generate close to 60,000 jobs and US\$1 billion in export revenues, even though a robust analysis and projection were not made to substantiate these targets. The other IPs planned under GTP-II, such as development of Bole Lemi II and Kilinto, unfortunately were not able to get the needed leadership and ownership as a result of political economy due to the changing landscape in the political leadership but also because the limited and relatively inexperienced institutional capacity was fully directed toward the development of HIP.

While the government adjusted the implementation of the IP program over time, the downsides of developing multiple IPs in parallel has compromised the quality of infrastructure and service provision in the IPs and has spread the government's resources too thin. Throughout the evolution of the IP program in Ethiopia, experimentation and learning is evident in the progression of the approaches used from EIP to BLIP-I, over HIP and up until Bole Lemi II and Kilinto IPs. However, the ambition to develop multiple IPs in parallel (see figure O.2) partly for political reasons, without carrying out robust demand analysis and feasibility studies and sequencing of development based on occupancy, has cost the government by stretching limited financial and human resources. This has resulted in infrastructure and service deficiencies, suboptimal investor uptake and capacity utilization, and subsequent compromises on sectoral focus of the IPs during or after development. More importantly, it has triggered criticism, within and outside the government, on the ability of the IP policy to deliver the promised jobs, exports, and structural transformation—including discontent especially where land acquisitions and development were not done in a consultative and inclusive manner.

In parallel and separate from the broader light-manufacturing-focused IP program, initiatives were being undertaken by the MoI to develop IAIPs. The design of four pilot IAIPs in the regions of Oromia, Tigray, Amhara, and the former Southern Nations, Nationalities, and People's Region started in 2014, and their construction began in 2017.³³ The IAIPs have a separate legal framework and development and financing model from the federal IPs, with different institutional arrangements and mandates shared between the federal and regional governments. As per Proclamation No. 886/2015, the implementation of the IAIPs is overseen by the MoI and four Regional Industrial Parks Development Corporations (RIPDCs), which are accountable to regional boards. This decision has put regional institutions in the driver's seat. The federal government's role on IAIPs has concentrated instead on providing technical guidance, catalyzing support, and supervising the implementation of complementary projects to support the development and operation of the parks.³⁴ While political economy of the time has significantly influenced how the IPs and IAIPs were set up and governed, there are many missed opportunities from creating two separate programs that run in parallel that could have benefited from integrated planning and development and leveraged financial and human resources, institutional expertise, and capabilities, as well as institutional coordination mechanisms with local authorities.

32 Farole and Akinici 2011.

33 UNIDO 2020.

34 UNIDO 2020.

FIGURE O.2. Dates When IPDC Parks Became Operational

Name of the IP	2014	2015	2016	2017	2018	2019	2020
Bole Lemi I	1-Jan-14						
Hawassa				1-Jan-17			
Kombolcha				8-Jul-17			
Mekelle				9-Jul-17			
Adama						7-Oct-19	
Dire Dawa							20-Oct-20
Jimma						8-Dec-19	
Debre Berhan						2-Mar-19	
Bahir Dar							7-Oct-20

Source: IPDC.

Note: Though most of the IPs started generating revenue or incurring operating expenses much earlier than their inauguration date, for the sake of consistency, IPs' inauguration dates are taken as the IP's date of operation.

2. Current status of the industrial parks

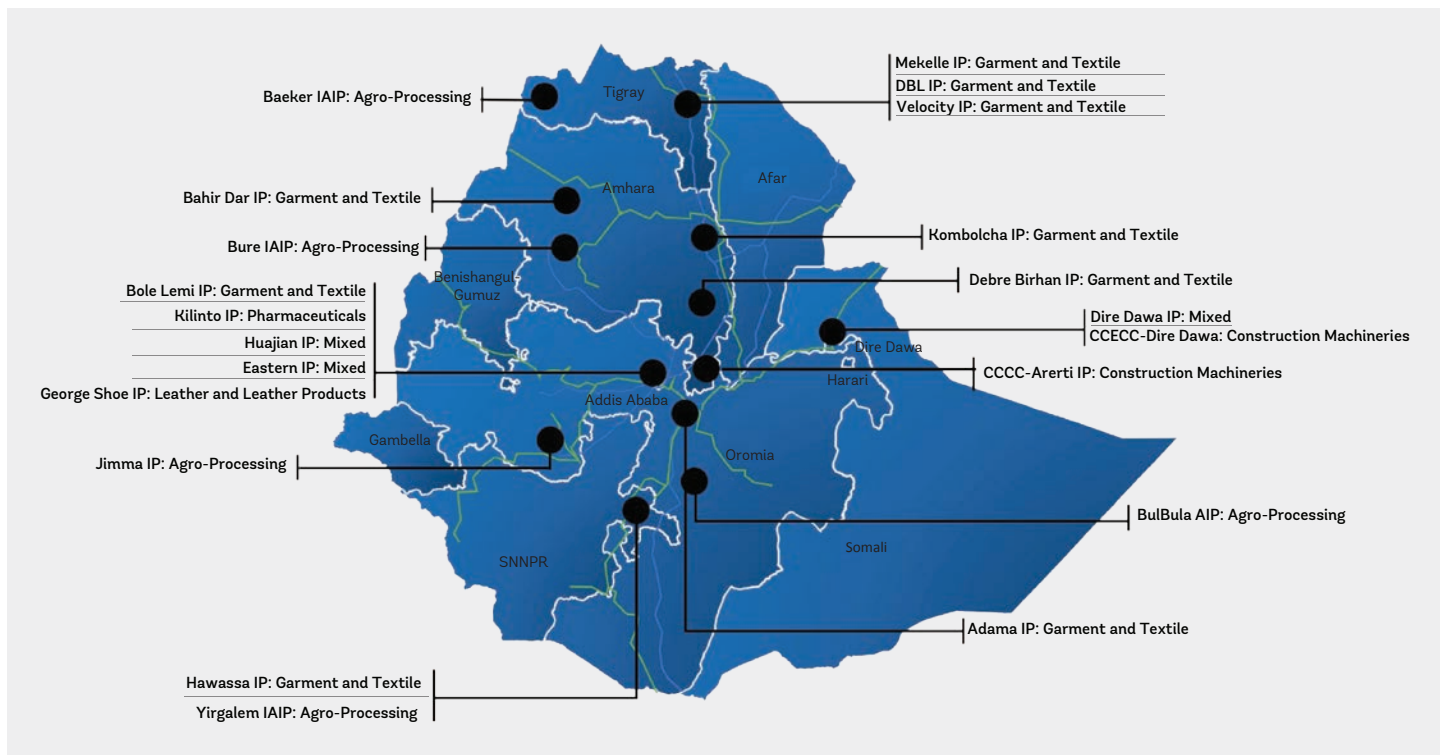
As of June 30, 2021, there were 13 public and five private IPs that were operational. Whereas most of the publicly owned IPs focus on light manufacturing sectors—predominantly apparel and leather products—and target the export market, the private IPs have a mix of sectors from apparel to cement and steel and serve both export and domestic customers (see O.1). In addition, IPDC took on responsibility for the Information and Communication Technology (ICT) IP, which was developed and run by the former Ministry of Information and Communication, and several other industrial areas that were developed by other institutions but do not meet standard criteria of industrial parks at their current configuration. This report covers nine public and five private IPs that were operational at the end of December 2020.³⁵

The majority of IPDC parks have followed the same model of sector-specific parks with turnkey pre-built sheds, but both Bole Lemi II and Kilinto IPs were developed to provide greater flexibility to potential tenants. Bole Lemi II and Kilinto IPs, financed under a World Bank loan, provide only serviced land (except for two factory sheds built in Bole Lemi II), with investors invited to build their own factory sheds tailored to their specific production requirements. The reasons for this approach included leveraging scarce public finance, allowing investors to design and build their production facilities to meet their specific needs, and the expectation that the IPs' advantageous location in Addis Ababa would attract high-end investors with long-term investment plans in Ethiopia.

Development of serviced land in Kilinto and Bole Lemi-II IPs is nearly complete (98 percent as of March 2022), but just 18 percent of the land has been sub leased to investors. The limited uptake of the two industrial parks is partly due to the preference of the government to have single-sector industrial parks. Kilinto IP has been designated for pharmaceutical manufacturing—a sector in which Ethiopia does not have a strong competitive advantage. In practice, the government has started to relax the single-sector IP and to respond to the private sector's demands. For instance, in Bole Lemi II, a textile and apparel IP, the EIC

³⁵ IPDC is currently developing its 10-year strategic plan. The plan envisages development of 13 IPs by 2030, depending on needs and using different modalities and financing for the development. However, this strategy is still in draft stage and has not yet been approved by the government.

FIGURE 0.3. Map of Industrial Parks in Ethiopia (as of 2021)



Source: EIC website.



















leased several hectares to a malt-processing company. However, changing the sectoral focus also requires changing the design of facilities, such as wastewater treatment, and minimizing positive agglomeration effects, underlining the importance of conducting market analyses before planning and developing industrial parks (see chapter 3, Planning and Development).

Occupancy levels of shed space are mostly high in Ethiopia’s industrial parks; only Dire Dawa IP, out of the nine IPs reviewed, stands out with a lower occupancy of 20 percent. As Table shows, as of November 2021, close to all sheds are rented at BLIP-I, HIP, KIP, MIP, AIP, DBIP, JIP, and BDIP. However, as discussed in chapter 1, occupancy does not always translate into being used at capacity and many sheds for which investors have assumed responsibility and are paying rent are not yet fully operational and generating employment and export earnings. BLIP-II and QIP are not officially operational but started accepting investors; hence, the occupancy rate is only preliminary as of now. They are also the only parks offering serviced land of which 23 percent and 17 percent, respectively, are leased so far.

As of June 30, 2021, there were a total of 66 investors in the publicly owned IPs, which have generated over half a billion US dollars in exports (since 2014) and have directly created over 81,000 jobs. The nine publicly owned IPs cover a total of 1.1 square kilometers of developed turnkey sheds of which 88 percent have been leased to investors. The largest IP by developed area is BLIP-I with 172 hectares (ha). As indicated earlier, BLIP-I is the first IP developed by the government, while Jimma and Bahir Dar became operational at the end of 2019. Due to its recent inauguration, Semera IP was not included in this study.

In addition, four IAIPs are currently being developed, of which two have been inaugurated by the government in 2021. Implementation has been delayed for various reasons, including the COVID-19 pandemic and political instability. At the end of 2020, 203 investors were registered for the IAIPs by the RIPDCs. Fifty-two were considered as potential by the local authorities, and 12 have signed an agreement (8 domestic, 2 foreign direct investments [FDIs], and 2 joint ventures), out of which 4 are operational with another 4 building production sheds.³⁶

TABLE O.1. Sectoral Focus of Ethiopia's Industrial Parks

Industrial park	Sector focus
Publicly owned industrial parks	
BLIP-I Bole Lemi Industrial Park Phase I	 Textile and garments
BLIP-II Bole Lemi Industrial Park Phase II	 Textile and garments
HIP - Hawassa Industrial Park	 Textile and garments
KIP - Kombolcha Industrial Park	 Textile and garments
MIP - Mekelle Industrial Park	 Textile and garments
AIP - Adama Industrial Park	 Textile and garments, machinery
DBIP - Debre Berhan Industrial Park	 Garment and agro-processing
ICT – Information and Communication Technology Industrial Park	 Information and communication technology
DDIP - Dire Dawa Industrial Park	 Textile and garments
JIP - Jimma Industrial Park	 Textile and garments
AIV - Addis Industrial Village	 Textile and garments
BDIP - Bahir Dar Industrial Park	 Garment
Kilinto - Kilinto Industrial Park	 Pharmaceuticals
Semera Industrial Park	Mixed
Privately owned industrial parks	
EIP - Eastern Industry Park	Mixed
GSIP - George Shoe International Park	 Leather
HuIP - Huajian Industrial Park	 Textile and apparel, leather
VIP - Velocity Industrial Park	 Textile and garments
DBL IP – Debre Berhan Industrial Park	 Textile and garments
CCCC Arerti	 Construction material
CCECC Diredawa	Mixed

Source: IPDC.

Note: In addition, there are four agro-processing industrial parks, which are not included in this report.

> > >

TABLE O.2. Key Metrics of Publicly Owned Industrial Parks

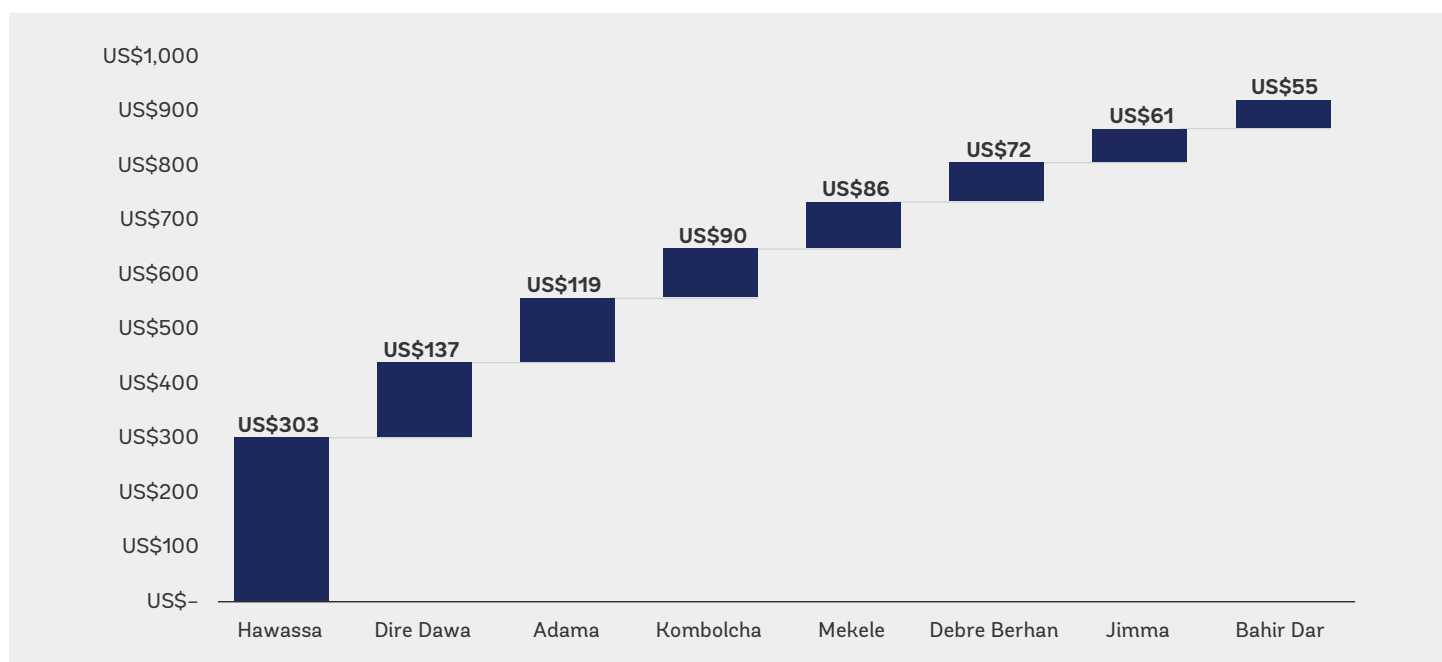
Industrial Park	Land size (in ha)	Sheds			Serviced land			Date industrial park became operational (Handover of first shed to investors)
		Available (#)	Rented (#)	Share (%)	Available (ha)	Leased (ha)	Share (%)	
BLIP I	172	20	20	100	n.a.	n.a.	n.a.	January 2014
BLIP II	174	2	2	100	108.8	24	21	n.a.
QIP	279	0	0	0	160.4	28	11	n.a.
HIP	140	52	51	98	n.a.	n.a.	n.a.	October 2016
KIP	75	9	9	100	6.06	n.a.	n.a.	February 2018
MIP	75	15	13	87	n.a.	n.a.	n.a.	February 2018
AIP	120	19	17	89	7.1	n.a.	n.a.	August 2018
DDIP	150	15	4	27	47	n.a.	n.a.	May 2019
DBIP	75	8	8	100	24	n.a.	n.a.	April 2019
JIP	75	9	9	100	4.6	n.a.	n.a.	October 2019
BDIP	75	8	8	100	23	n.a.	n.a.	September 2020
Total (averages for %)	1,410	157	141	90	356.12	52	21	n.a.

Source: IPDC.

Note: ha = hectare; n.a. = not applicable; QIP = Kilinto IP.

> > >

FIGURE O.4. Construction Costs of Publicly Owned Industrial Parks (in US\$, million)



Source: IPDC.

Note: Costs are based on historical US dollar exchange rates at the time of construction.

TABLE O.3. Facilities Provided in Publicly Owned Industrial Parks

List of facilities	Bole			Debre					
	Lemi I	Ha-wassa	Kombolcha	Mekelle	Adama	Berhan	Dire Dawa	Bahir Dar	Jimma
Factory sheds	√	√	√	√	√	√	√	√	√
Offices and one-stop shop (OSS) centers	√	√	√	√	√	√	√	√	√
Solid waste storage	√	√	√	√	√	√	√	√	√
Commercial buildings	√	√	(√) ^a	√			√		
Leasable serviced land			√		√		√	√	
Wastewater treatment plant	√	√	√	√	√	(√) ^b	√	(√) ^b	√
Residential buildings		√					√		
Water supply and drainage	√	√	√	√		√		√	√
Zero-liquid discharge (ZLD) facility		√			√		√		

Source: EIC/IPDC.

a. A separate building is available for rent.

b. Currently under construction.

The government has made significant investments to the development of the nine IPs, totaling almost US\$1 billion (at historical exchange rates). As figure O.4 shows, construction costs were highest for Hawassa IP (US\$303 million), Dire Dawa IP (US\$137 million), and Adama IP (US\$119 million), while they were lowest for Debre Berhan IP (US\$75 million), Bahir Dar IP (US\$61 million), and Jimma IP (US\$55 million). Even though the development of IPs requires substantial investments, it is considerably less than the investment needed to provide infrastructure and improve the investment climate nationwide in a country with significant infrastructure deficits like Ethiopia. The development of the IPs was financed through proceeds from Eurobond secured from the market and concessional loans from the World Bank.

3. Facilities and incentives provided in publicly owned industrial parks

The scope of facilities provided in the nine publicly owned IPs varies, but all offer factory sheds, offices, and one-stop shop (OSS) centers as well as solid waste treatment plants (see table O.3). Residential buildings are available in Hawassa and Dire Dawa, and commercial buildings are available in Bole Lemi I, Hawassa, Mekelle, and Dire Dawa parks. A ZLD facility is available in Hawassa, Dire Dawa, and Adama IPs, though the latter two are not yet operational. Either conventional or advanced conventional wastewater treatment facilities are available in the other IPs covered in this report. There is also a total of 869,200 square meters of serviced and leasable land across five of the IPs (Kombolcha, Adama, Debre Berhan, Dire Dawa, Bahir Dar).

In addition to the provision of infrastructure, park investors benefit from a limited set of policy and tax incentives. As it is frequent practice with industrial parks or SEZs, the government of Ethiopia grants investors in industrial parks certain special incentives (see table O.4). For example, investors in IPs benefit from eight to 12 years of corporate income tax exemption if they export at least 80 percent of their products. If the investors are outside of industrial parks, they receive six to eight years of exemption, provided they export at least 60 percent. Investors in industrial parks mostly have the same incentives in terms of import duty exemptions like investors outside, only for spare parts, the exemption is 100 percent for investors in industrial parks versus 15 percent for those outside.

The industrial parks in Ethiopia have been used to test and pilot some reforms, many of which were then mainstreamed to investors outside of IPs. As a result of requests from investors operating in HIP, where both fabric and garment manufacturing is taking place, the government allows transactions to take place in foreign currency between IP investors at different stages of value chains (see table O.4). In addition, industrial parks provide simplified customs procedures that allow cargo shipped by an industrial park enterprise to pass through without being stopped and inspected from port of entry to the customs territory within an industrial park. Examples of reforms piloted in the IPs and then rolled out to other investors include provision of OSS services (now available at the EIC headquarters) and a more flexible investment visa regime, which was broadened in scope in an updated investment law.

TABLE O.4. Incentives for Investors inside and outside of Industrial Parks

Incentives	Scope	Investors in IPs	Investors outside IPs	Conditions in IPs	Conditions outside IPs
Corporate income tax exemption	IP enterprises/ investors outside IP	8–12 years	6–8 years	At least 80 percent exports	At least 60 percent exports
		10–12 years		Investors in pharmaceutical IP	
	IP developers	10–15 years		10 years in Addis and around and 15 outside Addis	
Personal income tax exemption	Expatriates	5 years	5 years	5 years following issuance of business license	
Import duty exemption	Industrial inputs	100 percent	100 percent	If used in export production	
	Capital goods	100 percent	100 percent		
	Construction material	100 percent	100 percent	Bill of quantity approval	
	Raw material	100 percent	100 percent	For production of export commodities	
	Spare parts	100 percent	15 percent of capital goods value	No limit	Only 15 percent
Export duty exemption	Except semi processed hides and skins	100 percent	100 percent		
Exchange in foreign currency	Among IPs	Transaction among IPs in US dollars			
OSS services	Public and private IPs	Available inside IP			
Access to infrastructure	Offsite infrastructure	Developed by government		Up to the perimeter of the IP	
	Utilities			Dedicated power and water	
	Sheds	Availed by IPs		Concessional price in public IPs	
Delegated Central Bank services	Currency request approval	Only in HIP and BLIP		Service delivered by HIP, Central Bank of Ethiopia	
	CMT value approval	In all IPs			

Source: EIC.

Note: CMT = Cut-make-trim; HIP = IP = industrial park; HIP = Hawassa Industrial Park.

Overall, however, most of the incentives offered in the industrial parks focus on providing investment facilitation and aftercare services, rather than on introducing a special investment regime that could inform policy reforms. The IPDC-owned industrial parks provide OSS services that significantly minimize the administrative burden on investors. The OSS provides a range of services from banking to renewal of licenses. While some of the services are provided on the spot, others—such as renewal of work permits for expatriate workers—are handled by an office that serves as a liaison with other government agencies to expedite the required processes and approvals. Most of the IPDC-owned IPs also have onsite logistics services that reduce processing time and burden for cargo imports and shipments—services that would not typically be available to businesses outside the parks. As a result, investors outside of IPs, especially domestic investors, have to spend significant time and resources to handle and process documents, settle taxes, customs, and other formalities (see chapter 4, Operation and Management, for further aspects related to OSS).

PART



Assessing the Progress Toward Achieving Policy Objectives

The Economic Impact of Ethiopia's Industrial Parks

1. Introduction

This chapter presents an early analysis of the economic impacts of Ethiopia's industrial parks (IPs), focusing on jobs, exports, and economic linkages. An earlier introductory chapter sets the scene of how the parks fit into Ethiopia's broader policy and institutional context, including a description of progress to date in rolling out both government IPs and those built and run by the private sector. Later chapters take a deeper look into specific aspects of the park program, including the legal and regulatory framework, infrastructure, operational management, and different dimensions of IP sustainability. While this chapter focuses on IPs as one means of achieving economic policy objectives, such as job creation, export generation, and technology transfer, it is by no means the only policy instrument under Ethiopia's home-grown reform agenda and needs to be seen in the context of these broader reforms.

This economic appraisal considers what has been achieved through Ethiopia's IPs and focuses primary on the new phase of the IP development program that started in 2015. It is acknowledging that SEZs/IPs in Ethiopia have a longer history (with the private-run Eastern Industrial Park [EIP] starting operations in 2010), but around 2015/16 the government of Ethiopia increased its focus and ambition, notably initiating construction of the flagship Hawassa Industrial Park (HIP). This report focuses on the nine federally owned and five privately owned IPs that were operational at the end of December 2020, although some of the forward-looking sessions also refer to the Bole Lemi II and Kilinto parks that began operations even if not officially designated as operational. The Integrated Agro Industrial Parks (IAIPs), which are jointly run by the federal and regional governments, are not covered.

Before the COVID-19 pandemic, both jobs and exports had been growing rapidly in the IPs, largely driven by efficiency-seeking investors using the parks for manufacturing ready-made garments. While several sectors are represented, garments make up approximately 95 percent of all exports from the Industrial Parks run by Industrial Parks Development Corporation (IPDC), many of which do not directly manufacture garments but produce inputs such as fabric and trims. These investors were attracted to Ethiopia by preferential trade access to both North America and Europe; competitive inputs costs (including labor and power); the hope of developing vertical supply chain linkages into cotton; and, for some, a view that Ethiopia was a green-field location where the industry could start afresh with sustainable environmental and social practices embedded from the beginning.³⁷ Other investors, typically in the privately run parks, were more

37 See Mihretu and Llobet 2017; Whitfield, Staritz, and Morris 2020.

market-seeking in nature, attracted by Ethiopia's rapidly growing economy, its population of over 100 million potential consumers, and, in time, proximity and easy access to neighboring African markets.

Taken together, Ethiopia's public and private parks had generated 90,000 jobs by 2021, directly contributing an estimated one in seven of all new formal private sector jobs in recent years.³⁸ The employment created has predominately benefited women aged 18–25, a group for which employment is typically associated with a range of societal and economic spillovers, yet currently experiences unemployment levels of double the national average. Park jobs have been found to pay a premium over other alternatives, although there is significant variation in pay rates across IP investors. There is evidence that the expectations of international buyers have created pressure for an improved factory inspection regime (implemented by the International Labour Organization [ILO]) but this is at present not universal across all factories. Despite wage premiums, workers report low levels of satisfaction with both pay and the quality of life in cities where most have recently moved.³⁹

Prior to COVID-19 and the recent outbreak of conflict, exports from government-run parks had been growing at over 50 percent a year for more than five years. Given that this growth had come from a low base, output from the parks is not yet sufficient to register in macroeconomic terms or to achieve a meaningful structural transformation of the economy away from agriculture and services. In 2021, IPs had yet to reach 0.5 percent of the gross domestic product (GDP) and were only 5 percent of total export earnings. Despite this lack of macrolevel impact, by 2021 IPs' exports represented 40 percent of manufactured exports, and there is evidence of rapid productivity growth that conforms with global evidence on the benefits of participation in global value chains (GVCs). A fall in non-IP-manufactured exports diminished the positive contribution to diversifying Ethiopia's export basket, but US-bound garment exports in particular had grown rapidly, helping offset a fall in exports to the European Union. If export growth reverts to pre-COVID levels (capacity in existing IPs is already in place) then IP exports could become Ethiopia's largest source of merchandise exports within five years.

The indirect impact of the parks is less clear, with low levels of linkages with domestic suppliers and mixed evidence for economic spillovers into regional economies. At present, park investors are heavily dependent on imported inputs (such as fabric for garment factories), with local purchasing of less than 5 percent of all intermediate inputs. International investors have built a small number of modern fabric mills, but challenges of quality and consistency are cited as obstacles to full vertical linkages back to cotton. Given this lack of integration, it is not expected that as yet, technology transfer (a hoped-for benefit of the parks) extends far beyond the training given the first generation of Ethiopian staff. Hawassa city offers the clearest example of spillovers from the IPs, including housing construction linked to large numbers of migrant workers entering the city. A sharp spike in new business registrations also offers tentative evidence of economic activity in the park, stimulating further private sector activity and jobs.

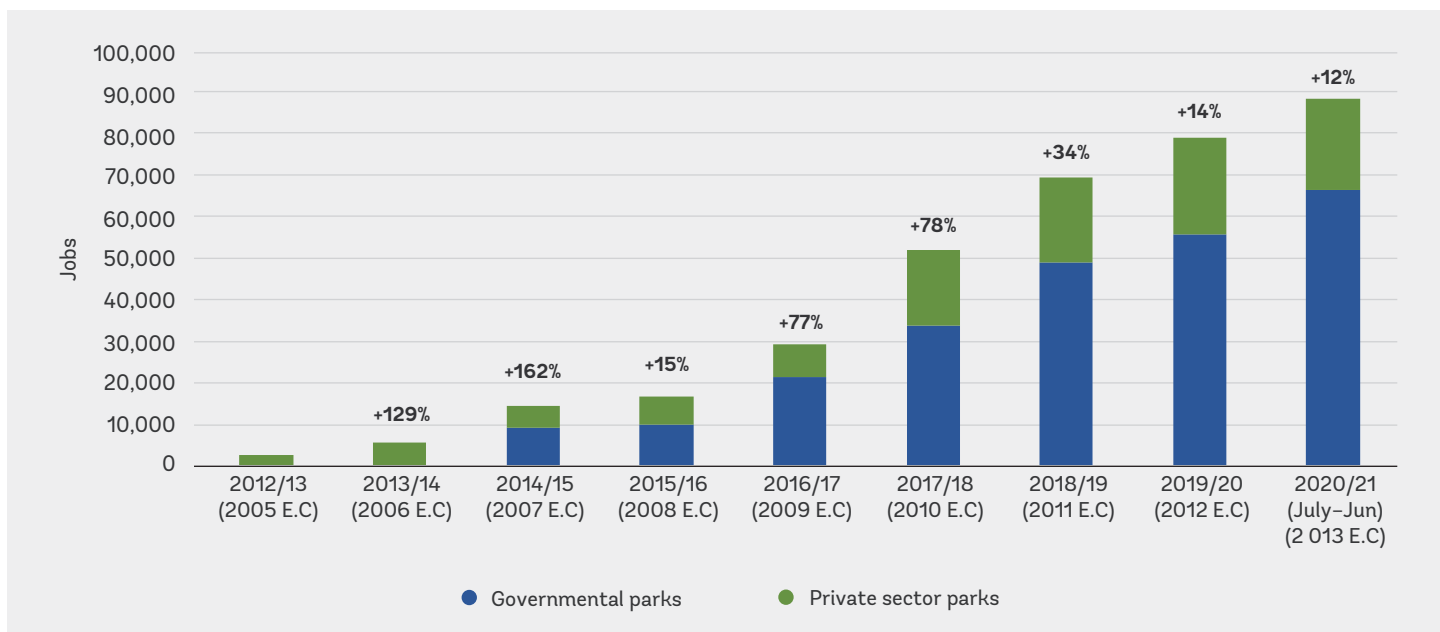
Much of the analysis in this section was conducted prior to suspension of Ethiopia's preferential access to US markets under the Africa Growth and Opportunity Act (AGOA) and the escalation of the internal conflict. These circumstances create considerable uncertainty for the future of the parks and the development gains achieved to date. Depending on the product type and materials used, the duty advantages under AGOA allowed buyers importing into the United States to save close to a third of the total value of finished goods at the point of US entry. These savings had driven the share of Ethiopian US-destined garments from under 20 percent to over 70 percent by 2019. An estimated 56,000 park jobs are dependent on US exports under AGOA. The conflict in the north of Ethiopia has also led to the direct closure of four parks, representing 6 percent of park jobs and 9 percent of total park exports. Citing the escalating conflict, one flagship investor in Hawassa has announced the closure of its factory. This report speaks to the impact (as far as known) at the time of writing, but the situation remains fluid, and recommendations may need to be revisited when there is greater certainty on the political situation and the impact on the operations of industrial parks and investors.

The structure of part A sequentially describes various economic impacts of Ethiopia's IPs. Following this introduction, the report looks at jobs, including putting jobs in the context of host-city labor markets, reviewing pay and remuneration in the IPs, and considering whether park jobs can be considered "good jobs." This is followed by a review of export performance, including methodological and data considerations, sectoral focus of the parks, exports in the macroeconomic context, and diversification. Next, a section on investment looks at the sectoral focus and the impact of source country factors. A section on the indirect impact

³⁸ Wieser and Mesfin 2021 and IP employment data from EIC/IPDC.

³⁹ See Dom et al., forthcoming.

FIGURE 1.1. Jobs Created in Ethiopia’s Industrial Parks



Sources: IPDC and EIC.
 Note: E.C = Ethiopian calendar.

of the IPs examines supply chain linkages and external spillovers. Then, an economic appraisal describes a simplified cost benefit analysis of IP investments before a concluding section with recommendations for how employment and export earnings can be taken to scale, the quality of jobs improved, and economic spillovers enhanced.

2. The Direct Impact of Ethiopia’s Industrial Parks

2.1. Direct job creation in Ethiopia’s industrial parks

By June 2021 Ethiopia’s IPs employed around 90,000 workers with job numbers having grown at more than 50 percent a year for almost a decade.⁴⁰ Three large parks, Hawassa, Eastern, and Bole Lemi I, account for almost three-quarters of all employment, but additional parks have scope to grow quickly in coming years. Most growth has come from the opening of government-run parks. In 2014, the only government park was Bole Lemi I, employing 9,100 workers, but this number grew rapidly in subsequent years. The Hawassa park opened in 2017, and employment reached 30,000 workers by June 2021. Employment in private parks increased to 23,000 over this period, fueled both by steady growth in the Eastern industrial park and the opening of two export-oriented parks in Mekelle.⁴¹

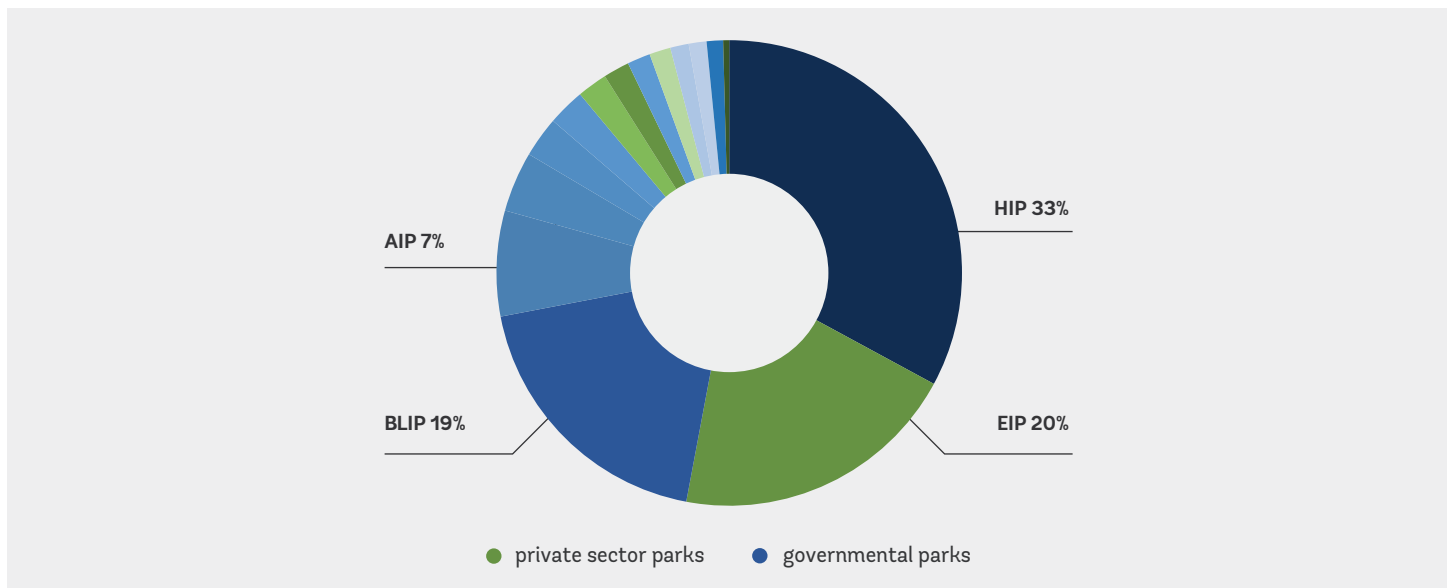
Job numbers increased in 2020/21 compared to 2019/20 despite the COVID-19 pandemic, but the rate of growth slowed significantly (figures 1.1 and 1.2). Job growth slowed substantially to 14 percent a year between 2019 and 2021. If employment had grown at the same annual rate as the years before, employment could have reached 160,000 in 2021, meaning that the COVID-19 crisis and recent conflict may have cut the job creation potential by over 70,000. Exports fell slightly in 2021 (see Figure 1.9). It is likely that jobs were protected by companies reluctant to lose trained workers but also due to a government prohibition on redundancies for a six-month period and a donor-funded support package covering the base salary of workers in factories able to demonstrate a drop in orders.⁴²

The overwhelming majority of park jobs are low-skilled, entry level positions, mostly employing young women with little or no work experience. Across IPDC parks, 87 percent of production workers are women, with job seekers typically required to

40 Data from IPDC.

41 Based on government data. This number includes employment in the Velocity and DBL private parks in conflict-affected Tigray. At the time of writing, it is unclear when (or if) these parks will reopen and the impact on employment. Without these two Mekelle-based investors, employment in private parks would be 19,648.

42 For example, the government of Ethiopia granted tax exemptions and forgiveness for companies that did not lay off employees despite the negative impact of COVID-19 on their operations. See, for example, <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>.

FIGURE 1.2. Breakdown of Jobs by IP, 2021

Sources: IPDC and EIC.

Note: AIP = Adama IP; BLIP = Bole Lemi IP; EIP = Eastern IP; HIP = Hawassa IP.

be over 18 years old and to have either grade 8 or grade 10 level education.⁴³ Around 75 percent of current workers are under the age of 25 and the median age on entry is 19.5 years.⁴⁴ In a 2019 survey, fewer than one in five workers in Hawassa had any previous nonfarm work experience, with over 60 percent coming directly from education and 14 percent previously unemployed. In Bole Lemi I, which is linked to the larger Addis Ababa labor market, almost half the job applicants had some form of wage employment; just over one-quarter had done some form of factory work.⁴⁵ In both Hawassa and Bole Lemi I the vast majority of park workers are migrants, with over 90 percent born outside their city of work.⁴⁶

In addition to the large numbers of operators, the firms also employ significant management and technical staff, often local graduates and international expatriates. An IPDC survey in 2021 suggests there are over 11,000 of these more senior positions distributed across Ethiopia's public and private parks.⁴⁷ Many of these jobs are middle-level management and technical roles (such as mechanical and electrical engineers, logistics specialists, and so on) taken by recent graduates. Most senior management in the export-oriented government parks remain expatriate staff, and in the early setup phases, many investors rely on large numbers of foreign trainers, although these numbers tend to fall as factories become fully operational. As of June 2021, IPs employed about 2,500 expats, who account for less than 3 percent of total employees.

While the overwhelming majority of operators or low-skilled posts are taken by young women, the technical and managerial posts are more evenly split. Data from Hawassa show the 3,000 nonoperator posts there are equally divided between men and women.⁴⁸ Interviews with human resources managers suggest many of the women holding these posts have been promoted from entry level positions into lower-management supervisory roles.⁴⁹

2.1.1. Putting job creation in the context of national and regional labor markets

Viewed in the context of local urban labor markets and aggregate private sector job creation, the contribution of these jobs is significant, but as yet they are not large in relation to Ethiopia's broader population. With around 2 million young people entering

43 IPDC data.

44 World Bank 2019a and Abebe et al. 2021.

45 Abebe, Buehren, and Goldstein 2020. Note: It is not unusual for park workers to move between employers to seek better pay and conditions.

46 World Bank 2019a.

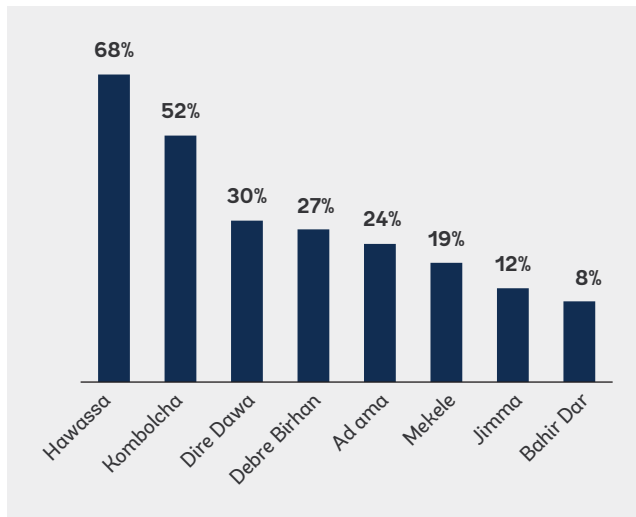
47 Internal survey by IPDC on IP companies' staff structure and wages.

48 Data provided by GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH). See GIZ 2019.

49 Data provided by GIZ. See GIZ 2019.

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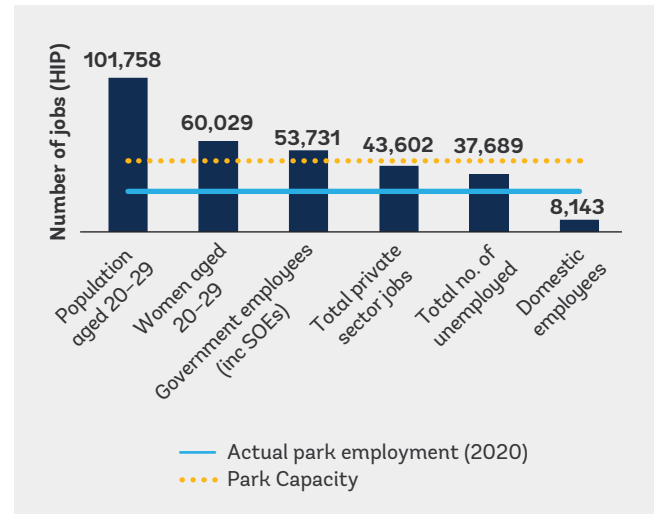
FIGURE 1.3.
Park Capacity Relative to Economically Active City Population (aged 20–29), by Percentage



Source: Based on IPDC/EIC and UEUS data.

> > >

FIGURE 1.4.
Park Capacity Relative to City Employment Statistics



Source: Based on IPDC/EIC and UEUS data.

Note: SOE = state-owned enterprise.

the labor market every year, there is an urgent need for Ethiopia to create more and better jobs. Despite the impressive growth rate of park jobs since 2015, the total number of jobs created in parks to date are less than 5 percent of this annual number.

Due to modest job creation in the broader private sector, Ethiopia’s industrial parks may be responsible for as many as one in seven recent formal private sector jobs. Analysis of the Urban Employment and Unemployment Survey (UEUS) shows that private sector wage employment grew at an average rate of 98,000 jobs a year over 2014–19.⁵⁰ This suggests that direct employment in the parks represented around one in seven new formal private sector jobs over the same period and perhaps higher if employment in associated sectors (logistics, for example) and local spillovers are considered. Within the specific demographic of young women newly entering the labor market, this ratio would be higher still. Unemployment within this group stood at 36 percent in 2020, higher than for any other demographic and more than double the national average, underlining the urgent need to create jobs for this demographic.

The size of the parks varies considerably in relation to the labor market of their host cities. For instance, in Hawassa, the park has the capacity to employ over 60,000 workers compared to a potential labor pool of 77,000 “economically active” city residents aged 20–29, a ratio of 68 percent (see figure 1.3).⁵¹ This clearly demonstrates the reliance on rural migrants for filling a large number of IP jobs. In later parks, such as Mekele, Dire Dawa, and Adama, the city-to-labor pool ratio is typically between 15 and 30 percent, implying a smaller footprint on the local labor market. Even in Addis Ababa, with its significant population and deep labor market, the UEUS points to a total population aged 20–29 of 1 million. The combined employment capacity of the Bole Lemi I and II, Kilinto, and the Information and Communication Technology parks at full capacity could represent up to 10 percent of this target group.

The size of both current and potential job creation compared to local labor markets is clearest in Hawassa where both the relative size is highest, and the park is closest to full capacity (see figure 1.4). Park employment currently stands at approximately 30,000 workers. This compares to an estimated 148,000 employed in the city as a whole but just 43,600 jobs in formal private sector companies. At full capacity of 60,000, park jobs would surpass government employment, currently the single largest employer in the city. Without additional inward migration, it would match the estimated current 60,000 20- to 29-year-old women residents of the city.

50 Weisman and Mesfin 2021.

51 All IP upper capacity estimates assume sheds’ space to be utilized at a rate of 0.13 workers per square meter and half of all factories running double shifts.

2.2. Pay and remuneration

The most comprehensive source of data on pay and remuneration is a phone survey conducted in summer 2020 that covered 70 percent of firms operating in the IPs.⁵² The survey found that in addition to base pay, an extensive set of bonus and incentive payments as well as in-kind benefits such as food and transport were in use. The average level of base pay across the IPs was Ethiopian Birr (Br) 1,800 (US\$52.90) per month, with variable pay (such as attendance and performance incentives) of Br 1,175 (US\$34.60) and in-kind benefits of Br 957 (US\$28.10),⁵³ taking total compensation to an average of Br 4,063 (US\$119.50).⁵⁴

While this average of total compensation was found to be around four times the national poverty line, there was significant variation of pay rates both between and within individual parks. For instance, within some parks, up to 40 percent of employers had a level of base pay beneath the regionally adjusted poverty line. The base pay of park workers at the 75th percentile of the wage distribution was more than double that of the 25th percentile, showing a high degree of variation between IP employers. Total compensation in the better-paying park tenant investors was reported by employers as over Br 5,000 a month for new entrants, placing these workers comfortably in the top one-third of urban households.⁵⁵

A lack of time series data complicates analysis of how park salaries have evolved, but both tax and labor market data suggest an upward trend in recent years. Figure 1.5 shows annual income tax revenues per worker from Hawassa IP increased by over 70 percent between 2017/18 and 2019/20.⁵⁶ Exports per worker also rose sharply over this period, which may suggest productivity improvements triggering the incentive payments previously described. Comparing the average salaries found in a 2017 study in Bole Lemi to the 2020 wage survey data also suggests pay levels increased. Imputing the nonpark salaries paid to similarly qualified workers with wage data for Addis Ababa suggests that nonpark salaries may not have kept pace with those inside the park, and the salary premium may have increased from 34 percent in 2017 to as much as 50 percent in 2021 (figure 1.6).⁵⁷

FIGURE 1.5.
Income Tax Revenue and Exports
per Worker

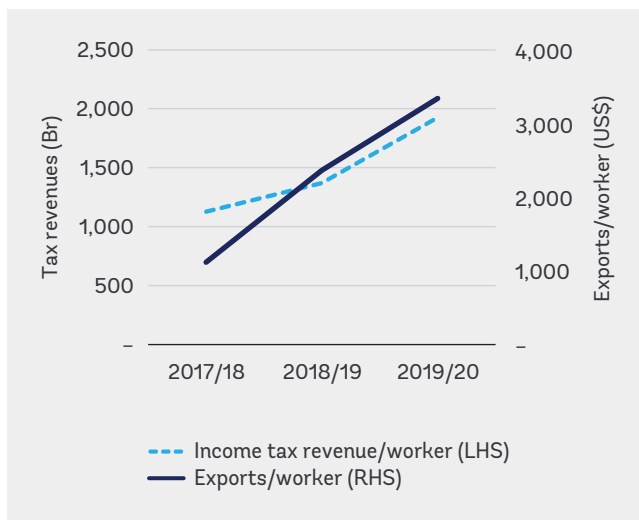
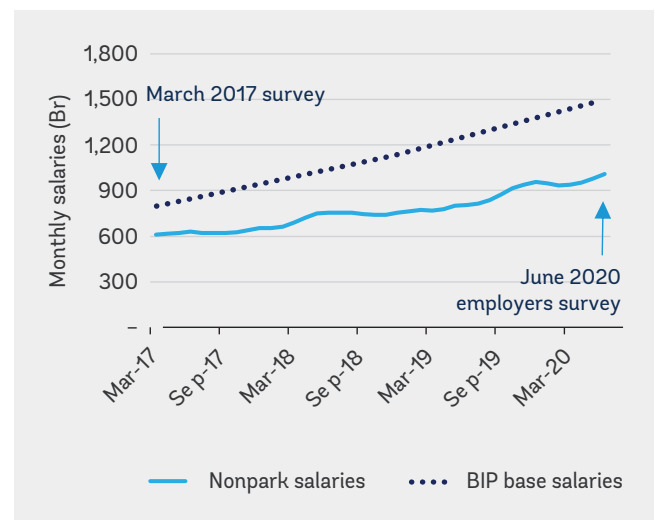


FIGURE 1.6.
Estimated Bole Lemi I IP Salaries versus
Nonpark Salaries



Sources: IPDC; CSA 2005; Meyer, Krkoska, and Maaskant 2021; Abebe, Buehren, and Goldstein 2020; World Bank staff calculations.
Note: BIP = Bole Lemi I Industrial Park.

⁵² Meyer, Krkoska, and Maaskant 2021.

⁵³ This monetary value is calculated from employer-reported provision of benefits such as food, transportation, and housing.

⁵⁴ Based on an end May 2020 exchange rate of US\$1: Br 34.

⁵⁵ Based on 2016 consumption data.

⁵⁶ Human resources managers in the park do report significant increases in the use of incentive payments over this period, but the 70 percent increase is also likely driven in part by increased pay, pushing workers into higher tax brackets. These figures have not been inflation adjusted, but the increase in revenues per worker is around double the 35 percent increase in general price levels over the two-year period.

⁵⁷ Figures for 2017 for BIP and nonpark salaries are taken from Abebe et al. 2019. BIP salaries for 2020 are from Meyer et al. 2021 and use base pay data only. Nonpark salaries for 2020 are calculated from 2019 figures inflated by monthly wage index data for Addis Ababa from the Central Statistics Agency (CSA) of Ethiopia. The use of total pay data for 2017 but only base pay data in 2020 suggests the growth of park salaries (and corresponding wage premium) may be higher than shown.

Salaries are widely dispersed across technical and management-level roles with line supervisors, the first substantive step up for operators and entry-level staff, receiving close to double the pay of entry-level staff.⁵⁸ Less attention has been given to the pay levels of technical and more senior-level staff with most academic interest focused on operator-level employment. An IPDC survey in 2021 suggests that senior administrative staff in functions such as finance or logistics may be paid more than Br 10,000 a month (approximately US\$215), jobs that would typically go to more experienced and graduate-educated staff members. For factories reporting these types of roles, line supervisors tended to make up 3–12 percent of all factory floor staff.⁵⁹ Average pay for line supervisors was reported as Br 3,115 a month, 90 percent higher than for entry-level or operator base pay.

2.3. Are Park jobs good jobs? Gender, worker welfare, and turnover

A series of in-depth interviews with workers in late 2019 and early 2020 give a unique insight into the aspirations, experiences, and challenges of young women moving from rural areas to live in Hawassa city and take jobs in the park.⁶⁰ Participants pointed to gaining financial independence, autonomy from their parents, and other benefits of urban life as the main motivations for taking up park jobs. However, many described finding life difficult. Workers reported perceived challenges including low levels of pay, restrictive policies around absence and leave, adjustments to working shift patterns, standing versus sitting while working (or vice versa), and the demeanor of bosses and treatment of workers. While it was well known among experienced workers which employers in the park had better pay and conditions, a lack of awareness among new entrants and lack of choice on where workers would be placed by a centralized recruitment system may have slowed a “bidding up” of standards in less attractive employers.

New workers also faced challenges linked to city life, including the cost of living, housing, a lack of childcare options, and personal safety, including the prevalence of sexual violence. For over half of the participants surveyed, one of the main reasons for seeking work in the park was to continue part-time studies, which was often not possible in rural settings. However, once in Hawassa, many found it expensive and difficult to juggle with full-time employment, with returning to education given as the second most likely reason for leaving IP employment.⁶¹ Many also reported personal experience (or directly knew women who had personal experience) of sexual violence and worried about their personal safety in their commutes to and from work. Despite the challenges of urban life, and the fact that many reported IP jobs as a “stepping-stone” rather than a long-term strategy, the move to the city was mostly seen as a permanent decision.

Several studies have also pointed to the health and cognitive impacts on workers in Ethiopia taking up factory work. Three separate studies convey self-reported health concerns related to issues such as extended periods of sitting or standing. Studies carried out over 2010–13 (predating the government’s IP program and international buyers’ presence in Ethiopia) and one in 2017 (focusing on Bole Lemi I) point to self-reported health problems of factory workers, but in follow-up interviews, the studies found these effects disappeared over time.⁶² The 2017 study also found some evidence of an increase in the cognitive abilities of workers randomly allocated factory jobs, which the authors suggest may be due to the stimulus of training and work tasks of factory work.

High levels of worker turnover are a consequence of low levels of worker satisfaction and a cause of low productivity. A 2018 study of a factory in HIP, while focusing on only one employer, shed additional light on the profile of the turnover of workers. As shown in figure 1.7, the factory experienced very high levels of attrition among workers in their first three months (around 60 percent of new workers had left by this point), but thereafter, the workforce broadly stabilized and monthly turnover reduced to the low single digits. This phenomenon is confirmed by a 2019 study (figure 1.8) looking at the workforce in both Bole Lemi and Hawassa that found, despite high turnover in early months, over half of all workers had been at the parks for over a year (all the more significant given at this point Hawassa had only been open for a little over two years). This suggests turnover may be characterized by a significant churn of new entrants alongside a more stable and established workforce that stays beyond an initial settling-in period, as is common in many newly industrializing countries.

58 The IPDC survey from which the Br 3,115 figure is derived covered a relatively small subset of 10 firms across different IPs. In this survey the average base pay for operators was Br 1,615 a month, slightly lower than the more representative survey carried out in 2020, which gave a (median) figure of 1,800.

59 IP investor human resources managers reveal that a typical progression might include pay increments for basic job proficiency (for example, in sewing), followed by becoming a “Floater” (an operator skilled enough to perform several functions and able to move around the factory where there are backlogs), a “Trainee Supervisor,” and finally, “Line Supervisor.”

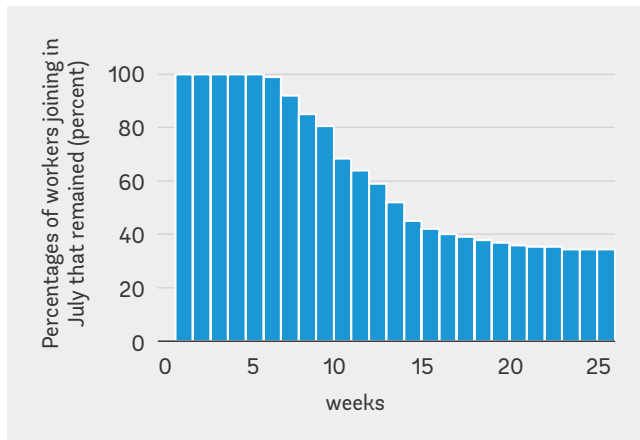
60 Dom et al., forthcoming.

61 Abebe, Buehren, and Goldstein 2020; Abebe et al. 2019.

62 Blattman, Dercon, and Franklin 2019; Abebe, Buehren, and Goldstein 2020; and Dom et al., forthcoming.

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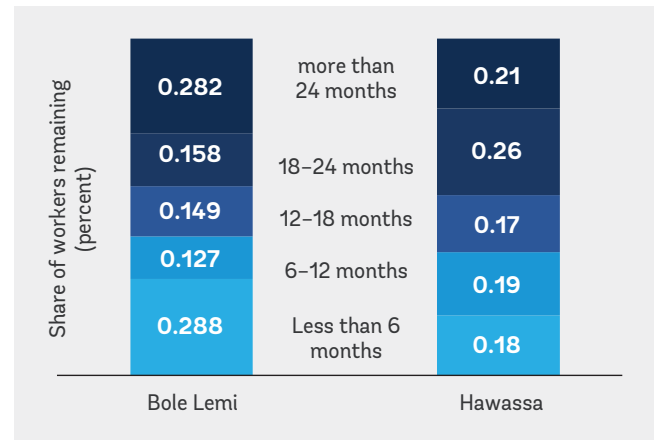
FIGURE 1.7.
Worker Attrition in a Factory in Hawassa



Source: Adapted from Abebe et al. 2021; World Bank 2019a.

> > >

FIGURE 1.8.
Turnover of Workers in Bole Lemi and Hawassa



The high level of turnover in the early weeks of employment, followed by a stabilization, likely has several causes. The same 2018 study in Hawassa interviewed workers that had left; it found an overwhelming majority of workers pointed to pay as the biggest factor despite other studies that identified potentially low levels of available alternatives and the high probability that those leaving park jobs would become unemployed.⁶³ Other studies note a large mismatch between workers’ expectations and the reality of urban life and factory jobs in addition to a lack of support to rural migrants in settling into their new lives.⁶⁴ This suggests a potentially high return to better education and awareness campaigns to address these information gaps and better support to help prepare and settle rural migrants into new settings.⁶⁵

There is evidence that the requirements of international brands sourcing from IP manufacturers have driven improvements in human resources practices and health and safety standards in park employers. All the major international buyers operating in Ethiopia use guidelines that regulate and set out expectations for manufacturers on human rights and environmental issues.⁶⁶ These typically include the need for mechanisms for worker-management dialogue, grievance redress mechanisms, and commitments to Freedom of Association (FoA). Most of the larger buyers also require employers to sign up for the ILO-International Finance Corporation (IFC) Better Work program of factory assessments/inspections and advisory support.⁶⁷ As of end 2020, over 40 factories (employing over 45,704 workers) had signed up for Better Work and over 38 unannounced factory assessments had been carried out. Of over 442 assessment findings, about 400 had been either remediated or were in the process of being addressed.⁶⁸ An additional pillar of the Better Work program has been the training of 60 federal and regional Ministry of Labor staff and inspectors in issues such as occupational safety and health and the use of inspection data.

The gender, societal, and broader developmental impacts of having large numbers of young women take up formal sector employment are likely to be profound, but there is as yet little direct evidence from Ethiopia. A sizeable literature exists from other countries on the impact—positive and negative—that can be associated with the personal, household, and societal changes that come with the type of employment seen in Ethiopia’s IPs. For instance, there is evidence that increasing women’s economic empowerment can delay marriage and cohabitation, with effects on family size.⁶⁹ In Mexico, increased labor demand for adult women raised the chance of having a daughter in good health,⁷⁰ and the children of women who found work in export manufacturing were significantly taller.⁷¹ Research from Bangladesh shows expanding potential job opportunities for women can increase the

63 Abebe et al. 2019.

64 Szamier and Mengesha 2019.

65 In Hawassa, a partnership between the US Agency for International Development (USAID), IP investors, and Plan International is supporting newly arrived workers with information and resources to support this transition, but these activities have not yet been taken to scale in other locations.

66 See, for instance, PVH’s Corporate Responsibility document at <https://www.pvh.com/-/media/Files/pvh/responsibility/PVH-CR-Supply-Guidelines.pdf> and H&M’s Code of Ethics at <https://hmgroupp.com/wp-content/uploads/2020/10/Code-of-Ethics-Business-Partners-1.pdf>.

67 The Children’s Place, PVH, and H&M all use Better Work factory assessments.

68 ILO Ethiopia office.

69 Bandiera et al 2020.

70 Majlesi 2012.

71 Atkin. Unpublished manuscript, MIT, 2009.

number of years of schooling obtained by girls.⁷² Given the relatively short time since Ethiopia's IPs started hiring (and that many of these effects rely on second-round behavioral effects), it is unlikely there is much evidence to find, but these are areas that warrant further examination in coming years.

3. Export Performance of Ethiopia's Industrial Parks

Net exports from Ethiopia's industrial parks grew rapidly before COVID-19, reaching US\$163 million in 2019/20, mainly driven by firms in IPDC-run facilities. Between 2014/15 and 2020/21, net exports (that is, gross exports minus imports) from IPDC-run parks grew at an average rate of 50 percent a year, whereas exports from firms in privately run parks remained roughly constant at around US\$37 million per year. This partially reflects the fact that EIP, the largest privately operated park, has a greater focus on the domestic market than the government-run IPs. It also stands out that the three largest IPs (Bole Lemi, Hawassa, and Eastern) accounted for over three-quarters of all exports from the IPs.

Due to COVID-19 and political instability in the Tigray region, exports fell to US\$141 million in 2020/21.⁷³ The effect of the COVID-19 pandemic was initially felt through the reduced availability of fabrics and other raw materials from Asian suppliers, but by March 2020, the crisis had started to feed through into reduced orders, the impact of health and safety measures within factories (for example, social distancing), and increased absenteeism in the workforce.⁷⁴ Several IP investors responded to the fall in demand by switching to production of personal protective equipment and government authorities' granting permission for limited sales into the domestic market. If export growth had continued at the same average annual rates of preceding years, it is estimated that exports would have reached US\$260 million in 2020/21, meaning that COVID-19 and the conflict in Tigray may have reduced the export potential by 45 percent (or US\$120 million) by mid-2021.⁷⁵ (See box 1.1 for information on methodology.)

Despite impressive export growth from a low base, by 2021 the scale of foreign exchange earnings from the parks was not yet sufficient to make a meaningful contribution to address Ethiopia's foreign currency shortages. While they have grown quickly, IP exports as share of total exports remain low, increasing from just 0.2 percent in 2014/15 to 5.1 percent in 2019/20—almost 60 percent of Ethiopia's exports remain vegetable products, such as coffee, and 20 percent are precious metals and mineral products. Given Ethiopia's substantial trade deficit, the export revenues of the industrial parks (US\$163 million) would cover just four days of the country's annual import bill of US\$15.6 billion (in 2019). In terms of Ethiopia's foreign debt servicing, the export revenues from IPs would only be able to cover about 7 percent of its annual debt servicing needs in 2019.⁷⁶

IP exports account for a growing share of Ethiopia's manufactured exports and have reversed a trend of falling, nonpark manufactured exports in recent years.⁷⁷ By 2019/20, IP exports had risen to 40 percent of all manufacturing exports, up from just 11 percent in 2014/15 (see figure 1.9).⁷⁸ Nonpark exports of manufactured goods have fallen sharply over this period, but buoyed by the growth of IP exports, the total manufactured exports grew by a modest rate of approximately 2 percent per year.

Textiles and garments dominate export earnings from the IPs, accounting for around 95 percent of exports from IPDC-run parks.⁷⁹ In the three IPDC-run parks that generate the greatest exports (Hawassa, Bole Lemi, and Kombolcha), at least 90 percent of the companies operate in the textile and garment sector. At present, only the privately owned EIP is heavily focused on the domestic market and has a more diversified set of investors, with 40 percent of companies in textiles and garments, 10 percent in building materials, 9 percent in chemical products, and 6 percent in the food and drinks industry. Exports from EIP have continuously declined over the past four years, likely because of a shift to sales to the domestic market as well as the impact of COVID-19 on key export markets.

72 Heath and Mobarak 2015.

73 Please note that exports do not include exports from the ICT Park given its different conception and history from the other IPs. If exports from the ICT Park were included, there may not be a reduction in exports during the COVID-19 pandemic.

74 For a regional perspective of how the COVID-19 pandemic affected the garment industry, see ILO 2020.

75 Due to the different annual export growth rates in private and IPDC parks, the export gap was estimated using their respective historical trends pre-COVID (that is, constant exports for private parks and an average annual increase of 77 percent for IPDC parks).

76 "Joint World Bank-IMF Debt Sustainability Analysis," <https://documents1.worldbank.org/curated/en/589301593446701627/pdf/Ethiopia-Joint-World-Bank-IMF-Debt-Sustainability-Analysis.pdf>.

77 Manufacturing exports are defined as textiles, garment, leather, meat and dairy, food, beverage, pharmaceuticals, chemicals, metal, and engineering. Since 2017/18 there has been a decline in exports of chemical and construction inputs, meat and dairy, and leather and leather products (data from the Ministry of Trade).

78 Data on manufacturing exports are from the Ethiopian Ministry of Trade.

79 Based on firm-level data from IPDC.

BOX 1.1:

Methodological Note on Export Figures from Industrial Parks

Export figures in this section are presented on a net basis—that is, without including the cost of imported inputs. Official export data from the Industrial Parks Development Corporation/Ethiopian Investment Commission (IPDC/EIC) are collected on a net or gross basis, depending on the way in which industrial park (IP) investors are established. While the majority of firms import their inputs (such as fabric) from abroad, there is a distinction between those that purchase such inputs through the locally established company and those for which this is done by the overseas-based parent company or even international buyer.

Most firms in Ethiopia's IPs operate on a “cut-and-make” basis, with the Ethiopian enterprise focusing on the labor-intensive manufacturing steps, while a parent company sources and finances the purchase of fabric, trims, and other inputs. This parent company then ships in these inputs, which the local factory will assemble into garments but—in a sense—never actually “owns.” In contrast, a small number of IP investors are set up on a “free on board” (FOB) basis in which inputs such as fabric are actually paid for and imported by the locally established enterprise. This FOB setup requires the local entity to make more extensive use of the local banking system because it will typically be using US dollars to purchase these inputs. As such, the success of FOB firms is more affected by the local investment climate and challenges, such as the availability of foreign exchange, banking charges, and customs procedures (see chapter 4 for more discussion of these issues). FOB businesses are also more likely to base more value-added activity in the host country, such as marketing, buyer relations, accountancy, logistics, and so on.

This distinction creates a difference in the way export figures are collected and so an adjustment needs to be made to put all exports on a consistent basis. A cut-and-make exporter will not include the value of the fabric and other inputs in its export figures, only the local value added. An FOB firm will report the full value of the goods, including imported inputs, as well as the cost of local processing. The value of imported inputs typically represents 50–70 percent of the value of finished products, so FOB exports will be correspondingly higher. To ensure consistency, all FOB exporter data have been adjusted downward by the estimated value of imported inputs. This approach also has the advantage of corrected total export figures then being a closer approximation of value added (closer to their true share of the gross domestic product; GDP) and comparable to other export commodities, such as coffee, which do not rely on imported inputs.

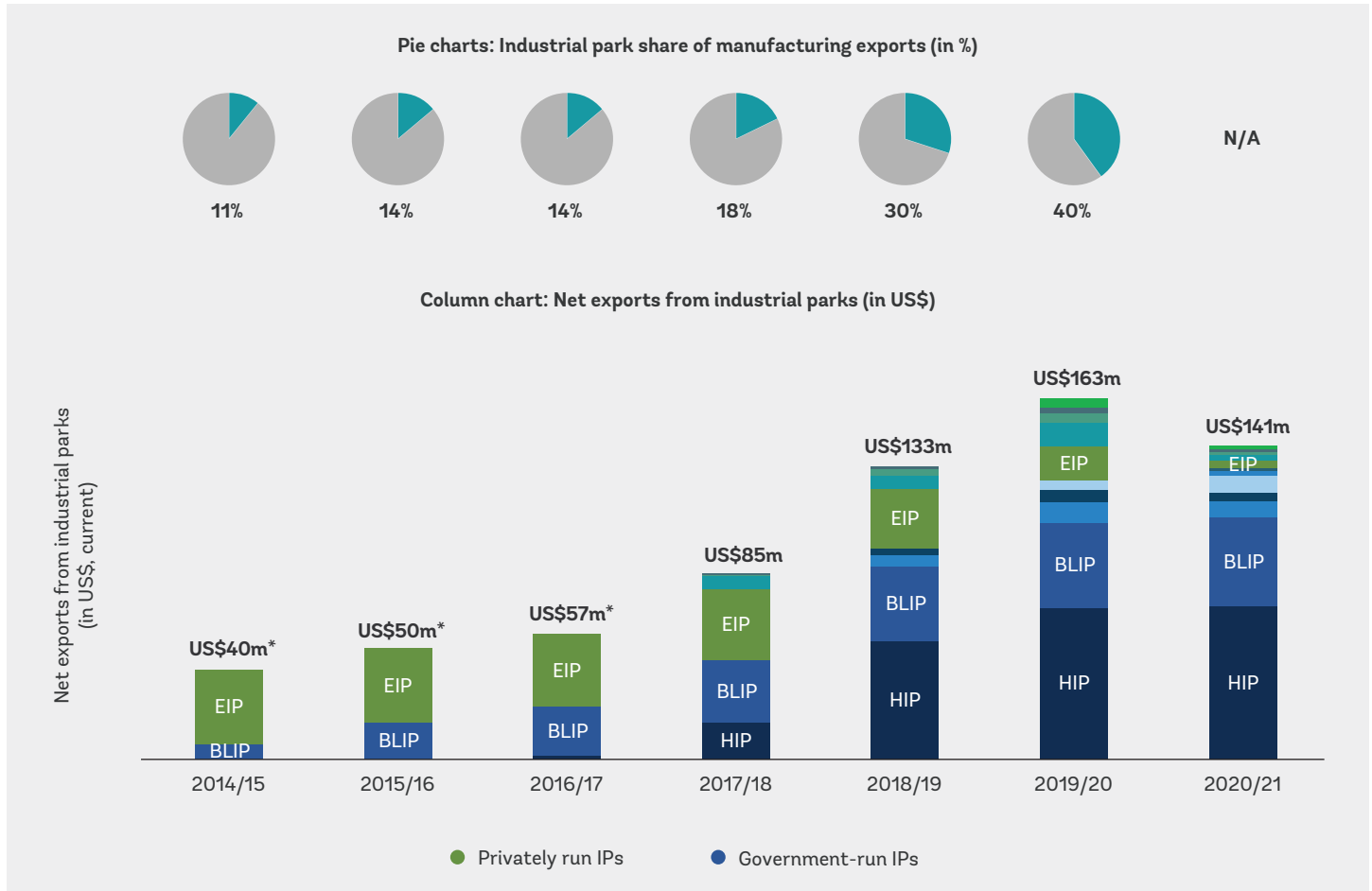
Note: Imported inputs were estimated to represent two-thirds the value of total exports for FOB firms. See, for example, CMC and Enclude BV 2019 or Datta and Christofferson 2005. As a robustness check, export figures were compared to “shadow export” data via US garment imports from Ethiopia, which suggested an import content of close to 60 percent. Sensitivity checks were also carried out by decreasing the import content of FOB firms' exports from two-thirds to a half, which only increased the aggregate export volumes from all IPs by just 3 percent.

Within only five years, IPDC-run firms became the predominant source of Ethiopia's textile and garment exports. IPDC garment exports rose from just 2 percent of countrywide exports in 2014/15 to 70 percent in 2019/20 (see figure 1.10).⁸⁰ This trend is due to new foreign firms investing in IPs in Ethiopia, rather than the country's existing textile industry shifting its production to parks. As with manufactured goods as a whole, Ethiopian exports of garments and textile from companies outside the parks have fallen since 2014 (in large part due to the collapse of a large Turkish investor exporting to Germany), but the rapid growth from IP investors lifted Ethiopia's overall garment sector export earnings.

Exports from industrial parks are rapidly catching up with key Ethiopian exports and on current trends could pass the current levels of earnings from coffee, Ethiopia's primary merchandise export, within five years. Even though exports from IPs accounted for only a small share of Ethiopia's total exports (5.2 percent in 2019/20), they have rapidly converged with trade volumes of other key Ethiopian export goods (see figure 1.11). In 2019, exports from the parks reached almost the level of cut flowers and almost half of the level of oil seed exports. If the exports from industrial parks revert to their 2014–20 trajectory, they could become the largest single source of merchandise export earnings by 2027.

⁸⁰ This share would be even higher if taking into account the textile and garment manufacturers in the private IPs, such as the Velocity and DBL parks in Tigray.

FIGURE 1.9. Net Exports from Ethiopia’s Industrial Parks

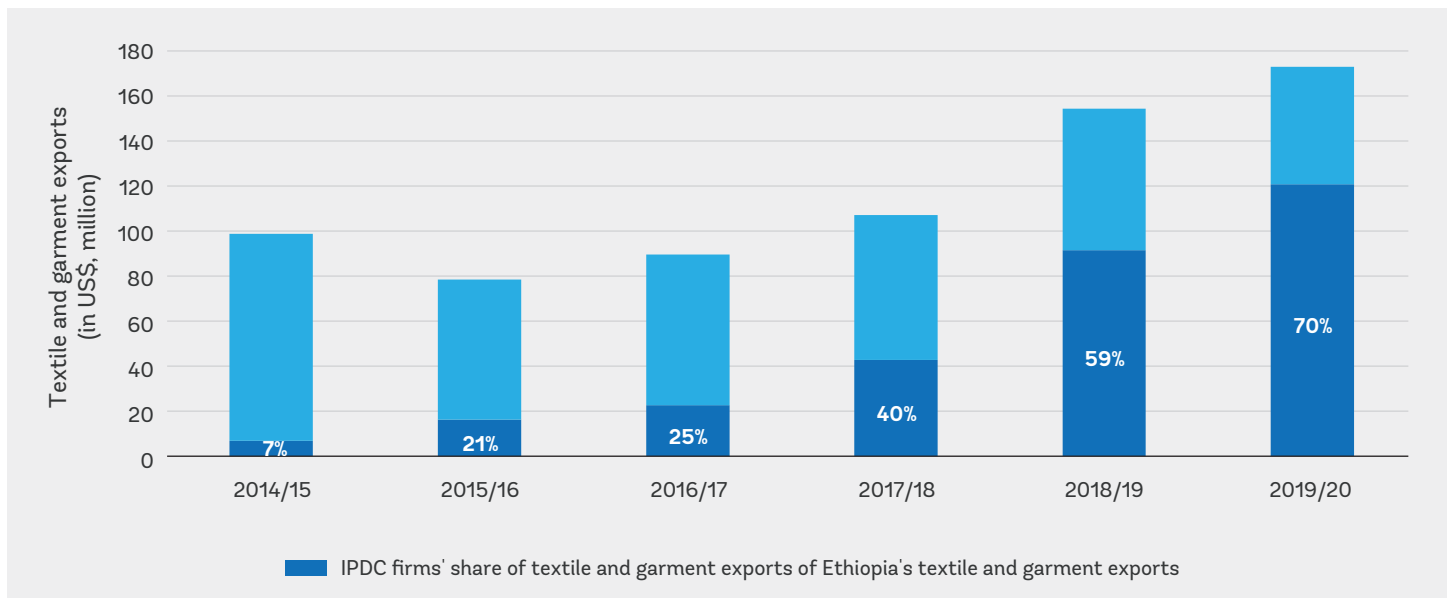


Sources: IPDC/EIC, Ethiopian Ministry of Trade, International Trade Center (ITC) Trade Map.

Notes: Manufacturing exports defined as textiles, garment, leather, meat and dairy, food, beverage, pharmaceuticals, chemicals, metal, and engineering. HIP = Hawassa IP; BLIP = Bole Lemi IP Phase I. Data from IPDC/EIC have been presented as net exports (that is, gross exports minus imports) as described in box 1.1.

* Eastern IP (EIP) became operational in 2007/08 (2000 Ethiopian calendar) but because of lack of data, the exports for 2014–17 are based on estimates. Note data do not include figures for the ICT park. m = million.

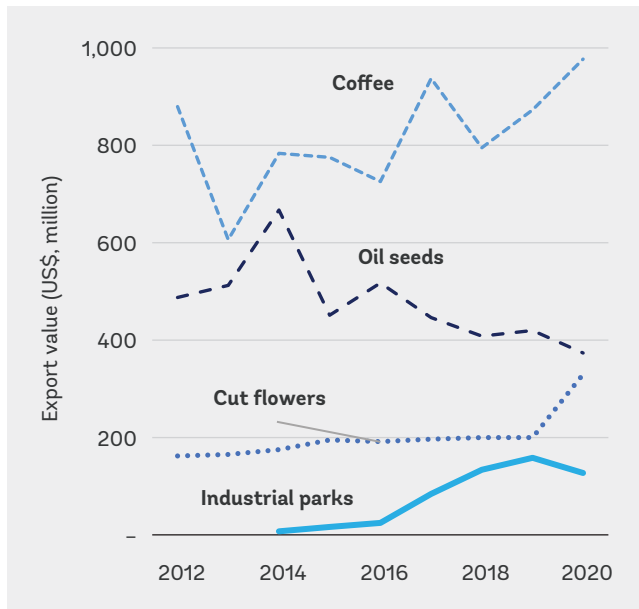
FIGURE 1.10. Industrial Parks’ Growing Share of Ethiopia’s Textile and Garment Exports



Sources: Ethiopian IPDC and ITC Trade Map.

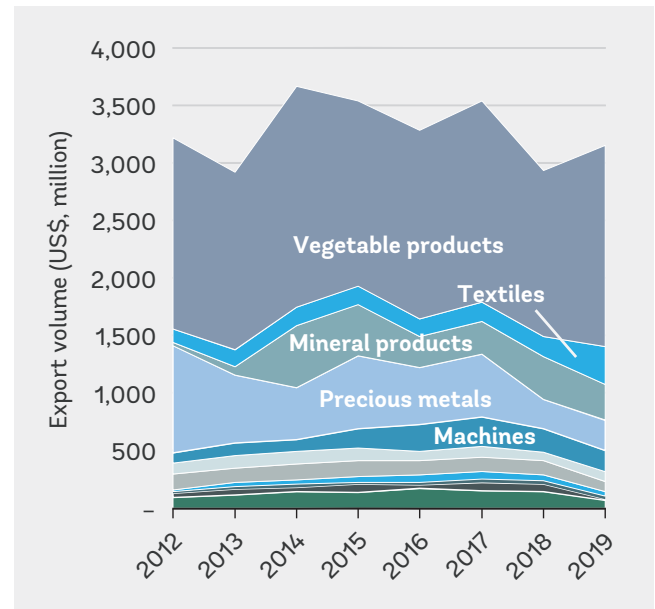
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FIGURE 1.11.
Export Performance of Industrial Parks
Compared with Key Ethiopian Export Goods



> > >

FIGURE 1.12.
Ethiopia’s Export Basket (2012–19)



Note: Data for coffee, oil seeds, and cut flowers are from the ITC Trade Map (2012–19). Figures for 2020 are adjusted (rebased) ITC Trade Map data based on export statistics from the Ethiopian Ministry of Trade. Data for industrial parks are from IPDC.

Despite this rapid growth, the industrial parks are not yet operating on a scale to meaningfully contribute to a major diversification of Ethiopia’s exports, neither in terms of its export basket nor trading partners. As can be seen in figure 1.12, the export of textiles is not large enough to reduce the share of primary products such as agricultural, mineral, and precious metal exports. More detailed studies into the economic complexity of Ethiopia’s export basket (a helpful predictor of future long-term growth) confirm this finding.⁸¹ Similarly, IP exports are not yet of a scale to materially affect the diversification of export destinations. Exports to North America and Europe, the principal markets for IP goods, have shown encouraging signs of growth since 2018 but not enough to rebound to levels seen a decade earlier (figure 1.13).

Looking specifically at textile exports, there has been a major shift toward the United States—largely reflecting preferential market access under the AGOA. Since the start of the IP program, the share of garment and textile exports to North America has increased rapidly, from 10 percent in 2014 to 69 percent in 2019 (see figure 1.14). This strong performance of exports to the US is driven mainly by the tariff-free market access for Ethiopian textile exporters to the US under AGOA. While Ethiopian exporters also receive tariff-free access into the EU, this benefit is shared by Bangladesh and so Ethiopian exporters do not face a tariff advantage over Bangladesh’s more established industry, as they do when exporting to the United States. Even with low-cost labor, power, and shed rentals, international buyers still report Ethiopian production costs are 20 percent higher than in Bangladesh—and even higher than some other African exporters—and so continued productivity growth (see section 5, Labor Productivity and Getting to Scale) will be critical for significant growth into European markets.⁸²

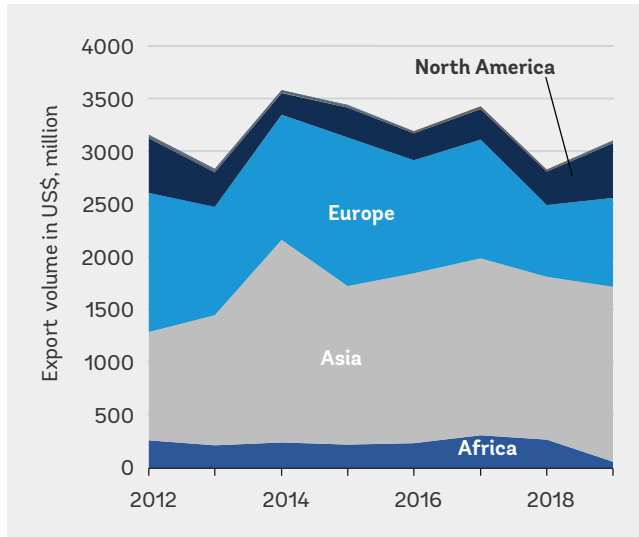
In the initial three years of the IPDC parks, exports were driven by a dozen companies, but over time, exports were distributed across a growing number of firms. While in 2015/16, the largest three companies accounted for 95 percent of all exports from IPDC IPs, the share fell to 31 percent in 2018/19. However, despite a growing number of firms in IPDC parks, five firms still accounted for half of all exports from government-run IPs in 2019/20, showing a substantial reliance on a small group of companies (figure 1.15).

81 See Goldstein 2020.

82 Based on internal World Bank Group international benchmarking analysis of the Ethiopian garment industry against key global competitors and buyer interviews conducted by Altenburg et al. 2020.

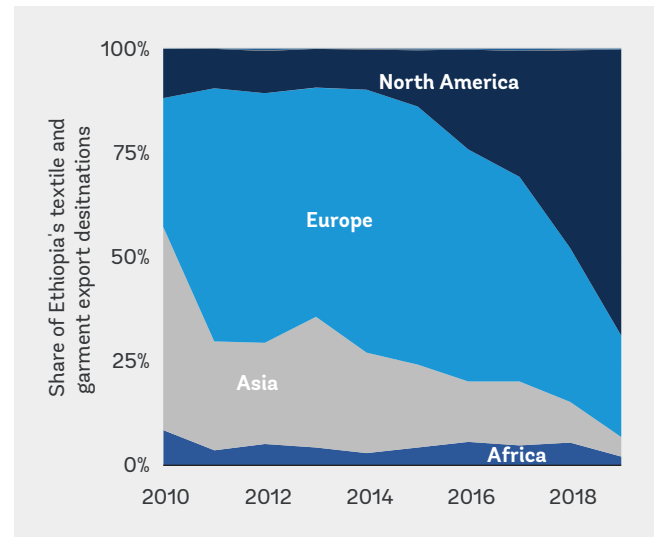
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FIGURE 1.13.
Ethiopia's Total Export Destinations
(in US\$, million)



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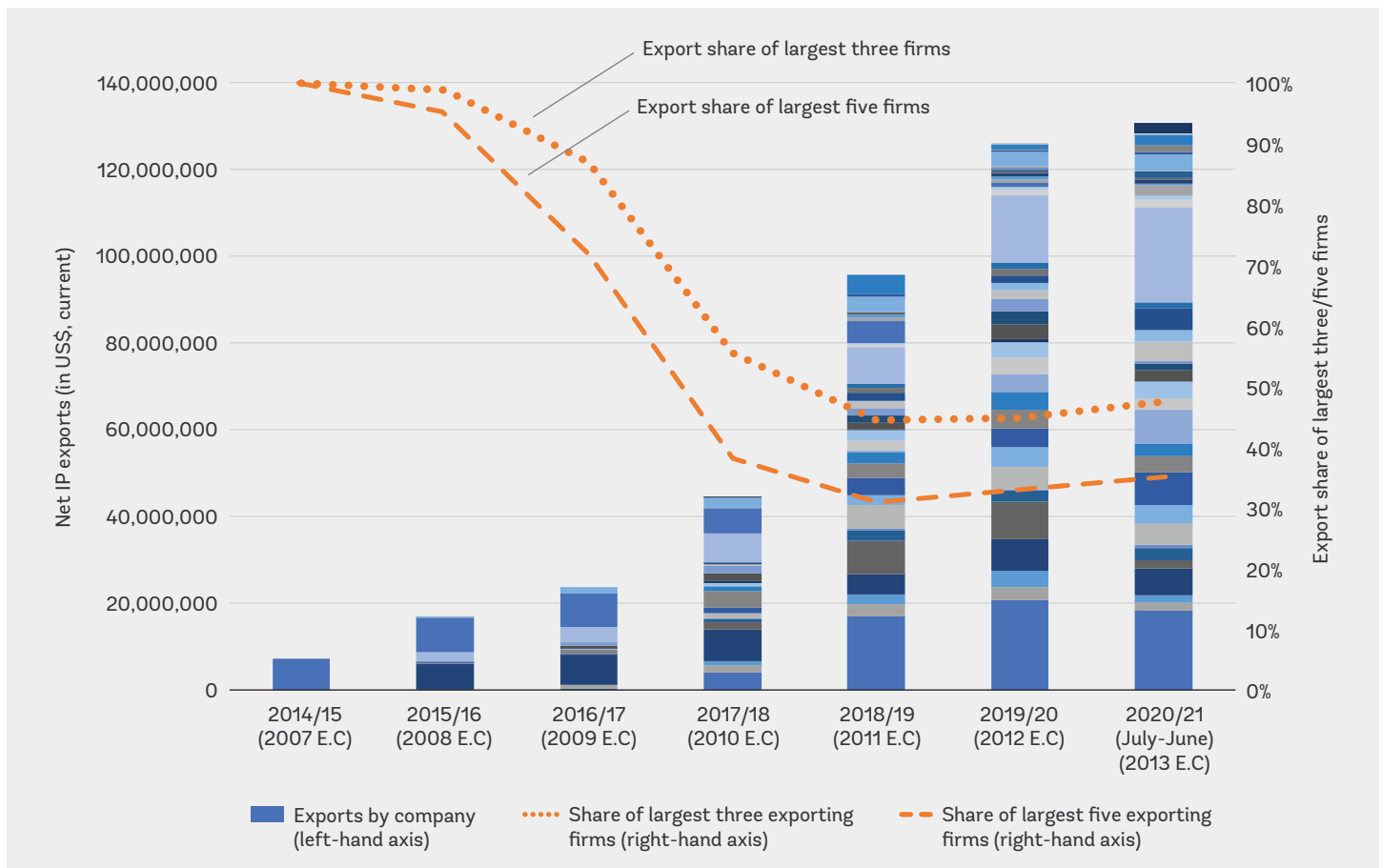
FIGURE 1.14.
Ethiopia's Textile and Garment Export Destinations (percent)



Source: Observatory of Economic Complexity (OEC).

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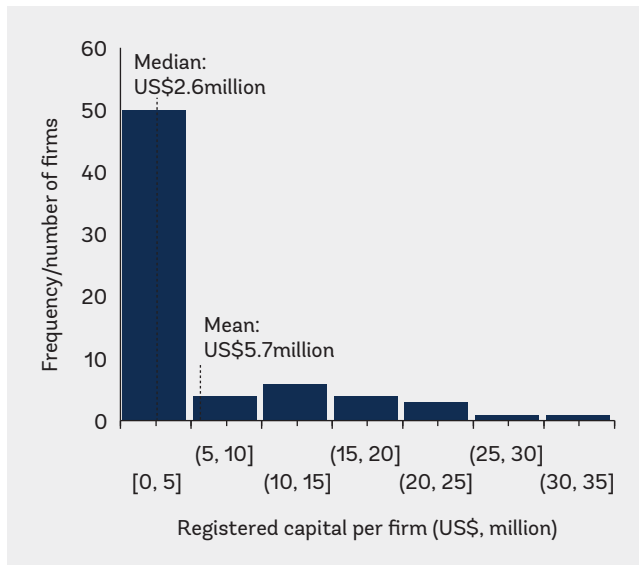
FIGURE 1.15. Increasing Number of Firms That Drive Exports from IPDC-Run IPs



Source: IPDC/EIC data.
Note: E.C = Ethiopian calendar.

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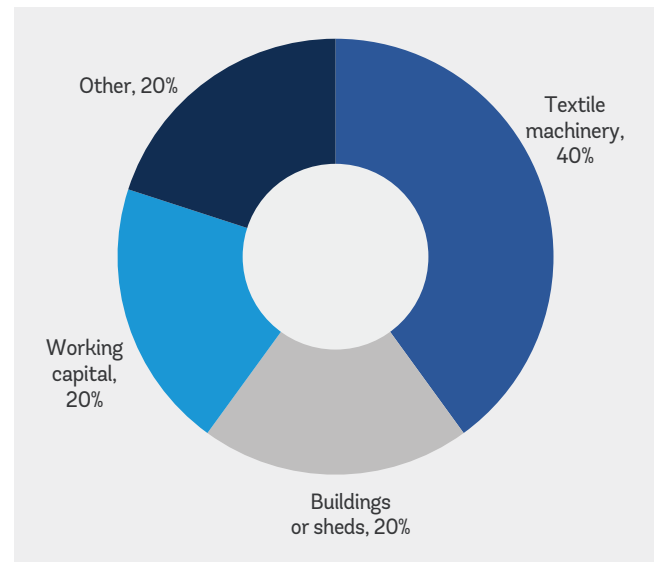
FIGURE 1.16.
Distribution of Firms' Registered Capital in
IPDC-Run Industrial Parks (in US dollars millions,
n = 69)



Source: IPDC/EIC.

> > >

FIGURE 1.17.
Breakdown of Registered Investments,
by Expenditure Type



Source: IPDC/EIC.

4. Investment

Government data reveal Ethiopia's IPs have attracted 66 foreign investors and an estimated US\$740 million in inward investment since 2014/15.⁸³ IPDC data for registered (actual) capital show public parks attracted US\$400 million of inward investment and private parks the remaining US\$340 million.⁸⁴ The size of investments inside the public parks ranges from US\$110,000 to US\$35 million, with an average firm investing US\$2.6 million (see figure 1.16). Given that between 2014/15 and 2019/20, Ethiopia's reported foreign direct investment (FDI) per year was around US\$3 billion, the investments in IPs accounted for less than 5 percent of these inflows.⁸⁵ This relatively low share may be due to definitional and data challenges in both series but also, potentially, the low capital requirements in the labor-intensive garment industry (especially for firms using turnkey sheds built by IPDC).⁸⁶

Companies invested capital mainly in the import of textile machinery (40 percent of registered capital), followed by investments in buildings or sheds (20 percent), working capital (20 percent), and other investments (20 percent) (see figure 1.17).⁸⁷ Textile machinery is predominantly imported from China, accounting for about 80 percent of imported equipment. Similar to investments overall, the annual imports of machinery vary substantially by firms. On average, firms import machinery worth around US\$800,000, but a few firms import 5 to 10 times this amount. This range is reflective of the different degrees of capital-intensity (for example, fabric mills are particularly capital intensive) and automation levels among IP firms.

China and India have been the source of 70 percent of investment into the IPs, but across all source countries there has been a striking consistency in the number of jobs created per investor. Analysis of data from 37 firms in IPDC-run parks provides insight into differences among firms from different countries. After China and India, the major sources of investment have been the Republic of Korea, Europe, the United States, and Hong Kong SAR, China (Figure 1.18). Firms from these origins

83 This figure includes both operational firms as well as firms at a pre-operational stage. Whereas announced investment figures are substantially higher, this analysis focuses on realized investments. However, the registered capital figures of IP firms are not being continuously updated as they are primarily being recorded at the time of their first registration. The actual number may, therefore, be higher, especially due to working capital needed in the early phases of projects.

84 These data are for the Eastern Industrial Zone, George Shoes, and Huajian.

85 IPDC and EIC data. Aggregate Foreign Direct Investment (FDI) data from the World Bank. There are no detailed data available from the National Bank of Ethiopia (NBE) to cross-check detailed foreign investment inflows. Moreover, the analysis does not take into account potential FDI inflows, for example, from Chinese (private) developers for the pipeline of private IPs such as Arerti.

86 The figure of US\$740 million registered capital is based on actual investments. However, these rely on self-reporting and are often only registered in the first year.

87 Most firms use sheds built in the IPs, but investments are likely used for alterations (such as adding a mezzanine floor for offices) or other additions (such as air conditioning systems). A few firms have built their own shed and accordingly would have spent more than 20 percent of their total investment on it, driving up the overall average.

FIGURE 1.18. Country of Origin of IPDC Firms (n = 37 firms)

	(a) Total investment (US\$, million)	(b) Annual exports per firm (US\$, million)	(c) Jobs per firm
China (n=10)	94	5.0	1,659
India (n=9)	76	6.0	2,583
Korea, Rep. (n=4)	30	3.9	1,651
Europe (n=4)	22	2.1	313
United States (n=2)	16	1.5	1,225
Hong Kong SAR, China (n=2)	13	3.8	1,512
Sri Lanka (n=3)	7	5.4	1,628
Ethiopia (n=3)	3	0.6	493

Source: IPDC data.

Note: These 37 firms include all firms in IPDC-owned parks for which information on their country of origin, exports, jobs, and investment (registered capital) are available. Only countries of origin that have at least two operational firms have been included.

have a similar size of investment per firm (typically between US\$5 million and US\$9 million) and, with the exception of European investors, similar levels of job creation. From this small sample size, it appears that Chinese, Indian, and Sri Lankan firms have generated the highest exports per investment; to date, Ethiopian firms have shown the lowest levels of both job creation and export revenues. Due to the limited size of the dataset, caution should be taken in overinterpreting findings, but the source of inward investment and differences in sectoral focus and capital intensity, as well as results yielded in terms of jobs, exports, and skills transfer would be of value to policy makers and warrant further analysis.

While firms with larger investment volumes exported more, it is unclear whether they are more productive. Initial analysis suggests that firms with larger investments generate greater export volumes (see figure 1.19).⁸⁸ With the median investment of US\$2.6 million, a typical firm generates approximately US\$3.6 million in annual exports after three years of operation, employs 1,660 workers, and uses 22,000 square meters in shed size (roughly equivalent to two large IPDC sheds).⁸⁹ It is worth noting that this is a relatively low level of employment for the amount of shed space, where a single, large IPDC shed (11,000 square meters) could employ around 1,600 workers on a single shift. This inefficiency may be due to firms' not working up to full operational capacity (see later section, Labor Productivity and Getting to Scale), the use of sheds as storage, and/or firms paying the relatively modest rents on sheds to reserve them for potential use at a later date. Given the small sample size and data limitations, the available investment data are not sufficient to determine whether larger firms (measured by shed size or number of workers) are more productive than smaller ones.⁹⁰

Available data do not lend themselves to a robust analysis of whether firms with a higher capital labor ratio (those that invested more per employee) created more or fewer jobs in the IPs—suggesting the need for further research. Figure 1.20 presents scatter plots of capital labor ratios and job creation of firms in IPDC-run parks with at least three years of exports, with annual exports of more than US\$500,000 and investments of at least US\$1 million. While a simple analysis may suggest a negative correlation between capital labor ratio and job creation, data limitations do not allow for drawing robust conclusions (figure 1.20).⁹¹ It is known that fabric mills and several strategic trim suppliers rely on capital-intensive production technologies, but a better understanding of garment production is needed, including how differences in products and eventual different export markets might influence employment levels and productivity. To guide policy decisions, it may be beneficial to further investigate whether firms with higher investments per worker employ more or fewer people and whether they are more or less productive.

88 Note that in figure 1.19 only firms in IPDC-run parks are considered that have reported at least three years of exports, with annual exports of more than US\$500,000 and investments of at least US\$1,000,000. These thresholds are applied as firms take at least two years until exports have reached a meaningful level.

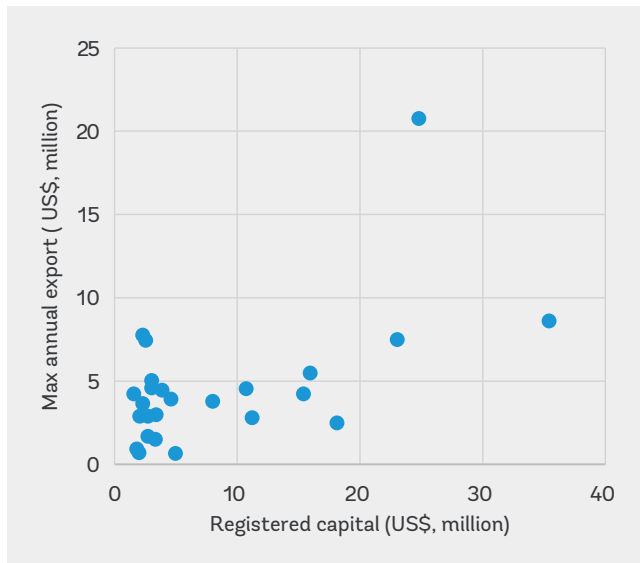
89 These estimates are derived from the 25 firms in IPDC-run parks using the thresholds mentioned in the footnote above. All correlations are significant at $p < 0.05$. Note that 1,660 workers would be around half the number of workers that would typically work in 22,000 sqm of shed space, implying that many of these investors may still be working toward full capacity.

90 See Rodrik et al. 2021 on a discussion of the relationship between the size, employment, and productivity of firms in Ethiopia and Tanzania.

91 The thresholds were chosen under the assumption that firms that have recently set up operations in IPDC parks take at least two years until they have reached their level of employment and generated meaningful exports in line with the initial investments.

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FIGURE 1.19.
Scatter Plot of Firms' Investments and Their Highest Annual Export Figure

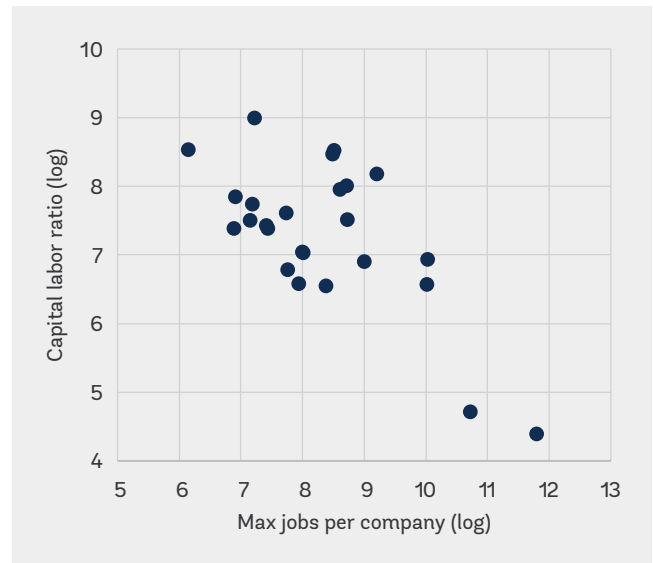


Sources: Data from IPDC/EIC.

Note: This chart includes firms in IPDC-run IPs with at least three years of exports, annual exports of more than US\$500,000 and investments of at least US\$1,000,000 (n=25 firms). Given the small sample size and data quality limitations, a correlation analysis was not carried out as the results are not sufficiently robust.

> > >

FIGURE 1.20.
Scatter Plot of Capital Labor Ratio and Job Creation of Firms in IPDC-Run Parks (n = 25)



Sources: Data from IPDC/EIC.

Note: n=25 firms in IPDC-run parks. Max jobs refers to the firms' largest number of workers between 2014/15 and 2020/21. Given the small sample size and data quality limitations, a correlation analysis was not carried out as the results are not sufficiently robust.

5. Labor Productivity and Getting to Scale

Aggregate figures of worker productivity are difficult to interpret because large numbers of newly established firms are in their start phases, but there is still clear evidence of a strong upward trend. From a subset of 24 firms in IPDC-run parks, for which there is reliable data, median exports per worker grew from US\$1,572 in 2017/18 to US\$2,574 in 2019/20, an increase of over 40 percent.⁹² Due to the COVID-19 pandemic, labor productivity fell to US\$2,099 in 2020/21—showing firms' exports declined by more than reductions in employment (figure 1.21).

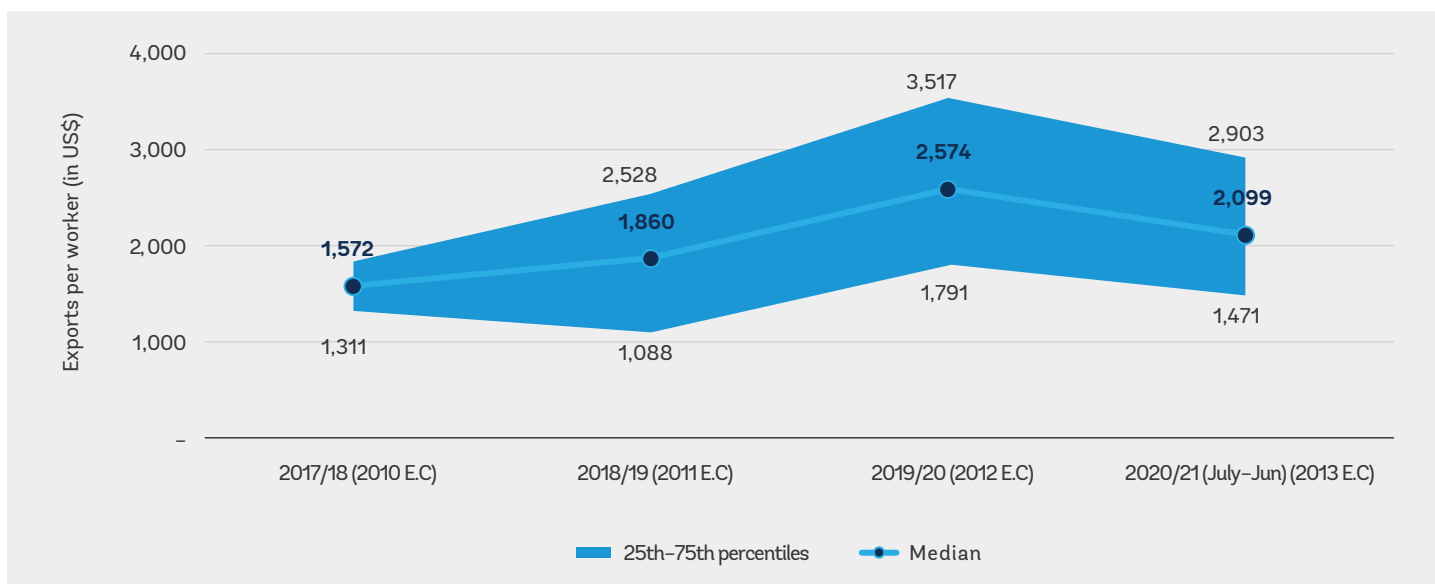
As might be expected, there is a considerable range between the better performing and less-well-performing firms. Firms at the 75th percentile recorded exports per worker of US\$3,517 in 2019/20, almost twice the level of firms at the 25th percentile. Growth of the better performing firms has also been particularly strong, with exports per worker having more than doubled between 2017/18 and 2019/20.⁹³ Despite this growth to date, it is reported by international buyers that production costs are on average 20 percent higher than in Bangladesh (as a result of low productivity and infrastructural challenges) and so maintaining this level of productivity growth and catch up will likely be critical to the viability of sourcing in Ethiopia and attracting further investment.⁹⁴

Rapid productivity growth in firms engaged in GVCs, such as textiles and garments, is consistent with international evidence and may be expected to continue beyond the short-term startup phase. Cross-country evidence of labor productivity dynamics

92 A mix of data challenges and some firms not being fully operational have limited the pool of companies for which labor productivity can be analyzed. The dataset has been restricted only to firms that have been exporting for more than two years (that is, past the initial setup phase), are exporting over US\$0.5 million a year, and have recorded fixed investments of over US\$1 million. While some of the variation in exports per worker is likely to be driven by product type, there is still significant variation across firms exporting the same product—for example, men's shirts.

93 It is important to note that firm-level data for Hawassa IP is not available for 2017/18 and so only eight firms are included for that year. However, park-level data is available for Hawassa IP, which shows an average exports per worker of US\$1,117, which is beneath the median value of US\$1,747 for non-Hawassa firms. Given the firms in Hawassa IP were typically in their first year of operation, it is not surprising that this figure is low. Imposing this park-level figure for individual firms in Hawassa IP for 2017/18 would lower the both the median and 75th percentile data points for the full sample and suggest that better-performing firms may have actually tripled their productivity over this period.

94 Altenburg et al. 2020.

FIGURE 1.21. Exports per Worker in US\$ (IPDC parks, n = 24 firms)

Source: Data from IPDC/EIC.
Note: E.C = Ethiopian calendar.

suggests that there is “unconditional convergence” toward high-productivity countries for firms in the same GVC and that growth is strongest in countries, such as Ethiopia, that have the lowest initial productivity levels.⁹⁵ Later work by Diao et al. (2021) looking more directly at Ethiopia over 1996–2017, also found evidence of high productivity growth in large export-oriented firms but no evidence of significant job creation. That employment in IPDC parks grew by over 150 percent between 2016/17 and 2019/20 (with most space in the IPs still not operational) suggest a divergence from past trends that warrants further examination.⁹⁶

At present, existing government-run parks are operating well beneath capacity, but under a plausible set of assumptions they could yield five times the existing levels of jobs and almost 10 times existing export earnings. While growth to date has been impressive, there remains a number of ways existing IPs are performing beneath their potential. In Bole Lemi I and Hawassa parks, almost all factory sheds are operational, but in other locations, such as Dire Dawa, many remain to be fully utilized. In addition, the government has recently inaugurated the Semera IP, and two large parks on the edge of Addis Ababa (Bole Lemi II and Kilinto) are still to officially open and are beyond the scope of this study. The range of productivity levels described here also presents the opportunity for lower-level investors to catch up and, finally, the possibility of more investors moving into double (or even triple) shifts.

To estimate the potential jobs and exports that existing IPDC parks may be able to yield, four cumulative stages of improvements have been considered. While these are not predictions (and will critically depend on both government and investor actions in addition to continued preferential trade access) they offer a plausible upside scenario of how the economic impact of the IPs could evolve over the coming years.⁹⁷

- **Step 1—All IP sheds operate at (current) median level of productivity.** Half of all active investors are currently achieving this threshold and so, over time, it should be possible for others to catch up. This would mean each shed is employing one worker per 10 square meters of floor space and each worker is yielding US\$2,496 in exports.⁹⁸

⁹⁵ Rodrik 2013.

⁹⁶ Diao et al. 2021.

⁹⁷ This analysis is based on nine functioning IPDC parks: Adama, Bahir Dar, Bole Lemi I, Debre Berhan, Dire Dawa, Hawassa, Jimma, Kombolcha, and Mekelle. Semera IP has not been included as it is a newly inaugurated IP.

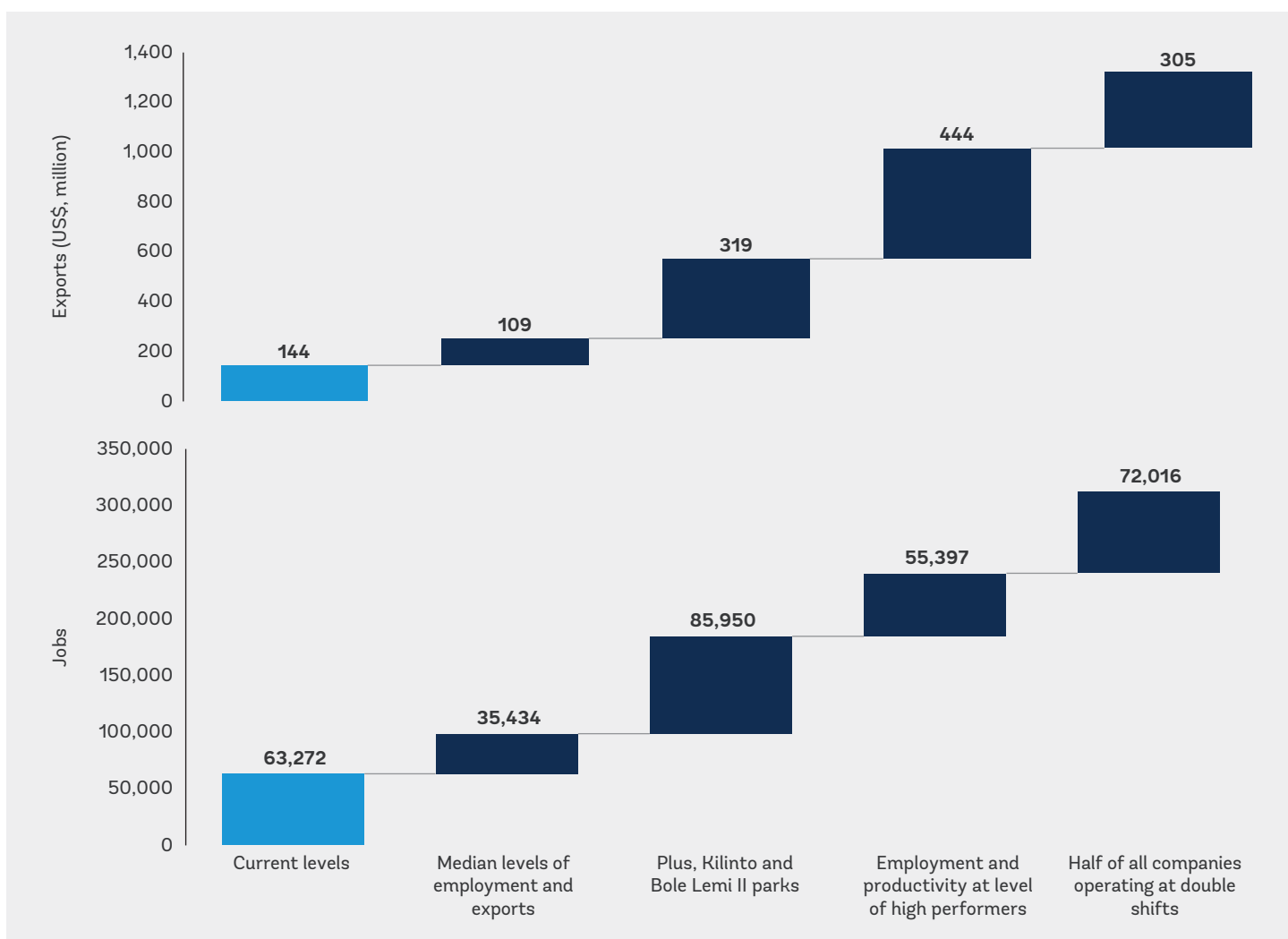
⁹⁸ To ensure estimates do not overstate the potential, it is assumed that only 90 percent of total shed space is used at any one time. This allows for natural turnover of investors and for some space to be utilized for lower impact for strategically important production, such as trims manufacturing or standards certification.

- **Step 2—Kilinto and Bole Lemi II parks open and operate at the level of other IPs.** Both parks are due to officially open in 2021/2022 and will offer the ability for investors to build their own customized sheds. To ensure conservative estimates, it is assumed that only 50 percent of available park space is developed.⁹⁹ Given Kilinto’s focus on pharmaceuticals, it is assumed this will employ only half the level of workers per square meter, but output per worker will be double that of garment-focused parks.
- **Step 3—All IP sheds operate at the (current) level of the 75th percentile investors.** This would increase employment levels to one worker per 7.7 square meters of shed space and each worker would generate US\$3,517 of exports per year.
- **Step 4—Half of all firms move to double-shift patterns.** Double- (and even triple-) shift patterns are being used by some park investors, and this is extended to half of all park sheds. For those firms operating double shifts, it is assumed that the second shift employs only 60 percent the level of the primary shift.¹⁰⁰

Job numbers increase in all scenarios, but the largest increase comes from opening the Bole Lemi II and Kilinto park in Addis Ababa. The cumulative effect of all four stages would see jobs increase from the 62,223 in 2020/21 to 312,068, almost six times current levels (see figure 1.22). The largest increase in this number would be the additional 86,000 from the opening and filling of Kilinto and Bole Lemi II parks. As discussed later, this direct impact of park employment is expected to be further expanded by increasing supply-chain linkages and other spillovers into the surrounding economy.

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FIGURE 1.22. Cumulative Growth Stages for IP Employment and Exports



⁹⁹ Project developers have used a projection of 60 percent of land to be developed with the remainder to be used for roads, open space, and shared facilities.

¹⁰⁰ This assumption is based on feedback from IP investors who point to typical shift patterns and challenges such as accommodation and transport that limit the numbers that are possible to source for night shift work.

Export earnings could rise even more sharply, from US\$144 million to US\$1,322 million, higher than the recent combined average annual earnings of coffee, cut flowers, and gold exports.¹⁰¹ For exports, the largest increase would come from the “high productivity” scenario of more workers per shed and more exports per worker. These increases should be seen as achievable given one in four of the dataset of active IP tenants already perform at this level. The gap in exports per worker between the average (median) and high-productivity (75th percentile) firms is also less than 40 percent, beneath the median growth in productivity over the two years to 2019/20. As discussed above, continued productivity growth is also consistent with international evidence of firms engaged in the GVC, such as garments and textiles.¹⁰² See box 1.2 for a comparison of Ethiopia with the early IP years of the benchmark countries of Bangladesh, Kenya, and Vietnam.

BOX 1.2:

Comparing Ethiopia to Benchmark Countries

Despite the early stages of Ethiopia’s industrial park (IP) program, there are signs that the country seems to follow the trend of benchmark countries’ initial years of their IP programs. Given the long-standing use of IPs, or special economic zones (SEZs), as tools of industrial policy and export promotion, there is a wide range of international case studies that Ethiopia may be compared with. Due to their similar sectoral focus on textiles and garment and comparable national income levels at the time of launching their respective IP programs, this section uses Vietnam, Kenya, and Bangladesh as benchmark countries for Ethiopia.^a

While benchmarking puts Ethiopia’s performance of export and job generation into perspective, the comparisons must be seen in the light of changing global macroeconomic contexts (for example, in shifts within global value chains; GVCs) and the different scale and designs of comparators’ IP programs. Bangladesh launched its program in 1983 and has established eight export processing zones (EPZs), which are all publicly owned. The South Asian country’s program had a slow start; after the establishment of the first EPZ in Chittagong in 1983, it took 10 years until the second EPZ was set up in 1993. Whereas Vietnam started its program almost two decades later in the early 1990s, its scale has been much greater with 279 operational zones today—mostly developed and managed by private corporations. Kenya, which also launched its program in the early 1990s, has established 74 zones, with all but five being privately owned and operated. However, 10 zones in Kenya are in fact single-firm units declared as zones. All three countries have a strong focus on textiles and garments, even though electronic and automotive component manufacturing are also key sectors in Vietnam’s zones.

Vietnam, Kenya, and Bangladesh all showed moderate levels of export and job creation during their programs’ initial five to seven years but showed a stark acceleration afterward, especially Vietnam. As figure B1.2.1 shows, six years after the start of their respective IP programs, exports from IPs as a share of national exports reached 7 percent in Vietnam, 5 percent in Ethiopia, and 1 percent in Bangladesh and Kenya.^b This share increased substantially after 10 years, reaching 20 percent in Vietnam, 6 percent in Bangladesh and 5 percent in Kenya. So far, Ethiopia seems to follow the trend of benchmark countries’ initial years of their IP programs in terms of job creation and exports. It even appears to follow Vietnam’s path in the initial years (see figure B1.2.2). As stated previously, this is not an indication that Ethiopia will keep following Vietnam’s exceptional trajectory. Vietnam’s experience needs to be seen in light of major macroeconomic reforms and key events, including the country joining the Association of Southeast Asian Nations (ASEAN) in 1995, the United States lifting its trade embargo on Vietnam in 1994 and signing a bilateral trade agreement with it in 2000 as well as Vietnam joining the World Trade Organization in 2007. However, these initial comparisons with benchmark countries show initial signs of success in line with international experiences.

101 See IMF 2020.

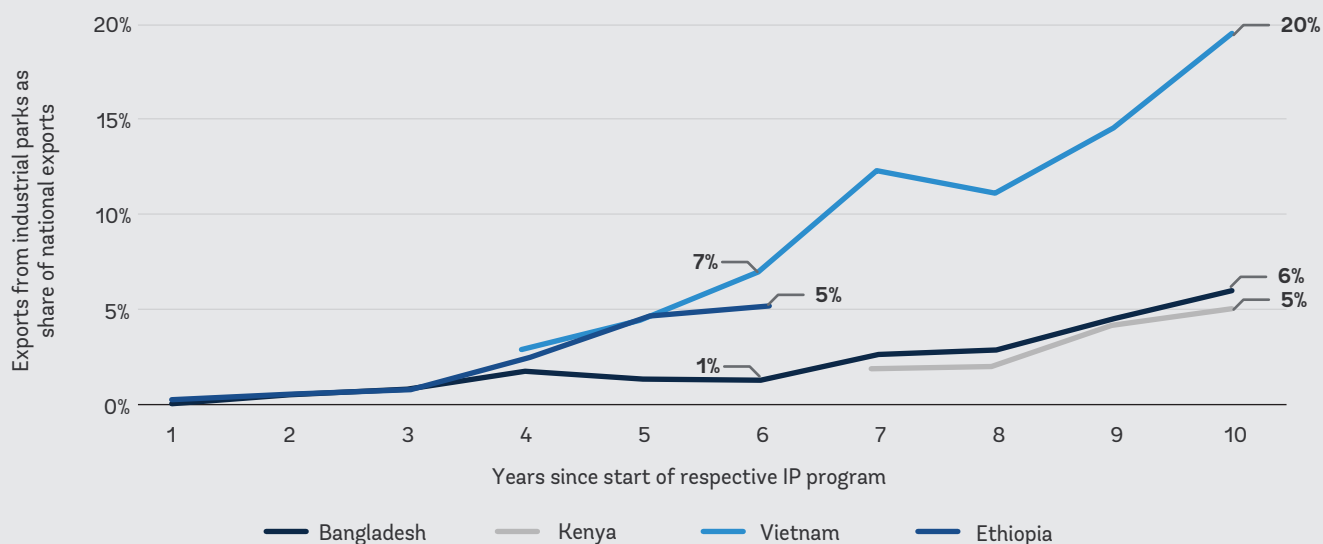
102 There are intuitive reasons for this in the IPs where most of the factories are owned by companies from frontier countries such as China and Sri Lanka who transfer technology and post experienced management and training staff to their Ethiopia operations. Rodrik 2013 estimates for countries in the bottom 20 percent of global productivity rankings (Ethiopia, for instance), firms would converge at a rate of 6.7 percent per year. At this rate it would take the average IP firm (with exports per worker of US\$2,574) less than five years to reach the current level of the high productivity found in the 75th percentile IP tenants (with exports per worker of US\$3,517).

BOX 1.2:
Comparing Ethiopia to Benchmark Countries (Continued)

Ethiopia's IP exports as share of national gross domestic product (GDP) develop well in comparison to Bangladesh and Kenya. Vietnam's IP exports are a substantially larger share of GDP. After six years since the start of the IP program, exports from Ethiopian IPs account for approximately 0.2 percent of GDP. This is comparable to Bangladesh (0.1 percent) and Kenya (0.3 percent in the seventh year). Given the large scale of Vietnam's program, exports from IPs accounted for 2.4 percent of GDP after the same period of time. Fifteen years after their respective IP programs had been launched, the GDP share of IP exports increased to 1.3 percent for Bangladesh, 1.7 percent for Kenya, and even 12.7 percent for Vietnam (table B1.2.1).

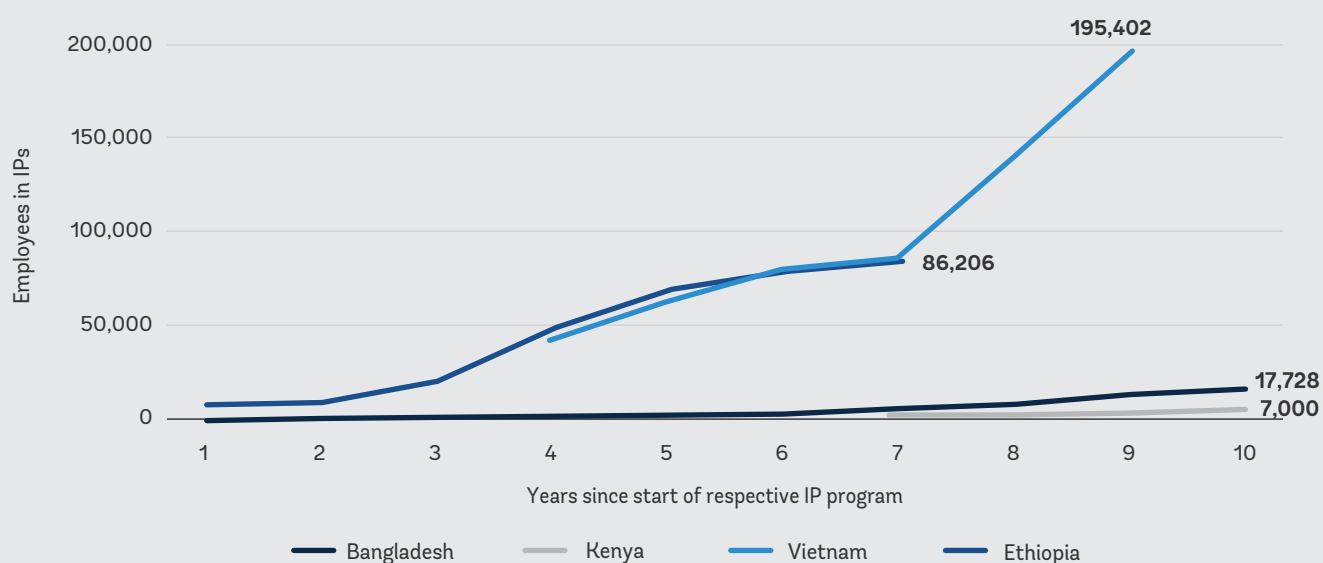
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FIGURE B 1.2.1. Exports from IPs as Share of National Exports



> > >

FIGURE B 1.2.2. Jobs Created in IPs



Sources: Ethiopian IPDC, Kenya's EPZA, Farole 2011, World Bank Case Studies on special economic zones (SEZs) in Vietnam and Kenya, Bangladesh EPZA, trade data from the World Bank, International Monetary Fund (IMF), and www.macrotrends.net.

(continues)

BOX 1.2:
Comparing Ethiopia to Benchmark Countries (Continued)

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TABLE B 1.2.1. Exports from IPs as Share of Gross Domestic Product

Country	Years 5 since start of respective IP/SEZ program											
	1	2	3	4	5	6	7	8	9	10	...	15
Ethiopia	<0.1%	<0.1%	<0.1%	0.1%	0.2%	0.2%						n.a.
Bangladesh	<0.1%	<0.1%	<0.1%	0.1%	0.1%	0.1%	0.12%	0.15%	0.25%	0.40%		1.3%
Vietnam	n.a.	n.a.	n.a.	0.9%	1.3%	2.4%	4.2%	4.5%	6.8%	9.0%		12.7%
Kenya	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.3%	0.3%	0.6%	0.7%		1.7%

Sources: Ethiopian IPDC, Kenya's EPZA, Farole 2011, World Bank Case Studies on SEZs in Vietnam and Kenya, Bangladesh EPZA, trade data from the World Bank, IMF, and www.macrotrends.net.

Note: IP = industrial park; n.a. = not applicable; SEZ = special economic zone.

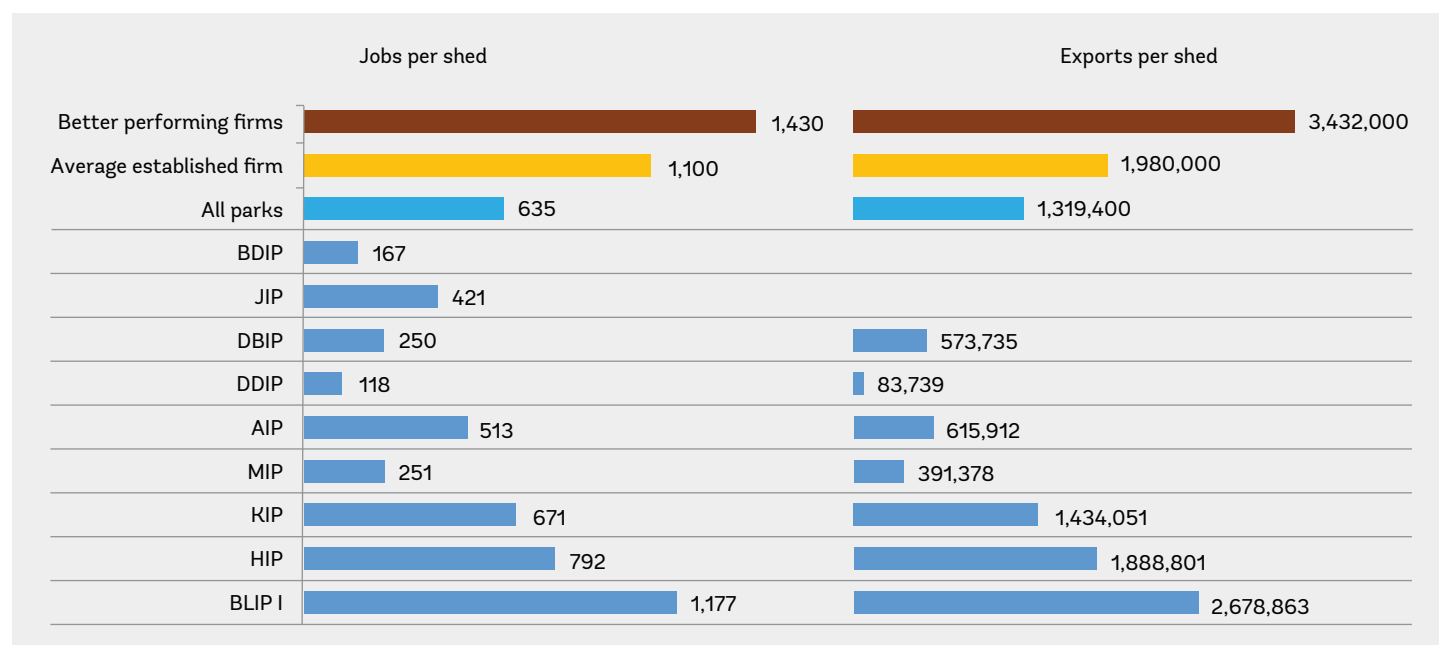
a. In addition to these criteria, the availability of reliable data was a factor for choosing these three countries. Further country experiences may be found, for example, in Farole 2011.

b. Note that Ethiopia's IP exports are net exports, whereas national exports are expressed in gross terms. Given that gross IP exports may be as high as US\$500 million in 2019/20, the share of IP exports may be as high as 10–12 percent.

Although these scenarios offer a sense of what a positive (but achievable) outcome on jobs and exports might be for Ethiopia's existing parks, they also underline the number of rented sheds that are still not yielding anywhere near their potential levels. As described in more detail in chapter 7 (see Figures 7.2 and 7.3) most IPDC IPs have close to all sheds rented out to investors. Despite this achievement, many rented sheds are still in early start-up phases or are being "held" by investors who are paying relatively low levels of rent but not yet employing or exporting at scale. As shown in Figure 1.23 a large (11,000 m²) shed in the hands of the "better performing" firms at the 75th percentile is generating 1,430 jobs and US\$3.4 million a year in export

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FIGURE 1.23. Average Jobs and Exports per Large (11,000 m²) Shed, Export Figures in US\$.



Source: Data from EIC/IPDC.

Notes: "Better performing" firms are those at the 75th percentile in terms of jobs per shed and exports per shed. No export data are available for BDIP and JIP given their operation date.

earnings. Even the average (median) established firm that has been exporting for two years is generating 1,100 jobs and US\$2 million in exports per large shed. It is notable that, despite being almost fully rented, parks such as Adama, Debre Berhane, Jimma, and Bahir Dar are averaging less than 550 jobs per large shed—less than half the level of the median established firm.

6. Indirect Impacts: Supply Chain Linkages and Economic Spillovers

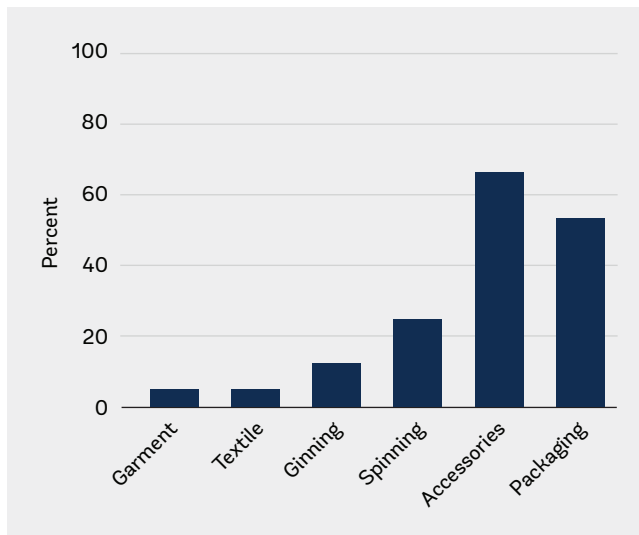
6.1. Domestic supply chain linkages

Despite rapid growth in output from manufacturers based in IPs there has, as yet, been few direct backward linkages into the domestic economy. Reliable figures of local sourcing by firms operating in IPs are not systematically collected, but a series of key informant Interviews across the garment sector in 2020 suggest that park investors source less than 5 percent of their inputs from local companies.¹⁰³ Based on current export volumes, local input sourcing by IP firms may have been as low as US\$12 million in 2019/20.¹⁰⁴ In contrast to the limited use of local inputs, IP investors reported more widespread reliance on local service firms in non-tradable ancillary functions (such as security and catering), but these too are not thought to represent more than a few percent of total production costs.¹⁰⁵

While the garment industry offers the potential to link as far back as cotton farms, at present, a limited number of direct suppliers are concentrated in products such as packaging and accessories. Within Ethiopia’s existing garment value chain, fewer than 5 percent of domestic textile manufacturers and 15 percent of ginning mills supply foreign-owned firms such as those in the IPs (figure 1.24). Digging deeper into these garment-sector linkages, however, reveals that an even smaller share of this trade is linked to “indirect exports,” that is, customers that go on to export their final products. Most local firms’ sales to foreign investors (figure 1.25) are actually to companies manufacturing in Ethiopia but selling on to customers in the domestic market.¹⁰⁶

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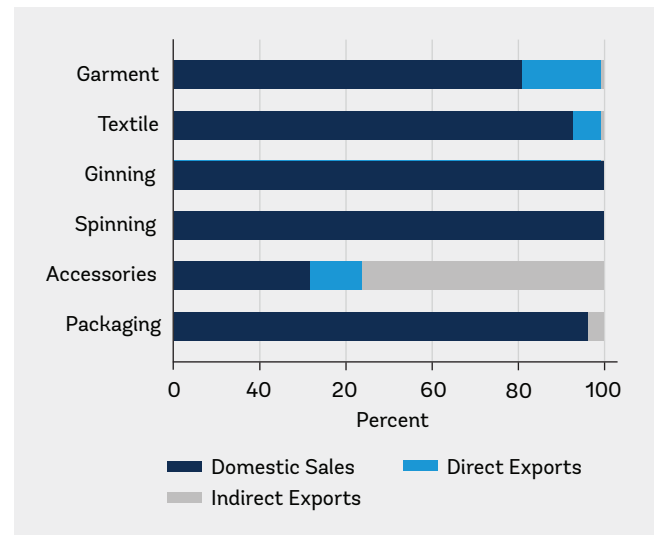
FIGURE 1.24.
Ethiopian Garment Value Chain Firms Supplying to Foreign-Owned Firms, by Value Chain Section (percent)



Source: World Bank, forthcoming.

> > >

FIGURE 1.25.
Average Sales Composition by Value Chain Section (percent)



103 See World Bank 2020.

104 IP exports of US\$158 million on a CM basis in 2019/20 would equate to approximately US\$395 million in FOB values.

105 Catering is likely to be the most significant of these. A 2020 survey found that around half of IP firms provided food at an estimated value of Br 300 per month. This would equate to less than US\$4 million in local sourcing in 2020.

106 The very small share of indirect exports by packaging companies is because these firms serve other sectors, such as soap and food producers, who sell to the domestic market. In contrast, accessories producers more typically focus on products only for the garment sector and so have a higher share of sales linked to exports.

There have been greater successes in establishing linkages in packaging and accessories products. These inputs are more typically outside of the supply chain for customer-facing components and as such often have lower quality requirements (see below for further discussion on the constraints faced by domestic suppliers). It is also notable that the only supplier out of over 230 surveyed domestic firms that received any technical or financial support from a potential IP customer was in the packaging sector.¹⁰⁷ Despite this success in establishing linkages with IP exporters these domestic manufacturers themselves reported importing more than 95 percent of their inputs (such as chemicals, solvents, etc.); therefore, these sales would have a lower impact on the domestic economy than their monetary value might suggest.

Given the limited number of domestic firms supplying foreign investors in IPs it is unsurprising that, as yet there is little evidence of productivity spillovers. Work prior to the establishment of the IPs found some level of productivity spillovers from FDI in Ethiopia through the circulation of trained workers and demonstration effects.¹⁰⁸ Of the 17 domestic firms in the 2020 survey found to be supplying IP companies, 6 reported selling improved versions of existing products, suggesting a channel through which foreign investors may be raising the capabilities and productivity of the domestic firms they are directly engaged with. The establishment of an Ethiopian-owned garment factory in Hawassa IP, managed by a technical team of foreign experts, also suggests a route by which technology, skills, and expertise may be transferred to Ethiopian businesses.¹⁰⁹

6.1.1. The viability of developing an integrated vertical value chain

While only a few domestic firms currently supply inputs to the IPs, foreign investors have demonstrated the cost savings and additional foreign exchange earnings that developing the value chain can bring. The absence of large numbers of domestic linkages does not mean production of intermediate products is not viable in Ethiopia. Several foreign investors have set up fabric and trims manufacturing in the IP for the growing garment industry, demonstrating a viable business case. For instance, in Hawassa a Chinese-owned mill is weaving and dyeing fabric, and a European trim manufacturer is supplying IP garment producers for onwards export to the US and Europe.

By co-locating the production of fabric and trims inside, IPs investors have reduced production costs and improved Ethiopia's attractiveness to overseas buyers. By taking advantage of lower electricity, labor, and shed rental costs, as well as lowering some logistics fees, the cost to produce these intermediate products can be reduced by up to 15 percent.¹¹⁰ Given that the cost of fabric and trims can represent two-thirds of the price of finished garments, these savings can translate to a 10 percent price advantage for sourcing finished garments in Ethiopia (see figure 1.26).

Potentially as important as cost savings may be the improved industrial ecosystem that is created by locating these manufacturers on one location. The ability to source intermediate inputs such as fabrics, trims, labels, packaging, etc. without requiring costly and time-consuming importation from Asia improves both the flexibility and speed-to-market of Ethiopia-based garment manufacturing and potentially creates a pricing premium for the industry as a whole.¹¹¹ This speed and flexibility is expected to be of particular value when buyers are facing uncertain market conditions when orders might be placed or increased at short notice, such as the post-COVID recovery period.¹¹²

An important next stage of localizing the supply chain will be increasing the number of fabric and trim suppliers and using locally produced yarn as a stepping-stone to potential utilization of Ethiopian cotton. A large Chinese spinning mill in Dire Dawa on the edge of the IP is already operational and importing cotton bales and exporting finished yarn to China.¹¹³ Locating this facility in Ethiopia allows the manufacturer to benefit from low-cost renewable power, which can represent over 60 percent of the local costs of

107 See World Bank 2020. Note that both the World Bank Competitiveness and Jobs Program and a new United Kingdom and German government support package to IP investors will target these activities.

108 See Abebe, McMillan, and Serafinelli 2018. It is worth noting on the impact of the circulation of workers to other sectors the training of the first generation of managerial and technical staff is still under way in parks such as Hawassa and Kombolcha, and these investors, after three to four years, are only just beginning to lose their ability to obtain automatic visas for expatriate technical personnel.

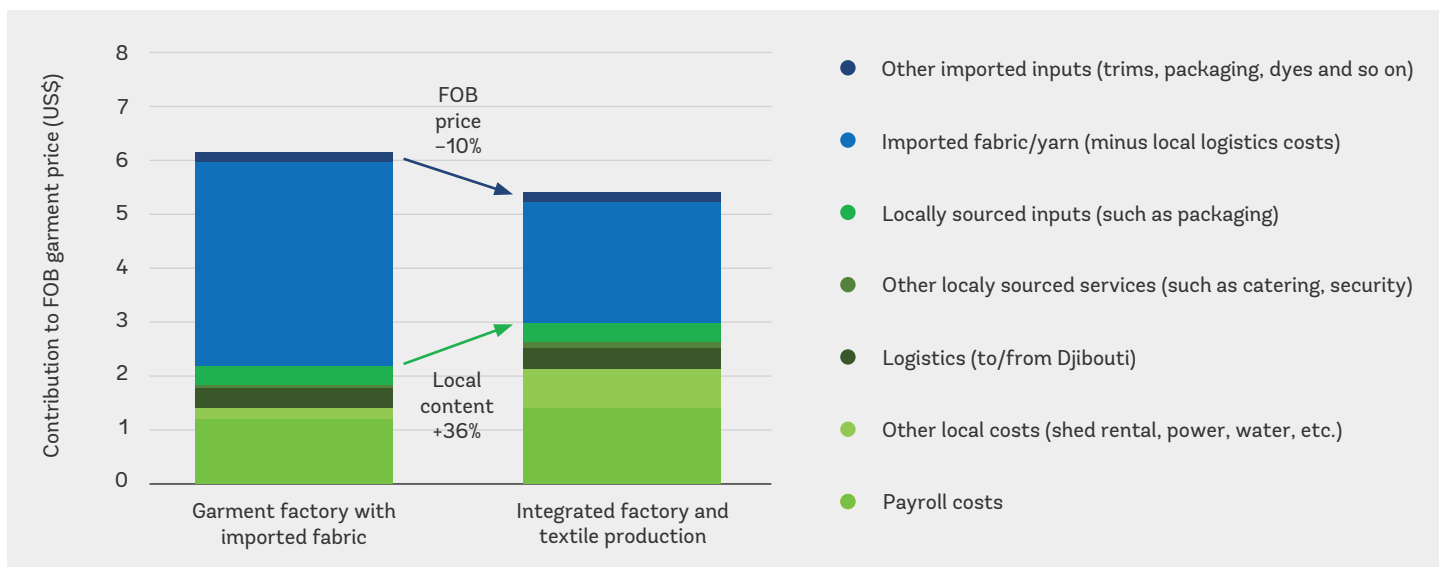
109 See Dercon, Lippolis, and Peel 2020 for a discussion of how joint ventures may be a route for greater technology transfer and productivity spillovers.

110 Key informant interview with international buyers sourcing from Ethiopia.

111 Whitfield, L., Marslev, K., and Staritz, C. 2021. "Can Apparel Export Industries Catalyze Industrialization? Combining GVC Participation and Localization." SARChI Industrial Development Working Paper Series.

112 See ILO 2021. Research Brief: The Post COVID 19 garment industry in Asia. https://www.ilo.org/wcmsp5/groups/public/—asia/—ro-bangkok/documents/briefingnote/wcms_814510.pdf

113 See <https://www.thereporterethiopia.com/article/chinese-textile-opens-shop-dire-dawa>.

FIGURE 1.26. Effect of Sourcing Fabric Locally on Total Cost of Production

Source: Indicative estimates, based on key informant interviews with international buyers sourcing in Ethiopia.

Note: FOB = free on board.

spinning.¹¹⁴ If this yarn were to be used for domestic fabric and garment manufacturing, the 300,000 spindles could, at scale, produce 100 tons of cotton yarn per day, more than enough to meet Ethiopia's entire current exports of cotton-based products.

6.1.2. What is behind the low levels of linkages between IPs and domestic suppliers?

The challenges to deepening backward linkages from IP investors span the broader business environment, the competitiveness of local suppliers, the more exacting requirements of international buyers and the lack of proactive initiative and attention by the Government. A series of over 70 in-depth key informant interviews conducted in 2020 revealed a significant series of barriers to increasing sourcing from local suppliers.¹¹⁵ In addition to economywide business environment challenges such as in tax administration, complicated duty drawback systems, utilities, etc., three factors specific to supplying IP-based clients stand out.¹¹⁶

- 1. The nature of the products demanded by IP investors creates significant obstacles for local suppliers to produce.** Both suppliers and IP clients cited quality and consistency requirements of exporting firms, which often went far beyond those demanded in the local market, as a key constraint. In the small number of cases where linkages did exist, a quarter of Ethiopian suppliers reported providing an "improved" version of their traditional products. Given Ethiopia's long established cotton production and value chain, cotton is an area that could hold very significant potential, but international buyers cite problems with existing seed varieties and thread length, in addition to challenges of quality and consistency in ginning and spinning mills.¹¹⁷
- 2. The nature of buyer-supplier relationships in GVCs has also slowed the development of local backward linkages.** Domestic suppliers report IP firms were twice as likely to carry out a technical audit or production practices than other foreign investors, with many IP clients then requiring quality and other improvements. Both buyers and foreign manufacturers also point to the need for many inputs to be either nominated or approved by headquarters, taking time and requiring sampling that many domestic suppliers found burdensome and expensive. Most garment-sector buyers also insist on compliance with social and environmental practices for which many domestic suppliers do not have sufficient familiarity or systems in place. Meeting order sizes and strictly enforced delivery dates was also reported by many stakeholders as an obstacle for increased sourcing.¹¹⁸

¹¹⁴ See <https://www.omicsonline.org/open-access/a-review-on-energy-management-in-textile-industry.php?aid=92916>.

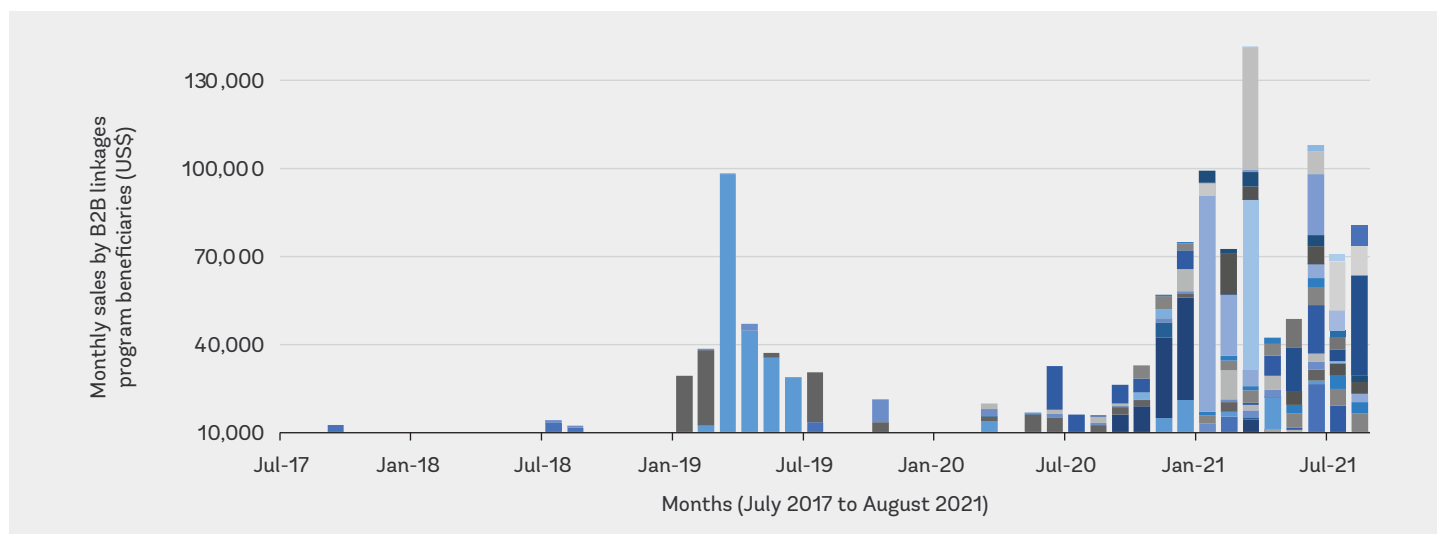
¹¹⁵ World Bank 2020.

¹¹⁶ See also the earlier section, "Economic Context of Ethiopia's Industrial Park Program," for a discussion of Ethiopia's business environment and investment climate.

¹¹⁷ Where ginners and spinning mills are supplying foreign investors, these tend to be ones servicing the local market.

¹¹⁸ Order sizes were variously reported as too big or too small for local suppliers. For some products, like yarn, local suppliers were unable to fulfill the very large orders, while in sectors—such as packaging—suppliers complained of costly customization required for relatively small print runs.

FIGURE 1.27. Monthly Sales by Business-to-Business Linkages Program Beneficiaries to IP Firms (in US\$, beneficiaries n = 27)



Source: Competitiveness and Job Creation Project, B2B Linkages Program financed by World Bank.
 Note: B2B = business to business; IP = industrial park.

3. Supplying export-orientated IP firms is not seen as profitable for many domestic firms currently focused on the local market. Bypassing the stringent requirements of international buyers to concentrate on Ethiopia’s large and growing local market is the priority of many potential local suppliers. The International Monetary Fund estimates Ethiopia’s Real Effective Exchange Rate to be overvalued by over 23 percent in 2018/19, creating a significant headwind for domestic firms to shift to compete with established international producers.¹¹⁹ Ethiopia’s trade tariffs on imported garments and other goods further reinforce this price premium and incentivize production only for the local market. IP firms also raised concerns that the use of older production technologies and other inefficiencies further undermined the cost competitiveness of local suppliers.

Despite challenges, there is evidence that with the right support, domestic suppliers can successfully create linkages to export-oriented firms in Ethiopia’s IPs. A matching grant intervention under the World Bank Competitiveness and Job Creation Project (CJCP) has been piloting a linkages program to strengthen business ties between the domestic firms and FDI firms in IPs. Early results show with grants, technical training, and matchmaking support, 40 domestic firms have created more than 200 new jobs and generated total sales to export-oriented IPs of over US\$750,000 (figure 1.27). These numbers are expected to increase with more learning and experience in supplying exporting firms.

6.2. Economic spillovers of industrial parks

In addition to direct supply chain linkages, there is emerging evidence of the localized economic spillovers from the presence of the parks and workers in host cities. While the current level of supplier-based linkages may be modest, a variety of sources point to the impact of the economic activity in the IP— stimulating new business, indirect employment, and accelerated urbanization. The intuitive and theoretical underpinning for these spillovers is strong with the spending power of IP workers, the inward migration of new city inhabitants, and increases in tax revenues, all providing channels for positive spillovers.

International evidence on special economic zones (SEZs) suggests that for every 100 direct jobs created the indirect spillovers may range from 200 job for closely integrated parks to just 25 where the parks operate as virtual enclaves.¹²⁰ Despite their export focus and the geographically enclosed spaces within which Ethiopia’s IPs are defined, there is reason to believe that they may have a reasonable level of integration with their local economies. Almost all parks have been located within the boundaries of existing cities (rather than, for instance, attached to a port, logistics, hub or remote natural endowment) and

119 IMF 2020.
 120 See UNCTAD 2019, 184.

since workers are typically not housed within park-based accommodation, they may be better integrated within the local economy. The parks have also played a role in accelerating the development of infrastructure investments such as roads (Hawassa, Bole Lemi, Kombolcha, Dire Dawa, and Mekele), rail links (Kombolcha and Dire Dawa) and airports (Hawassa) that would yield additional benefits for regional economies.

One of the most direct channels for localized spillover is the spending power created by the salaries of the 90,000 workers across Ethiopia's IPs. Data on the aggregate wage bill across the parks is not routinely collected, but estimates can be inferred from different sources. The most reliable of these are the 2020 survey of remuneration for entry level workers and the 2021 IPDC survey of technical and managerial staff salaries. Depending on how much of variable or performance-linked salaries are assumed to be paid, these surveys suggest an annual aggregate, annual wage bill of between US\$54 million and US\$90 million across the IPs. The upper bound of this range (US\$90 million) is 55 percent of the US\$163 million in annual export revenues from Ethiopia's IPs, in line with expectations from other garment exporting countries.¹²¹ This estimate is also broadly consistent with the finding of Cali et al. (2016) in their international database of the labor share of exports.¹²²

This section uses three data sources—new business registrations, labor market data, and nightlights—to assess the extent to which industrial parks may have impacted the economies of their host cities. A lack of high frequency representative data has limited the ability for quantitative approaches that may give greater certainty of attribution and causality; this may be an area of future research. If they were available, data such as tax revenues or mobile phone usage may yield additional insights. Given its size relative to its host city, and the higher level of IP capacity utilization, much of the analysis in this section focuses on Hawassa, but any findings might be assumed to be generalizable to other locations, albeit on a different scale or with an expected lag.¹²³

6.2.1. Firm registrations

Analysis of new firm registrations suggests that the opening of Hawassa park and rising levels of job creation may have been associated with an increase in new business activity. A database of new firm registrations from the Ethiopian Ministry of Trade and Industry contains granular data on the timing, sector, and geographical location of business startups. Adjusting these series as a share of countrywide registrations gives an improved measure of city-specific trends; this has been compared to levels of employment in new IPs (figure 1.28). The timing of the park opening, as well as job creation, appears to be very closely related to a spike in new business registrations (relative to national trends) for Hawassa city. The increase is stronger in some subsectors than others with a particularly large increase in the hospitality and retail sectors but less so for, for instance, in transport.

While the timing of the increase in business registrations in Hawassa coincides with increased IP jobs, this is less clear for other smaller parks. The data for Mekelle, Adama, and Kombolcha do not appear to show such a strong increase coinciding with the park openings. This may be an issue of scale; for instance, park employment represents around 9 percent of the city population in Hawassa but only 1 percent in Mekelle where it is unlikely park activity had a meaningful impact on the wider city. Even if the timing in Hawassa does suggest causality, there are further questions of the nature of the relationship that warrant study. For instance, it could be that the park opening directly increased business confidence in the city or that the increased spending from construction and worker salaries relaxed local access to finance constraints that historically limited investment and business growth in Ethiopia.

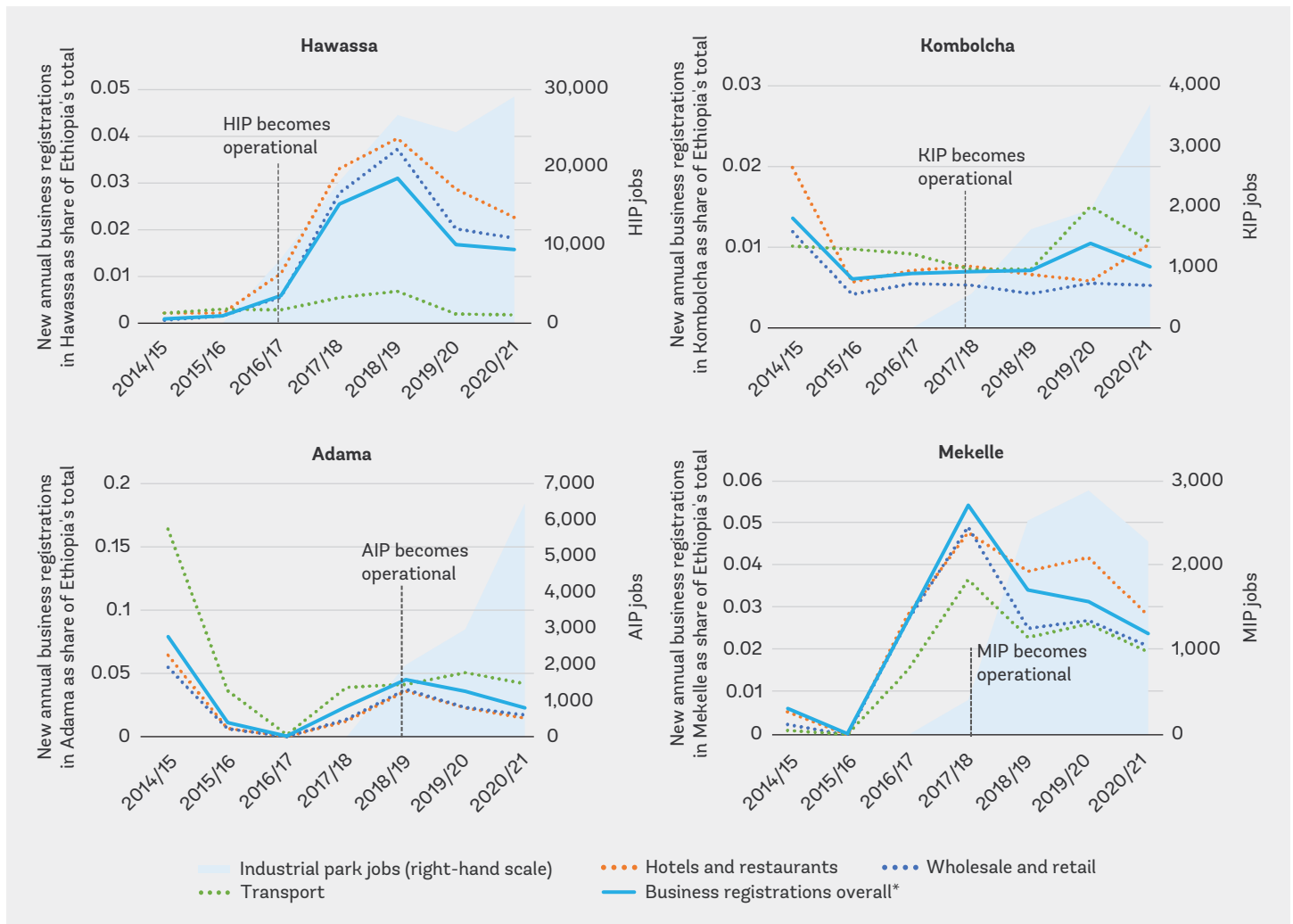
The sectoral breakdown of where the growth in business registrations was strongest may also point to how the transmission mechanism of spillovers operates. Growth was particularly strong in business types that might be expected to have direct linkages to the park's construction and investors, such as human resource services (11 percent of all national registrations

121 As would be expected, this is slightly beneath equivalent benchmarks for higher wage costs such as Bangladesh (72 percent) and Cambodia (63 percent). The implied 55 percent is also the same as the indicative estimate of 55 percent given by brand representatives operating in Ethiopia. For more details of international wage cost breakdowns see Miller and Hohenegger 2017.

122 Cali et al. (2016) find an 18 percent wage bill as a share of gross exports for low-income countries (direct workers only). Given the two-thirds import content of IP exports, this would correspond to wages representing 54 percent of net Ethiopia IP exports.

123 Whereas Bole Lemi I has been running longer than Hawassa and has also generated substantial export revenue, the proximity to the large city of Addis Ababa makes the attribution of economic spillovers difficult.

FIGURE 1.28. New Annual Business Registrations in Selected Cities as a Percent of Those in Ethiopia Overall (2014–20)



Source: Calculations based on data from the Ministry of Trade and Industry, Government of Ethiopia.

Note: In these graphs, IPs are referred to as “becoming operational” once they started employing workers.

* Business registrations overall include the following sectors (due to data availability): hotels and restaurants, wholesale and retail, transport, selected services (for example, consulting, security, cleaning, human resources, and so on).

in 2017), security and cleaning services (10 percent), IT services (7 percent) and sellers of vehicles and components (6 percent). There is also a set of increases in areas that might be associated with the increased spending power of those employed in the parks such as hotels and guesthouses (8 percent), sellers of jewelry (5 percent), and small shops (3 percent) (table 1.1).

6.2.2. Labor market indicators

Analysis of labor market statistics using data from Ethiopia’s UEUS data does not reveal meaningful spillovers, likely due to methodological limitations. For Hawassa, there is a small, but statistically insignificant, upward trend in private wage workers coinciding with when the park began employing workers. Despite this, the breakdown of employment types and gender do not show any indication of the very significant increase in park jobs over this period, suggesting the sampling approaches are not adjusting to underlying changes in labor force structure and demographics within the city. There is also no clear correlation between employment trends in the IP and the unemployment rate for Hawassa. Overall, the small sample sizes at city levels and further survey design aspects (under sampling of IP workers, for example) constrain the extent to which conclusions can be drawn from the UEUS dataset regarding economic spillovers.

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TABLE 1.1. New Business Registrations in Hawassa by Subsector, as a Percentage of National Registrations

Business subsectors (Ranked by their share in 2017)	2014	2015	2016	2017	2018	2019	2020
	(Hawassa became operational in 2017)						
Media and advertising services	1%	1%	1%	14%	11%	4%	4%
Human resource services	0%	0%	2%	11%	3%	2%	1%
Security and cleaning services	0%	0%	2%	10%	1%	2%	0%
Quality infrastructure services (testing, inspection, certification)	0%	2%	0%	9%	0%	4%	2%
Hotels and guesthouses	1%	0%	2%	8%	10%	5%	4%
IT services	1%	1%	1%	7%	2%	4%	1%
Sellers of stationery and paper	0%	1%	2%	7%	7%	6%	5%
Sellers of vehicles and components	0%	1%	2%	6%	7%	4%	3%
Sellers of electrical equipment	0%	1%	1%	6%	6%	3%	3%
Sellers of information, communication, and technology equipment	0%	1%	1%	5%	5%	3%	3%
Sellers of construction material	0%	0%	1%	5%	4%	2%	2%
Sellers of jewelry, art, and silverware	0%	0%	0%	5%	5%	3%	3%
Sellers of machinery	0%	0%	0%	4%	2%	1%	1%
Renting of machines, equipment, and other fixed property	0%	1%	1%	4%	6%	4%	4%
Finance and accounting services	0%	1%	1%	4%	4%	3%	2%
Sellers of beverages	0%	0%	1%	4%	3%	2%	2%
Manufacturing	0%	0%	1%	4%	3%	2%	3%
Other consultancy services	0%	1%	3%	3%	4%	3%	3%
Consulting related to construction, urban planning, and engineering	1%	1%	2%	3%	5%	2%	2%
Sellers of furniture and appliances (office and household)	0%	0%	1%	3%	5%	2%	2%
Sellers of cotton and textiles (wholesale and retail)	0%	0%	1%	3%	5%	3%	3%
Restaurants and cafes	0%	0%	1%	3%	3%	3%	2%
Small shops	0%	0%	1%	3%	3%	2%	2%
Other transport	0%	0%	1%	3%	2%	3%	1%
Sellers of sanitaryware and cosmetics	0%	0%	1%	2%	4%	3%	2%
Sellers of footwear and leather	0%	0%	0%	2%	1%	1%	1%
Other wholesale and retail	0%	0%	0%	2%	2%	1%	1%
Tour operation services and travel agencies	0%	0%	1%	1%	2%	1%	0%
Sellers of agricultural products	0%	0%	0%	1%	3%	1%	1%
Land transport and related services	0%	0%	0%	1%	1%	0%	0%
Cross-country public transport	0%	0%	0%	0%	0%	0%	0%
Operation of roads and toll roads	0%	0%	0%	0%	0%	0%	0%
General storage and warehousing service	0%	0%	0%	0%	0%	0%	0%

Source: Calculations based on business registration data from the Ethiopian Ministry of Trade and Industry. Percentages are rounded (0 percent may therefore relate to 0.01 to 0.49 percent).

Note: IT = information technology.

6.2.3. Urban density and nighttime light data

A relatively new area of analysis for location-specific economic output is using an observed correlation between GDP and nighttime light (NTL) emissions as measured by satellite imagery.¹²⁴ Specifically in the context of SEZs, Frick et al. (2019) showed that NTL emissions are highly correlated with other SEZ performance data such as job creation, exports, and number of firms.¹²⁵ NTL data are collected using sensors in satellites that scan the surface of the earth and create a map of light intensity in a certain geographic area, resulting in cheap and granular time-series data. To analyze the economic activity in and around Ethiopia's IPs, this report uses monthly Visible Infrared Imaging Radiometer Suite (VIIRS) data, which provides numerical readings for the average light intensity in areas measuring 750 meters by 750 meters. Using Hawassa as an example, visual analysis demonstrates a substantial increase in light emissions in the area of the industrial park during construction and after it became operational (see figure 1.29).

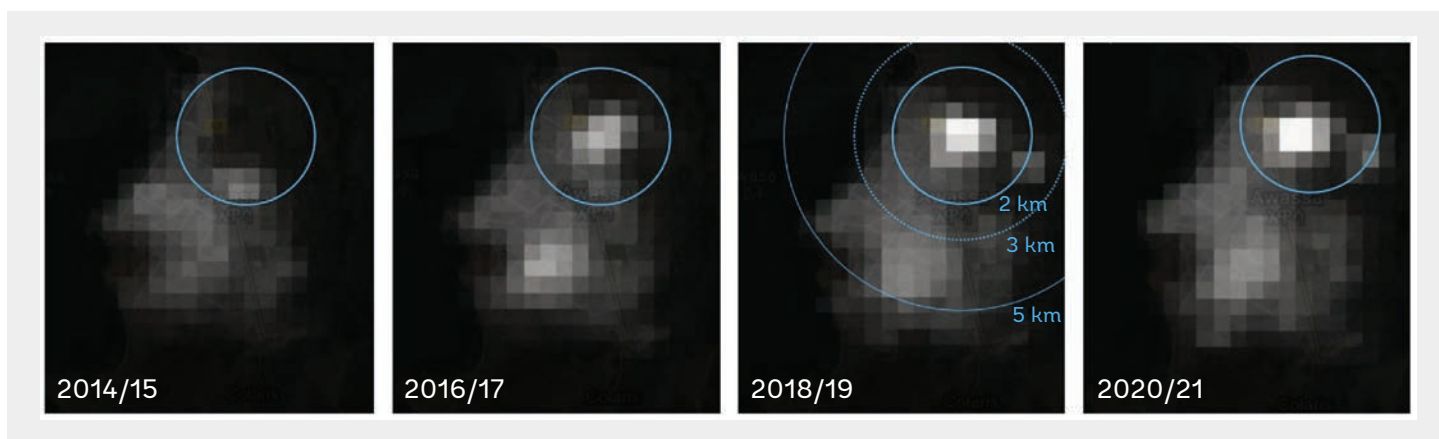
Given that the IP in Hawassa is comparatively large relative to the size of the city and located at its northern edge, the increase in light emissions can be clearly observed. Whereas there was hardly any light emission at the site of the IP in 2014/15, emissions increased in late 2016 when construction for the IP began and grew after firms became operational. There is also evidence of increased urbanization, for instance, the small block of lights 2 kilometers to the southeast of the park is Chefe, an area where there has been a rapid expansion of informal settlement and where many park workers reside. A 2021 study suggests that in areas such as Chefe, the rapid increase in the stock of new housing for rural migrant IP workers has been large enough to result in a fall in the real price of accommodation between 2016 and 2019.¹²⁶

Whereas the increase in NTL emissions in vicinity of the IPs can be clearly observed across locations, there is only mixed evidence of economic spillovers in the vicinity of the parks. In all four locations considered in figure 1.30, there is a clear and step change within the 2-kilometer radius signal during the construction phase. In Hawassa and Adama, this then appears to continue as the IP fills up. In others, such as Mekele, there appears to be a dimming after construction, potentially corresponding to a slower pace of reaching park capacity. Beyond the park itself, for all four IPDC-run parks that have been exporting for at least three years, there is a more ambiguous relationship with light emissions in a radius of 3, 5, and 10 kilometers surrounding the park. While Adama and Mekele both appear to show an increase in the more distant bands around the IP, both of these parks are relatively small compared to the host city; therefore, it is likely that the increase is not due to IP activity.

The limitations of NTL analysis, however, underline that these findings should be seen at best as indicative and should be triangulated with other approaches. NTL emission data do not capture the service sector well and may not reliably capture

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FIGURE 1.29. Nighttime Light Emissions in Hawassa (2014–21)



Source: VIIRS nighttime light data (stray light, corrected) using Google Earth Engine.

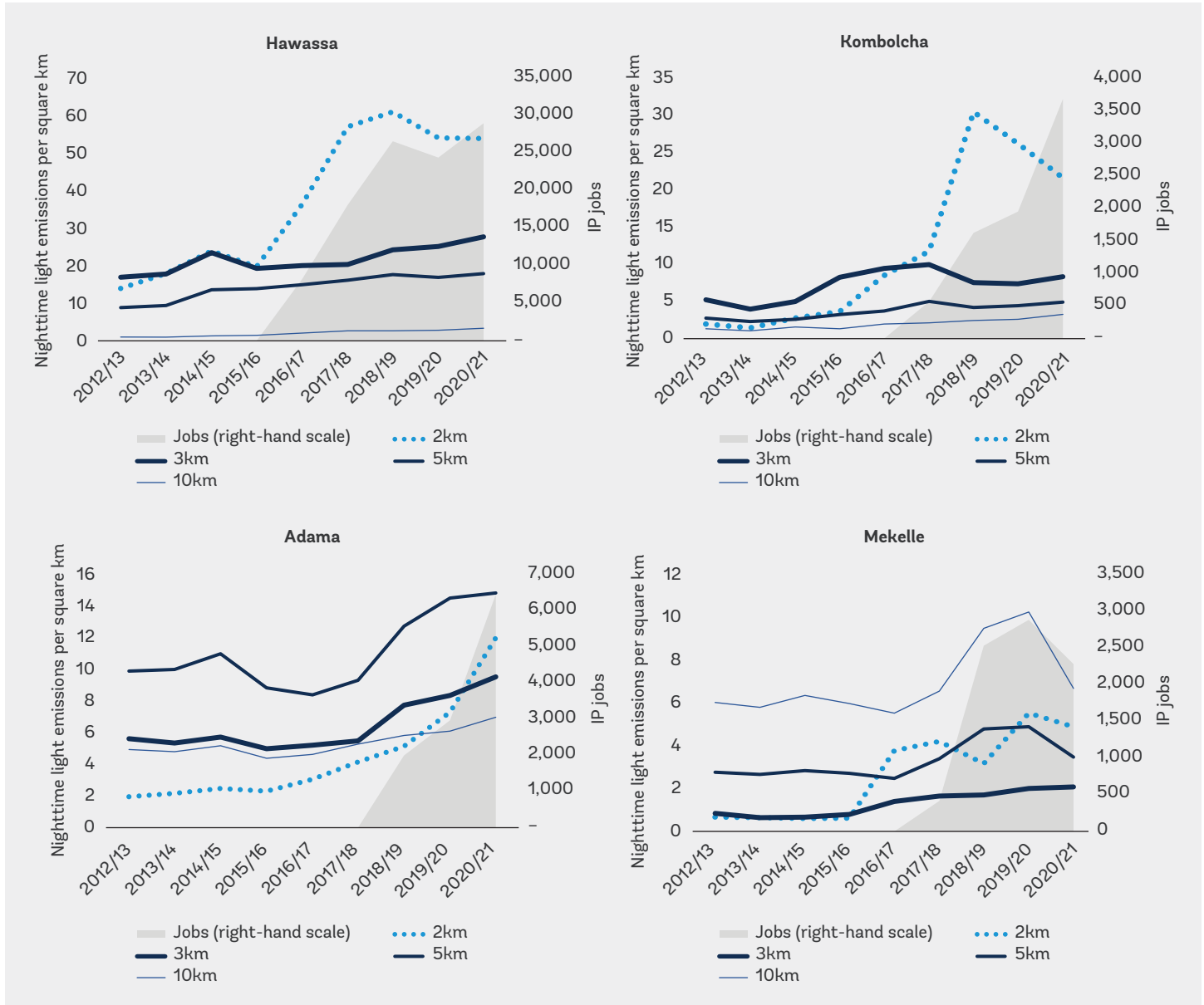
Note: The map shows the entire city of Hawassa with the industrial park located in smallest blue circle (radius of 2 kilometers) and two circles of a radius of 3 kilometers and 5 kilometers around it.

124 See for example Beyer et al. 2018.

125 See Frick, Rodríguez-Pose, and 2019.

126 Abebe et al. 2021.

FIGURE 1.30. Nighttime Light Emissions and Job Creation in Selected Industrial Parks



Sources: Jobs data from IPDC/EIC; VIIRS nighttime light data (NTL data compiled by the Geospatial Operational Support Team, World Bank). The NTL data are based on the monthly sum of light intensity for a square area of 750 meters x 750 meters. For this analysis, the data were averaged by year (using the mean) and adjusted for the size of the respective geographic area to reach the average NTL emissions per square kilometer for a specific radius. The figures show lines for a circular area with a 2-kilometer radius centered around the IP as well as three ring-shaped areas that exclude the industrial park: (a) 3 kilometers around the IP (width of 1 kilometer), (a) 5 kilometers around the park (width of 2 kilometers), (c) 10 kilometers around the park (width of 5 kilometers).

services like cleaning, security, or human resources services. The resolution of the NTL data also limits the degree to which the area of the IPs can be clearly distinguished from its surroundings. This analysis chose a radius of 2 kilometers around the IPs, which is the smallest reliable area given the resolution at which VIIRS data is being collected. However, the IPs tend to be smaller than this, which is why the 2-kilometer circle also captures the economic activity directly adjacent to the IPs—potentially subsuming some economic spillovers into the direct effect of the parks.

7. Economic Appraisal

To test whether the investment in Ethiopia’s public parks will yield sufficient economic returns to justify public investment, a simplified cost-benefit analysis has been conducted. This is loosely based on the approach used for the World Bank’s

2018 additional financing for the Ethiopia CJCP that funded the Bole Lemi II and Kilinto IPs.¹²⁷ This framework has been adapted to cover nine of the IPDC's currently operational IPs and incorporate newly available data on construction costs, employment creation, wage levels, wage premiums, spillovers, and the counterfactual of incomes from public land had it been used for private development.¹²⁸ This analysis also builds on the financial analysis of IPDC investments presented in Chapter 7, Financial Sustainability, but layers on economic benefits resulting from the IPs to those narrower financial and IPDC profitability calculations. The model has been designed to run over 20 years, from the initial investments made in 2013 to the year 2033.

The primary benefit streams result from employment generated by the park investments. These include (1) those employed during the construction of the park; (2) workers directly employed in the park; and (3) the indirect job creation from value chain linkages and economic spillovers. The historical numbers for park workers are taken from the IPDC data presented in preceding sections. In the nine parks covered, total employment reached 63,272 in June 2021.¹²⁹ Under the baseline scenario, it is assumed the remaining unfilled sheds will be fully rented over the next five years. As the parks are filled, it is assumed that initially low levels of workers per square meter converge toward Bole Lemi I's current 0.11 workers per square meter at a rate of 20 percent a year.¹³⁰ In line with IPDC data, construction workers are assumed to be employed in proportion to the level of construction expenditure in each year at a level of 100 workers per US\$1 million spending.

The model's results are most sensitive to the assumptions on wage dynamics and the level of economic spillovers. The most comprehensive source of data on wages in park jobs is the 2019 remuneration survey.¹³¹ As a conservative assumption, average wages in that year are assumed to be the median figures for base pay, payments in-kind plus half the level of potential variable and performance-related pay, adding to Br 3,345 per month. Wages are assumed to keep pace with an inflation rate of 11 percent (used throughout the model), plus an annual increment for productivity improvements and labor market dynamics that is assumed in the baseline to be 5 percent.¹³² Given Chinese contractors are used for the development of IPDC parks, wages for construction workers are taken from a 2017 survey of Chinese construction sector investors that reported an average monthly salary for unskilled workers of Br 1,503.¹³³ As described above, around 13 percent of park workers of more senior managerial and technical staff are paid, on average, a 90 percent premium on entry level positions. This adjustment has been included in calculating total wage levels across the IPs. This ratio of higher paid workers is also assumed in the construction sector.

Given the limited quantitative data to generate evidence on spillovers and linkages, assumptions have largely been based on international experience and plausible dynamics for the sector's development in Ethiopia. As discussed above, there is little evidence of supply chain linkages at present but manufacturers and buyers' stated intentions to locate in Ethiopia for its potential for vertical linkages into fabric and locally sourced cotton suggest that these linkages should grow over time. In the short term, the principal spillover is likely to come via the multiplier effect from park salaries and other direct activity. A 2020 study of park workers found very little savings; the majority of workers' incomes may be expected to be immediately spent, circulating to support additional economic activity.¹³⁴ The analysis of NTL data and new businesses registration support the hypothesis that once employing at scale, the IPs have stimulated housing construction, retail, and other local job creation. Under the baseline scenario, indirect job creation is assumed to be only 25 additional jobs for every 100 direct jobs created, but this ratio rises in a linear fashion to reach one-for-one at the point the model ends in 2033.¹³⁵

In addition to deliberately conservative estimates for benefit streams, a number of important but hard to measure indirect benefits of IP investments have not been included. Linked to job creation, there is an extensive literature on both the individual and social benefits of jobs for young women, which go beyond the direct impact of salaries. These include the improved likelihood of expenditures being used for the benefit of children, particularly girls. Furthermore, evidence from Bangladesh shows the educational attainment of girls living close to a garment factory increased by 50 percent just through raising the possibility that they may be able

127 See <https://documents1.worldbank.org/curated/en/988851530823526223/pdf/PAD2808-REVISED-PUBLIC-IDA-R2018-0148-1new.pdf>.

128 The parks used for this analysis are Bole Lemi I, Hawassa, Kombolcha, Mekelle, Adama, Debre Berhan, Dire Dawa, Bahir Dar, and Jimma. Note that Bole Lemi 2 and Kilinto parks are not covered in this analysis.

129 The 63,272 figure only covers the nine IPs considered in this economic appraisal, making it lower than the 90,000 park workers referenced in all IPs.

130 This would be a modest assumption compared to Hawassa, which filled up quickly, but is more in line with parks such as Adama and Dire Dawa for which employment levels in earmarked sheds are still relatively low.

131 Meyer, Krkoska, and Maaskant 2021.

132 Note that by using a Real Economic Rate of Return, the inflation rate does not directly impact the headline results. The increment for productivity and wage growth is beneath the level seen in recent years as well as beneath that suggested by evidence discussed previously of unconditional convergence of productivity levels in firms operating in the same GVC.

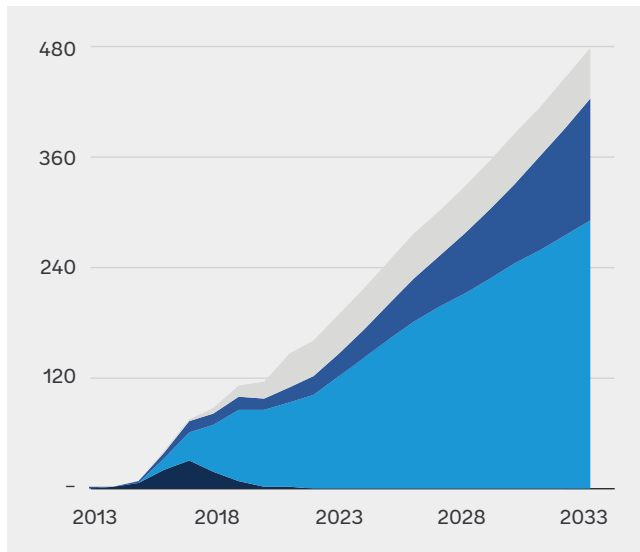
133 Schaefer and Oya 2019.

134 Abebe, Buehren, and Goldstein 2020.

135 Note that even this multiplier of one is significantly beneath international estimates of manufacturing jobs such as the estimates of two to four additional jobs found in UNIDO (2019) and two indirect jobs for each directly created one in the manufacturing sector found by Cali et al. (2016).

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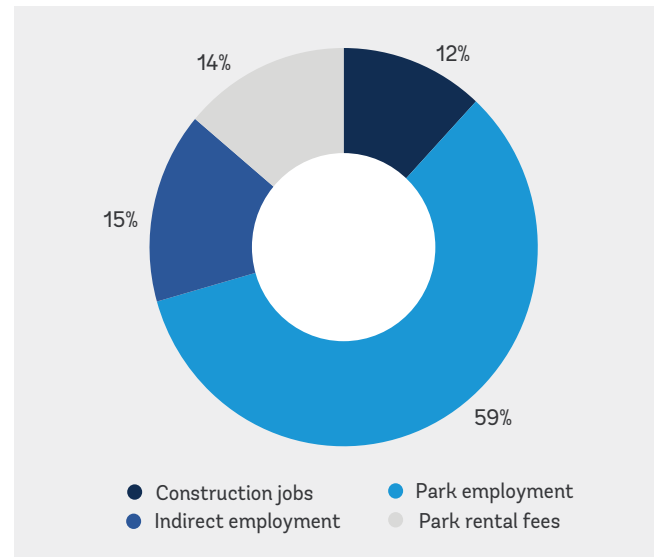
FIGURE 1.31.
Nominal Benefits from IP Development (US\$m)



Source: Data from IPDC/EIC.

> > >

FIGURE 1.32.
Net Present Value (NPV) Share of Benefits (percent)



Source: Data from IPDC/EIC.

to work on completing school.¹³⁶ Other indirect and second order benefits such as agglomeration effects linked to accelerated urbanization, technological and knowledge spillovers resulting from clustering around IPs, the macroeconomic impact of increased foreign exchange earnings, and export diversification are all both highly likely and possibly very significant. However, these are excluded from the economic appraisal given the difficulty of robustly estimating their scale, trajectory over time, and impact.¹³⁷

7.1. Results

The baseline exercise, based on conservative assumptions around wages and spillovers, shows a real economic rate of return (RERR) of 17.8.¹³⁸ Of the major benefits streams, the largest returns come via salaries paid to park workers, which represent 58 percent of all returns (figure 1.31). The net present value (NPV) of returns to shed rentals and other park fees, employment related to construction, and indirect employment make up the remaining share.¹³⁹ The nominal benefits linked to construction employment are relatively modest (see figure 1.32), but the discounting process significantly reduces the weight given to benefit streams far into the future and so increases the significance of these front-loaded incomes linked to building the parks. Conversely, given the assumption that it takes time for value chain linkages to develop, indirect employment takes time to hit scale, and therefore represents only 17 percent of benefits in NPV terms.¹⁴⁰

7.2. Sensitivity analysis

A series of robustness tests have been carried out to check the validity of the model's findings. As would be expected, using assumptions, such as improved wage dynamics or increased levels of employment in the parks, prompt higher returns. Given the observed high rate of productivity growth in recent years (and international evidence that this convergence should continue)

¹³⁶ In Bangladesh, proximity to a garment factory has been found to have a significant effect on educational attainment, the postponement of marriage, and childbirth age. These effects were even more striking for girls aged between 12 and 18, where early marriage is more likely to have detrimental effects on a girl's level of educational achievement and future job opportunities. See Heath and Mobarak (2015).

¹³⁷ For a discussion of these benefits in the African context see Dercon, Lippolis, and Peel (2018).

¹³⁸ The RERR is a metric for comparing the projected costs and benefits associated with a project of investment. An economic rate of return (ERR) will typically be broader than a simple financial rate of return as it will consider spillovers (both positive and negative) impacting society more broadly. In this instance a financial rate of return of the IPs might look at only IPDC's financial costs and revenue streams such as shed rental payments, whereas the ERR might consider the benefits associated with the jobs that have been created. The "Real" indicates that costs and benefit streams have been adjusted for inflation. The RERR of 17.8 percent means that the returns to the IPDC's parks are generating an average "return" to society (measured as benefits minus costs) of this figure. Typically, an ERR will be compared against a threshold of minimum returns above which a project must exceed in order that it would go ahead. See UK Government 2020 for more details.

¹³⁹ The NPV is a financial term for comparing the costs and returns (or benefits) of a project that can guide whether an investment should proceed. Projects, including Ethiopia's IPs, might incur costs at the beginning (such as those linked to construction) that provide benefits far into the future. A discount rate is used to adjust downward costs and benefits that fall further into the future, allowing future costs and benefits to be expressed in the value of money spent today.

¹⁴⁰ These calculations use a discount rate of 26 percent, made up of an inflation adjustment of 11 percent, a risk-free rate of return of 3 percent, and equity portfolio return of 5 percent, a country risk premium of 6 percent, and a sector risk premium of 1 percent. For a full description of this approach see Chapter 7 – Financial Sustainability.

increasing the annual wage increment to 10 percent for the remaining 10 years of the model increases the observed REER by around 2 percent. Similarly, increasing the numbers of workers per factory shed from 0.11 per square meter to 0.17 increases the REER to 21.3 percent.¹⁴¹ It is worth noting that given the model has been designed to run from 2013 (and so is based largely on actual data for the first 8 years) the impact of different scenarios for the years running from 2021 to 2023 is more modest than if these changed assumptions had run from the beginning of the model.

Scenarios such as slowing the pace in which the parks fill up or lowering the returns to employment reduce the estimated economic rate of return (ERR) but not enough to question the viability of the parks. When the length of time it takes for the remaining sheds to be rented (from 5 years to 10) is doubled, the ERR is reduced by less than 1 percentage point, largely due to the high rate of capacity utilization already achieved in the nine IPs considered. Similarly, doubling the length for newly rented sheds to reach 0.11 worker per square meter (from 5 years to 10) reduces the ERR by less than a percentage point for the same reason.¹⁴² Arguably the most generous assumption of the baseline model is that the entire salary of workers is included as benefits, unlike previous approaches that rely on the wage premium paid to park workers over other potential employment opportunities. The approach of using the full salary is based on the observation of high and persistent levels of urban unemployment (higher still for young women of the age typically employed in IPs) and analysis pointing to a lack of structural demand for workers in Ethiopia's labor markets. Downgrading this assumption and using only 50 percent of worker salaries reduces the real ERR to 9.7 percent.¹⁴³

8. Conclusions and Recommendations

In less than a decade, Ethiopia's industrial parks have grown from employing less than 5,000 workers to approaching 100,000 and, if current historical trends resume, the IPs could soon be the country's largest source of merchandise export earnings. The jobs that have been created are typically paying a premium over other sectors and have provided employment for mainly young women, an underserved and important demographic for unlocking a broad set of development outcomes.¹⁴⁴ Most investment into the parks has been efficiency-seeking and helped link Ethiopia to GVCs, principally ready-made garments. Exports have grown rapidly, and if the growth rate of the last decade is sustained, IP exports will surpass the revenues for the combined current top three merchandise export goods within five years. A simplified economic appraisal—focusing solely on wages and direct revenue streams in nine IPDC run parks—shows a high rate of return that more than justifies the roughly US\$1 billion in associated construction costs.

Before COVID-19 and the outbreak of conflict in northern Ethiopia, the country's IP-led industrialization strategy was offering tentative evidence to challenge critiques of Africa's premature deindustrialization. Previous analysis had suggested that in Ethiopia (and elsewhere in Africa) formal-sector firms did not create much new employment.¹⁴⁵ However, in recent years, IP employment represented about one in seven of all new formal private sector jobs. In cities such as Hawassa, the park has quickly become the largest private sector employer and stimulated urbanization by drawing migrant workers from a wide catchment area. Productivity growth has also been impressive, albeit from a low base. If international evidence of unconditional convergence in labor productivity for export-oriented manufacturing should hold, this growth should continue until Ethiopia-based exporting firms catch up with those in South and East Asia.

Despite these gains, the parks are not yet operating on a scale where there is a meaningful macroeconomic impact. In 2021 economic activity from the parks still contributed less than 0.5 percent of GDP and, as yet, had not meaningfully contributed to structural transformation of the Ethiopian economy. Exports from the park are still only 5 percent of Ethiopia's total export earnings and the jobs created to date should be set in the context of the need to find employment for 2 million youth entering the labor market each year. While park exports now represent close to half of Ethiopia's manufactured exports, this has largely compensated for declines in other products, and the scale reached is not yet enough to significantly diversify the export basket or trading partners.

Whereas the IPs created jobs, particularly for women, reported levels of workers satisfaction remain low. By external metrics IP employment may appear to be “good” jobs with most employers investing in training, free meals, and the safeguards that come with international factory inspection regimes. However, workers consistently report the difficulties of low pay, adjusting to the rigidities of factory-based work, and hardships in an often-new urban life. There is evidence from other countries that have seen rapid expansions

141 This assumes investors eventually increase employment levels to those of the 75th percentile, and half move to double shifts.

142 Note that these adjustments would only lower returns over the years 2021–33, so their impact is relatively modest.

143 For an analysis showing demand for labor with primary and secondary level education is less than the supply see World Bank 2016b, p. 41.

144 See World Bank 2012b.

145 See Diao et al. 2021.

in female employment that this brings a number of knock-on benefits, for instance dramatically increasing the chances of girls staying in school, but it is too early to see if this will happen in Ethiopia. For these benefits to be fully realized (and the challenges created by rapid urbanization appropriately managed), better integration of urban planning, service delivery, and targeted investments to improve the safety of women in public places will all be needed.

The picture on indirect benefits is also mixed, with some positive evidence of localized spillovers in towns such as Hawassa but as yet little integration of local suppliers into core value chains. International garment buyers sought Ethiopia, in part, because of the ability to achieve full vertical integration from cotton all the way to ready-made garments. Despite this aspiration, at present, fewer than 5 percent of inputs are sourced locally. Without these linkages there is unlikely to be meaningful technology transfer beyond the skills and circulation of trained workers. In Hawassa, where the park is large relative to the size of the host city and most sheds are in operation, the park appears to have stimulated a spike in new business registrations and development of new neighborhoods to house incoming rural migrants. This suggests indirect employment creation also exists; however, perhaps due to data limitations, this is not yet clear from labor market data.

The COVID-19 pandemic stalled growth in the parks and the post-COVID recovery period may create both opportunities and challenges. While employment (on aggregate) grew slightly in 2021, the earlier momentum was lost, and export earnings fell. A prohibition on redundancies early in the crisis may have encouraged employers to keep workforces in place, and as a result, the sector could be better placed to benefit from a resumption in orders. During the crisis, complicated global supply chains amplified some risks (for instance, when port delays in one country meant fabric could not be shipped to countries assembling garments). This has increased the attractiveness of locations that are able to supply more inputs locally. Greater uncertainty in the recovery period has also placed a premium on locations that offer speed-to-market and the flexibility to scale up or down at short notice, which also comes with vertically integrated supply chains. Looking ahead, Ethiopia's size and, in principle, capacity to supply export-grade cotton and leather could be a source of huge comparative advantage—if these integrated supply chains can be developed.

A more pressing challenge in the short term is the impact of conflict and instability in the country and the suspension of preferential trade access to the US market under AGOA. The conflict in Tigray has closed four export-focused industrial parks (IPDC parks in Mekelle and Kombolcha and two privately run IPs in Mekelle), which pre-COVID were responsible for a combined 6 percent of total IP jobs and 9 percent of IP export earnings. Linked to the conflict, the US government has suspended Ethiopia's duty-free market access under AGOA as of January 1, 2022. Around 70 percent of Ethiopia's garment exports are to the US, and this trade supports over 50,000 jobs, most of which are in IPs. Citing the escalating conflict, one flagship investor employing over 1,400 workers in Hawassa IP announced the closure of its factory.

The evolving conflict situation in the country makes it challenging to make either predictions or recommendations until the situation stabilizes. The loss of duty-free access to the US is likely to be profound, and political instability has already led to the loss of one high-profile investor. In the short term, the most significant factor may be the reaction of buyers sourcing in Ethiopia. AGOA benefits, which can be up to a third of the finished price of finished products, typically fall to international buyers. If they perceive these costs (and supply chain and reputational risks) to be too high, orders will be placed elsewhere, and it may be hard to win them back. With over half of all IP exports and jobs potentially at stake, a twin-pronged approach to address the concerns of both buyers and manufacturers is warranted. Short-term measures, such as allowing IP employers to repurpose production for the domestic market, may help ensure the viability of investments and protect jobs. When the COVID-19 pandemic prompted a reduction in orders, a time-bound intervention to support worker incomes was successful in protecting jobs; such measures may be helpful again.

Looking ahead, the emphasis should be on both reigniting the pace of inward investment into parks that characterized the years 2016–19 (when half of all current jobs were created) and a focus on strategic and anchor investors. Prior to recent developments, simulations of getting the IPs to scale and increasing productivity levels could yield US\$1.3 billion in exports per year and over 300,000 jobs. Previous authors have pointed to four factors driving earlier success: (1) commitment by high-level leadership; (2) dynamic experimentation and learning; (3) targeting sectors in line with latent comparative advantage, and (4) capable public administration.¹⁴⁶ Other analysis points to the benefits of taking a whole value chain approach and directing

146 Hager, Lin, and Xu 2019.

promotion activities toward not just manufacturers but also international buyers who hold considerable power in modern supply chain relationships and an ability to overcome coordination problems that stand in the way of fully vertical solutions.¹⁴⁷ While subsequent chapters of this report will point to lessons learned and things that could have been done differently, these cross-cutting themes will likely be as important to delivery and offer a helpful guide to overarching governance and decisions making.

The recommendations below have been clustered under three broad headings: 1) getting to scale; 2) jobs and remuneration; 3) deepening supply chain and local spillovers. Many of these recommendations flow directly from the analysis in this note on the impact achieved to date within the IPs, but several draw on other chapters of this document. More specific recommendations on issues such as investment climate and regulatory issues, park operations, and social and environmental safeguards are contained in their respective sections.

8.1. Protecting the achievements to date and getting to scale

The current stock of parks in Ethiopia could, if operating at capacity, employ 300,000 workers and generate US\$1.3 billion in exports, more than coffee, oil seeds, and cut flowers combined. To achieve this will require reigniting inflows of FDI and supporting investors to both increase employment (for example, moving to double shifts) and raise productivity. While earlier investors that filled parks such as Bole Lemi I and Hawassa arrived on the basis of untested infrastructure, institutions, and levels of service delivery, future investors will be able to make more informed decisions and will scrutinize IPs and the investment climate as they find them today.

8.1.1. Recommendations

- Renewing momentum in attracting and enabling additional investment into the existing parks using a twin track approach:
 - Recognizing the significant scope for new investment to come from businesses already present in Ethiopia, improving aftercare and deepening OSS service delivery.
 - Investing in a promotion drive that specifically targets responsible and sustainability-conscious investors and buyers not just manufacturers of finished products but also buyers and Tier 2 suppliers (fabric mills, trim suppliers, etc.) that have the ability to “crowd in” additional investment.
- Prioritizing any additional capital expenditures to fix outstanding infrastructure gaps in existing parks. These issues vary park to park but include housing, drinking and industrial grade water, ensuring capacity and smooth operations of effluent treatment plants, drainage systems, health clinics, fire stations, etc. (see chapter 4, Operation and Management). These investments will be critical to improving productivity and getting to scale (for example, enabling double shifts).
- Addressing the considerable heterogeneity in the performance of IP investors in terms of productivity and compliance with social and environmental practices. To support scaling up job creation, productivity, and exports, it is important to understand why. There would likely be high returns to further research to help target policies to support catching up with the parks’ better performers.¹⁴⁸
- Collaborating in approaches to upgrade skills will also be key to enhanced productivity and preparing workers for new, higher value-added sectors beyond garments and textiles. Park-specific industry partnerships between universities and technical and vocational education and training (TVET) colleges that focus on modernizing curriculums, internships, and on-the-job training may offer learning that can be taken to scale.¹⁴⁹

147 See Mihretu and Llobet (2017) for a discussion of how PVH’s role in Hawassa park led to the simultaneous investments of a Chinese fabric mill, a European trim manufacturer, and garment suppliers from India, Indonesia, Sri Lanka, and China.

148 This should include consideration of which investors have focused on higher value-added products and basing in Ethiopia processes and functions that further add to skills transfer and foreign exchange earnings (for example, factors that might influence more investors to switch to FOB models).

149 See, for instance, <https://www.giz.de/en/worldwide/80287.html>.

Short-term measures to address the impact of the conflict and weakened investor confidence should also be considered. These might include:

- Protecting the employment status and basic incomes of workers. This should be the overriding priority given the welfare and poverty implications but also that retaining employment relations and skills of workers will help support a more rapid bounce when the situation improves.
- Engaging both US-focused manufacturers and US buyers. Despite the loss of competitiveness due to the suspension of AGOA preferences, some buyers may be reluctant to redirect orders elsewhere. Proactive engagement with US-based buyers to understand concerns and stress Ethiopia's long-term strategic potential (for example, on vertical supply chains) may help offset some loss of orders.
- Improving the business climate and cost structure of the manufacturing sector. A rapid assessment of any short-term measures that could address the costs and pain points of IP investors should be conducted. This might point to business climate reforms that offset the loss of impact competitiveness (relating to banking fees and forex availability, for example) and the ability to meet order deadlines.
- Helping to diversify markets for Ethiopia-based manufacturers/exporters. There may be scope to support existing investors to seek new markets. This could include improving access to regional markets, such as through the road corridor to Kenya (via Moyale), which would be especially relevant for fabric manufacturers able to supply the garment industry there. There may also be scope for relaxing restrictions on manufacturers accessing domestic markets to offset a loss of export orders. Longer term, it may be worth diversification to balance a heavy reliance on low value-added and price-sensitive products such as basic garments. Vertical integration (for instance into domestic cotton production) and cultivating a reputation for sustainable practices will help enhance Ethiopia's value proposition to investors as one that is more than solely low costs.

8.2. Jobs and remuneration

Employment opportunities are one of the principal benefits the parks bring, and in the labor-intensive industries that dominate the parks, workforce issues are a critical factor in investment attraction, retention and productivity. There is evidence that productivity and wages have both risen in recent years and that park jobs pay a premium over other employment opportunities on offer. There is also evidence that while initial turnover might be high, the majority of park workers have been in their jobs for a year or more.

Despite these positives, many workers do not report high levels of satisfaction with their new lives as factory workers and (often) recent migrants to urban settings. While wages are low by international standards so too are current productivity levels, measured by either internal factory metrics or exports per worker. Hence it will be important that measures that seek to increase wages and working conditions are implemented in tandem with reforms to accelerate improvements in labor productivity.

8.2.1. Recommendations

- Recognizing the sector-specific feature of the global garment industry—including the reputation-conscious global brands that dominate sourcing in Ethiopia. Ongoing government reforms to introduce a minimum wage should ensure that IP workers are covered under any eventual approach.
- Exploring opportunities to raise incomes further through living wage approaches linked to collective bargaining agreements, such as ACT in the garment sector for which many Ethiopia focused buyers are already signatories.¹⁵⁰
- Improving the provision of urban and workplace services such as housing, childcare, and transportation, will support improved worker satisfaction, retention, and productivity.

¹⁵⁰ See, for instance, <https://actonlivingwages.com>.

- Improving labor market efficiencies—for instance, educational campaigns to improve information for potential workers about the realities of urban and working life and the ability of workers to select individual employers within the IPs, etc.
- Investing in better preparing rural migrants before departing and on arrival, such as access to improved information on factory work and city life, in addition to provision of welcome packs and orientation activities to help settle in during the initial three-month window when turnover is especially high.
- Improving workplace inspections through a structured approach, which might, for instance, include making ILO Better Work inspections mandatory for all IPs investors (subject to funding and building the capacity to meet increased demand).
- Addressing the very common complaint of both employers and workers of the challenges of managing employment with continued education. Creative approaches to how these can be done in parallel would likely yield significant mutual benefits.

8.3. Deepening supply chain linkages and local spillovers

While it should be expected for supply chain linkages to take time to develop, the significant benefits these would yield in terms of jobs creation and technology transfer warrant urgent attention. At present, most IP activity is the cut-make-sew segment of the garment value chain and only around 5 percent of inputs used by IP investors are sourced locally. Up to US\$400 million of intermediate inputs are being imported each year for processing in the parks. Most of these imports are fabric and trims, which has been shown to be viable for production in Ethiopia. Developing these upstream linkages will create jobs and improve Ethiopia's foreign exchange shortages. It will also improve Ethiopia's value proposition to both buyers and manufacturers through improved price competitiveness, speed to market, and flexibility.

8.3.1. Recommendations

- Prioritizing provision of the infrastructure and utilities needs of Tier 2 manufacturing facilities, such as fabric mills and dye houses. See chapter 4, Operation and Management, on specific gaps in utility provision and chapter 6, Environmental Sustainability, on the environmental safeguards needed around these power and water intensive investments.
- Reviewing regulatory, banking, and foreign exchange obstacles to deepen vertical supply chain linkages from the IPs. This should include issues such as the availability foreign currency, banking charges, and options for deepening regional integration to achieve economies of scale.
- Accelerating efforts to link cotton and other agricultural inputs to the demand created in the IPs. This could include options for upgrading cotton seed varieties used in Ethiopia, land availability, and utilizing the opportunity created by a modern spinning mill in Dire Dawa.
- Supporting strengthened domestic linkages. This will not happen automatically and will require targeted effort, spanning policy, improving the business environment (such as input financing), strengthening firm-level capabilities (meeting international buyer standards, for example) and addressing information asymmetries (matchmaking events).
- Exploring policies that incentivize collaborative approaches (such as joint ventures and other forms of local-foreign investor partnerships) to support the technological upgrading of Ethiopian businesses. Punitive policies attempting to enforce technology transfer may be counterproductive.
- Institutionalizing the policies and learnings around linking local suppliers to IP and other GVC investors could be supported through establishing a Local Content Unit (or similar) in an appropriate government agency. This unit could address information gaps of IP investors and domestic businesses, support matchmaking activities, and provide capacity building on standards and other requirements to prospective local suppliers.¹⁵¹

151 Dercon, Lippolis, and Peel (2018).

PART

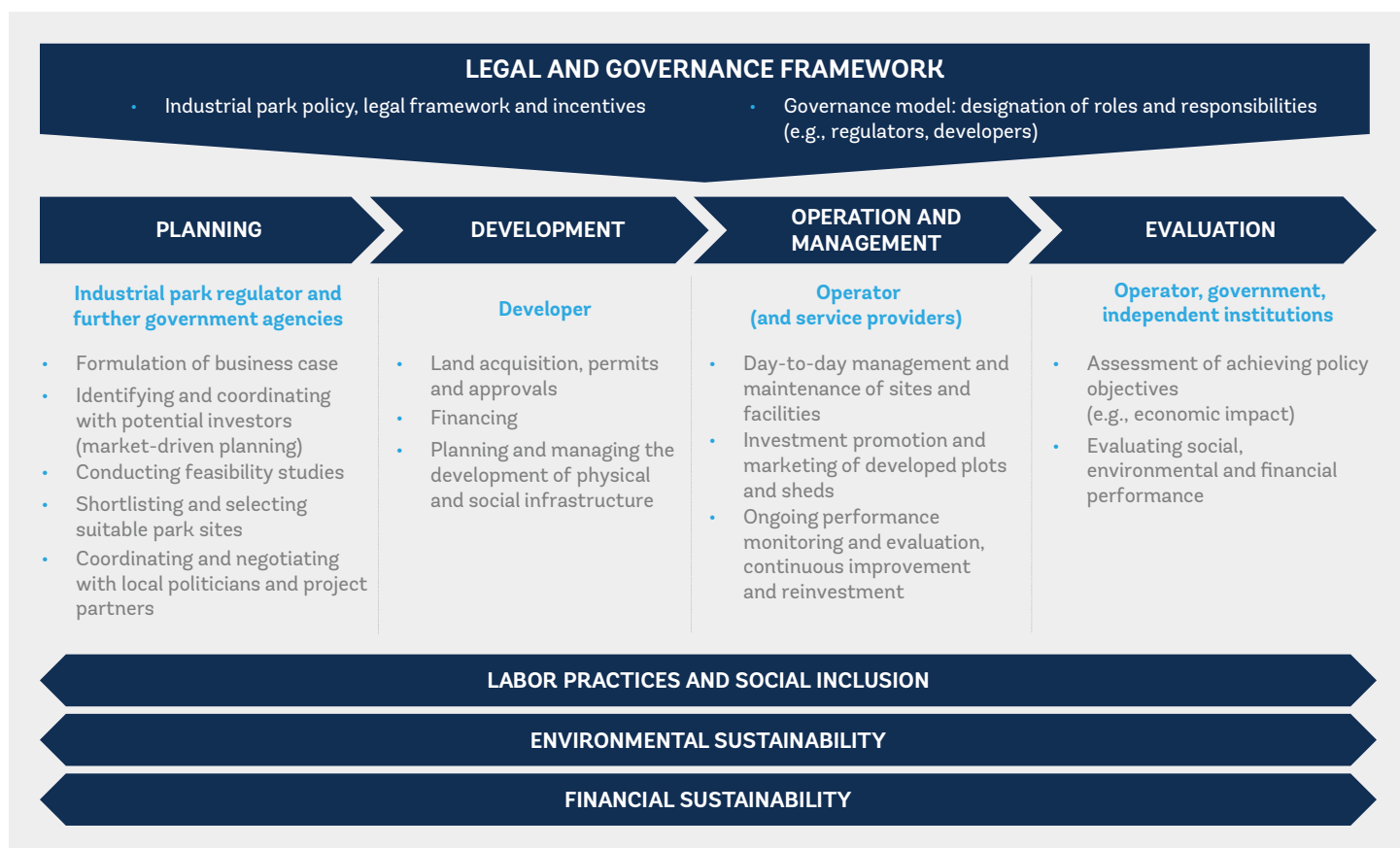


**Assessing the
Implementation
of the Industrial
Park Program**

Part B of this report assesses the implementation of Ethiopia’s industrial park (IP) program across various components of a successful IP program. Figure Part B.1 gives an overview of the stages and cross-cutting pillars that IP programs rest on. First, any IP initiative depends on its underlying legal framework—including overarching IP policies, laws, and fiscal and nonfiscal incentives—as well as a governance model that describes roles and responsibilities of various institutions, such as regulators and developers. This is covered in chapter 2. Chapters 3 and 4 focus on critical phases of implementing Ethiopia’s IP program: planning and development, and operation and management. Planning and development entail the identification of investor interest and suitable sites and then developing these into industrial land that meets the demands from companies setting up businesses there (see details that follow). Operation and management relate to the implementation of day-to-day activities in industrial parks as well as investor promotion and marketing. Lastly, evaluation is a critical aspect that all involved institutions need to carry out on an ongoing basis. The evaluation phase is not a separate chapter in this report given that it is covered in the economic impact assessment (chapter 1) and the chapters on social, environmental, and financial performance in this section.

> > >

FIGURE PART B.1. Components of an Industrial Park Initiative



Source: World Bank representation based on UNIDO 2019.

In addition, three cross-cutting themes determine the implementation success of an IP initiative: labor practices and social inclusion, environmental sustainability, and financial sustainability. Part B assesses each of these themes in chapters 5, 6, and 7 respectively. Labor practices and social inclusion consider effects on labor markets, employment relations, social dialogue, and sustainability. The chapter on environmental sustainability sheds light on the performance of Ethiopia’s industrial parks related to aspects like water consumption and treatment, solid and liquid waste, and environmental emissions. Lastly, the chapter on financial sustainability assesses costs and revenues that Ethiopia’s IPs have generated.



Legal and Governance Framework

1. Introduction

This chapter reviews the legal and institutional frameworks that govern the IP program in Ethiopia¹⁵² and compares it with international good practices and benchmarks. Since formulating the current legal and institutional framework for industrial parks (IPs) in Ethiopia in 2014, the government has gradually gained technical expertise and practical knowledge on the implementation of the industrial parks program. Over time, the framework and the government's approach has therefore been reviewed and revised to adapt to changing circumstances, address new challenges and implement new learnings—for example, related to infrastructure design and delivery, financing, promotion, and operation of IPs.

A predictable and transparent regulatory and governance framework is critical for the success of IPs – both de jure and de facto. In addition to providing the adequate physical infrastructure, IPs aim to attract interest from international investors with an attractive regulatory framework that defines clear roles and responsibilities of IPs stakeholders and regulatory bodies. Additionally, IPs offer long-term legal certainty; ensure the smooth implementation of IPs; and safeguard business, social, and environmental standards. In many countries, including in Ethiopia, IPs even offer more favorable regulations than in the rest of the country, sometimes as a means to experiment with new policies before they are being rolled out nationally.

Overall, the legal framework for Ethiopia's IPs provides a competitive business environment for investment through special provisions and more efficient procedures than in the rest of the country. The framework presents a domestically different and internationally credible regulatory business environment, protecting investors from certain constraints in the national investment environment (such as easy access to land and basic infrastructure, investor aftercare services close to investors, and streamlined regulatory procedures). Importantly, the legal framework provides more efficient administrative procedures through a one-stop shop (OSS) mechanism. Overall, the framework contains a liberalized trade and customs environment, with improved facilitation of trade, market access, and regulatory drivers to support transactions within the IPs themselves. However, even though the legal framework provides adequate provisions for social and environmental compliance, it could go farther to incentivize compliance and disincentivize noncompliance and provide a solid legal basis to position the industrial parks as sustainable investment destinations.

¹⁵² This review does not include the legal and institutional framework for the integrated agro industrial parks, which are parallel initiatives mainly led by the regional governments and the Ministry of Industry.

This chapter assesses Ethiopia's IPs' regulatory framework vis-à-vis international good practices as well as the institutions governing them. The findings build on desk research as well as 19 in-person and telephone interviews with representatives from various divisions of the Industrial Parks Development Corporation (IPDC), Ethiopian Investment Commission (EIC), regional IPDCs, IP companies, and the then Ministry of Trade and Industry, which were conducted by World Bank staff between April and June 2021. The first part of the chapter reviews the core legal instruments necessary for an effective design, operation, and regulation of industrial parks, including the Investment Proclamation 1180/2020, the Industrial Park Proclamation 886/2015, the corresponding Industrial Parks Council of Ministers Regulation 417/2017 to implement the proclamation, and related subsidiary legal instruments. The second part reviews the key institutions governing IPs—notably, the Ethiopian Investment Commission (EIC) and the IPDC—and highlights how the institutional mandates support the competitiveness of IPs.

2. Common Elements of a Legal Framework for Industrial Parks

Increased global competition to attract investors makes the regulatory frameworks of IPs a key consideration for investors' investment decisions. In line with the different objectives of IPs (for example, generate exports, drive technological know-how, experiment with policies on a limited geographic scale), there is a range of regulatory frameworks for IPs depending on the specific objectives. At the same time, the increased use of IPs to attract investors has also led to investors basing their decisions on the attractiveness of the regulatory frameworks. It is therefore critical for Ethiopian policy makers to benchmark against international good practices for IP regulations.

It is an international good practice to follow a layered approach to the legal and regulatory framework for IPs to ensure it is practical, flexible, and responsive to investors' needs (see box 2.1). An IPs' principal legislation should provide general policies and principles through broad statements rather than procedural details. Specific principles can be contained in subsidiary legislation such as directives, administrative orders, operating procedures, agreements, and memoranda of understanding (MoUs). It is also important for the principal laws on industrial parks to enable new sub statutory legal instruments to be adopted and amended regularly to reflect changing economic, investment, and operational realities. As is the case in Ethiopia, when the principal IP law (here the proclamation) is formulated in more general terms, the corresponding regulations need to be detailed and comprehensive to provide clarity and avoid misinterpretation.

3. Review of Ethiopia's Legal Framework for Industrial Parks

This section reviews Ethiopia's legal framework for IPs in 10 regulatory areas of relevance. It outlines good regulatory practices and compares Ethiopian provisions concerning (1) developer agreements; (2) the range of permitted economic activities; (3) licensing;

BOX 2.1:

Good Regulatory Practices of Using a Layered Legal and Regulatory Framework for Industrial Parks

- An industrial park law (or laws) that—in certain areas—may take precedence over existing legislation.
- IP regulations issued by the cabinet or a relevant minister.
- IP directives or administrative orders issued by the IP regulator to provide procedural details on regulations.
- Interagency MoUs concluded between the IP regulator and other ministries.
- IP developer agreements concluded between the regulator and the parks' developers.
- IP operating procedures issued by the IP regulator, often in coordination with developers.

Source: Adapted from Gauthier 2011, Farole et al. 2013, Farole 2011, and UNIDO 2019.

(4) performance requirements; (5) land, assets, and environmental protection; (6) designation of industrial parks; (7) fiscal incentives, tax, and customs procedures; (8) labor markets; (9) dispute settlement; and (10) private sector participation in IP development and operation. Key provisions of Ethiopia’s legal framework for IPs are included in the following five legislative acts:

- Investment Proclamation No. 1180 of 2020
- Industrial Park Proclamation No. 886/2015
- Industrial Parks Council of Ministers Regulation No. 417/2017 (“IP Regulation”)
- IPDC Establishment Regulation No. 326/ 2014
- Industrial Parks Directive No. 06/2017

In line with international good practices, Ethiopia’s IP legislation takes precedence over other national legislation, but there are complications due to overlaps and duplications of institutions’ operational and regulatory functions. As per Article 34 of the Industrial Parks Proclamation, provisions stipulated in the proclamation overrule any law or practice that may be inconsistent with them, thereby establishing legal clarity for IP legislation. However, despite the legal regime’s several strengths, stakeholders within the government acknowledged that various aspects of the regulatory policy are not clearly stated. In particular, there are duplications and overlaps between functions of the Ethiopian Investment Board (EIB), EIC, and IPDC, as well as concerning regulatory responsibilities of EIC and other government bodies.¹⁵³ The following sections will outline the details of shortcomings in the legal framework vis-à-vis international good practices (see a summary of the assessment in table 2.1).

(a) Developer agreements

Developer agreements must set out the basic rights and obligations of IP developers and operators. These rights should include the right to lease land and buildings to investors without government interference on prices. Agreements should address installing on-site infrastructure per applicable requirements and providing all manner of ancillary services to IP users for a freely determined fee. Developer or operator obligations should include providing public agencies with necessary facilities such as offices and facilities to conduct their required functions within the IP. The obligation shall also include regularly reporting requirements to the regulator on IP performance and managing its physical environment (including compliance with social and environmental safeguards). Ethiopia’s Industrial Park Proclamation provides similar rights and obligations for IP developers under Articles 5 to 7, in line with international good practice.

(b) Range of permitted economic activities

According to international good practices, the law should allow the broadest possible range of activities, which is not the case in Ethiopia. Any restrictions imposed by the government on activities should only be done if required to achieve public interests (for example, protection of social, labor, environmental, health, or security concerns), rather than following a protectionist logic or political considerations. Examples of such open IP programs include Panama, Jordan, the Philippines, China, India, Nigeria, South Africa, and Kenya. Vietnam is planning to transition toward such a system under proposed new SEZ legislation. In Ethiopia, the IP Regulation states in Article 7(2) that investment permits of IP developers are conditional on the park to be used by firms that operate in priority manufacturing sectors identified by the government. Most IPs in Ethiopia specialize in certain sectors that decide the eligibility of investors to settle there—for example, the textiles and apparel sectors. It may be important to follow a sectoral approach to IP development based on investor interests, Ethiopia’s comparative advantages, and policy priorities, but it is also important that the legal framework stays sufficiently flexible to accommodate a wide range of sectors and investments. Similarly, an export focus of IP firms may be prioritized or encouraged through preferential incentives to investors, but it is better not to prescribe this through laws that narrow the legal framework to accommodate new and emerging needs.

¹⁵³ The EIC highlighted that recent amendments of the Investment Proclamation and related regulations have helped clarify previous gray areas—for example, concerning the EIC’s responsibilities for promotion and regulation of IPs as well as the national and regional IPDCs for the parks’ development and operation. EIC acknowledges that despite greater legal clarity at the policy level, the need remains to clarify competencies at the working level.

TABLE 2.1. Summary of the Assessment of Ethiopia's Legal Framework for Industrial Parks with International Good Practices

Dimension	Description of assessment	Performance
(a) Developer agreements	Ethiopia's Industrial Park Proclamation (IP Proclamation) and IP Regulation defines rights and obligations for IP developers and operators.	
(b) Range of permitted economic activities	Most IPs in Ethiopia have a prescribed sectoral focus, limiting the scope of potential investors	
(c) Licensing	The IP Proclamation provides the conditions under which business incorporation and IP registration can be done in one step, thereby simplifying licensing. However, the IP Directive opens the possibility for multiple licenses to be required by IP enterprises.	
(d) Performance requirements	Ethiopia's legal framework includes provisions to mandate IP enterprises to export a defined share of their output and create linkages with local firms. Based on good practices, such policy objectives may be better achieved through incentive schemes rather than legal provisions.	
(e) Land, assets, and environmental protection	The IP Proclamation gives specific and effective land acquisition and construction rules and industrial and environmental safeguards. However, development/construction of the land in IPs requires multiple certificates, documents, and agreements that could be further simplified. Compliance with environmental safeguard practices and environmental regulation of operations and practices are weak.	
(f) Designation of IPs	Developers are not required to submit financial modelling, market demand, nor transport economics and logistics studies for IP approval, creating the risk of unsustainable IPs being approved. Good practice shows that successful IPs are planned based on tangible investor demand, making it paramount that Ethiopia's IPs consider this during the designation phase.	
(g) Fiscal incentives, tax, and customs procedures	Investors tend to appreciate the level of fiscal incentives provided in Ethiopia's IPs. The legal framework grants the necessary simplifications of customs and tax procedures. However, there are shortcomings in the implementation of such procedures (for example, reliability of the online customs system, unpredictability of regulatory changes, etc.).	
(h) Labor management	Ethiopia's IPs have dedicated labor regulations, including requirements aiming to encourage workforce training and tripartite negotiations. However, there is a need for the government to increase mitigation efforts concerning hazards and other risks that workers face (such as occupational health hazards, insufficient housing, vulnerability to gender-based violence). Requirements to replace expatriate IP staff with Ethiopian nationals may also be problematic, especially for management-level personnel.).	
(i) Dispute settlement	Ethiopia's legal framework for IPs provides several mechanisms to ease and accelerate dispute settlement and resolution, for example through alternative dispute resolution mechanisms, an OSS arbitration and conciliation, and the possibility of involving an IP Circuit Court Judge.	
(j) Private sector participation in IP development and operation	The IP Regulation provides IPDC with responsibilities for developing and operating industrial parks without encouraging outsourcing to private sector developers and operators.	

Note: Green refers to dimensions of Ethiopia's legal framework for industrial parks that largely are in line with international good practices. Yellow means there are some areas of improvement required to bring it into accordance with international good practices. Red refers to areas where Ethiopia's legal framework shows substantial shortcomings.

(c) Licensing

IPs provide an opportunity to streamline approvals and procedures for starting and operating a business. To achieve this, the law should (1) provide the IPs' regulator with full authority to draft its own licensing rules (or at least simplify existing processes as much as possible), (2) encourage national public agencies to be present in IPs only when special expertise is needed, and (3) simplify licensing requirements and replace them with rigorous planning of economic activities and zoning. Provisions on business registration licensing should be designed to cover the licensing of developers, operators, and enterprises (with and without incentives). It should clarify roles and responsibilities of the OSS for business registration and licensing.

Ethiopia's IP Proclamation merges incorporation and IP registration and gives the responsibility of licensing and business registration to the IP regulator in line with good practices. According to Article 12 of the IP Proclamation, "Any prospective Industrial Park Developer, Operator or Enterprise shall submit [. . .] documents to the Commission in relation to its establishment and registration" and the "Developer, Operator or Enterprise registered pursuant to sub article (1) of this Article shall acquire legal personality." Since IPs are a policy tool to attract and ease investment, merging business registration and licensing to EIC as a regulatory agency simplifies the process for prospective investors.

However, Article 13 (1) of the Industrial Park Directive risks reducing the benefit of centralized business registration and licensing. This article states that IP enterprises must potentially obtain business or professional licenses from "relevant government organs" as well as permission to operate from the EIC. The article creates a situation where three to five distinct business registrations, agreements, permissions, or licenses may be required in addition to a company's lease and documents under Article 14 and environmental clearances in order to be authorized to even invest in an IP. However, there have been recent efforts to minimize and streamline certification and competency requirements for investors.

(d) Performance requirements

It is good practice that the share of products that an IP investor chooses to export is left up to market demand and the investor's business model. Article 19 of the IP Regulation has repeated references to the potential obligation for IP enterprises to export all of their output to increase export earnings, which is a core objective of industrial development. Any export requirements potentially contravene the Subsidies and Countervailing Measures Agreement of the World Trade Organization (WTO). In addition, such requirements may discourage market-seeking investors who intend to set up operations in Ethiopia to serve the domestic market. The government may consider encouraging exports through targeted investment promotion, smart incentives for exporting firms etc., rather than making restrictive provisions in the legal framework that limit the prospect of attracting investors interested in targeting the domestic market (as these may also potentially contribute to the foreign exchange challenge by import substitution, etc.).

The Proclamation contains a problematic WTO–non-compliant investment performance requirement under the Trade-Related Investment Measures (TRIMs) Agreement. As Ethiopia negotiates for WTO membership, it is important that investment provisions comply with WTO agreements. Under the TRIMs Agreement, investors should have flexibility with respect to their chosen vendors and suppliers. However, Article 8 of the Industrial Park Proclamation creates an obligation for the IP operators to create linkages with the domestic economy. As a matter of best practice, for this reason, linkages should not be legally mandated but rather promoted in more incentivizing manners—for example, by introducing smart incentives, matchmaking efforts, and capacity building of local suppliers to meet the quality requirements of enterprises in IPs.¹⁵⁴

(e) Land, assets, and environmental protection

The IP Proclamation provides specific and effective land acquisition and construction rules and industrial and environmental safeguards. In Article 23, the IP Proclamation requires that details relating to the norms or standards for developing land for IPs, infrastructure and the construction of IP buildings and structures be specified in the regulations. Setting norms and standards helps ensure proper project design, planning, construction, land development, management, and related project supervision and quality control. Equally, Article 24 (3) of the Proclamation requires details regarding the environmental obligations of an IP be specified in the regulations.

¹⁵⁴ See, for example, the World Bank-funded Ethiopia Competitiveness and Job Creation Project (CJCP) that strengthens business to business (B2B) linkages with local suppliers by providing funding for machinery upgrades and technical assistance.

Whereas EIC is authorized to issue title deeds, multiple formalities are required for the construction of the IP. EIC has the mandate to issue title deeds for IP developers and IP enterprises, sublease developed land, or rent a factory building (as per Articles 14(2) and 19 of the IP Directive). These articles state that the EIC can issue and register title deeds and transfer documents for leasehold and sub-leasehold land—equipping it with adequate powers as the IP regulator, which is consistent with good practices. However, under Article 14 of the Directive, IP land may be subject to several formalities, including an EIC certificate, an EIC title deed, and a lease with the developer. Contrary to best practice, up to three distinct certificates, documents, and agreements—not counting environmental clearance and construction permits—may be required for the commencement of construction of the IP.

(f) Designation of IPs (see also chapter 3, Planning and Development)

The provisions on land use should be calibrated to emphasize how important land is for IPs (which are, in effect, real estate propositions). The legal framework for IPs should ensure streamlined and efficient real estate development while being socio-environmentally responsible. They need to provide full and proper coverage of the regulation of land use, planning, and development. Good practices for physical and land use planning include localized, integrated, flexible, and streamlined planning and controls; clear environmental guidelines; clear property rights and guarantees; fast-tracking the issuing of environmental permits for small development projects; and dedicated desk officers for permits. Article 37 of the IP Directive suggests that the EIB may grant an IP enterprise free land within the IP. This provision is a high-risk proposition as regards to its potential impact on the financial models and value proposition of private IP developers. This should be amended to indicate that it only applies to IPDC-developed and IPDC-operated parks.

Best practice suggests that IP project approvals should require rigorous prior analysis. In the absence of such a regulatory function, there is a significant risk of technically and financially unviable IPs being approved for political reasons. Article 5(8) does not require developers to submit either financial modelling, market demand, or transport economics and logistics studies for IPs approval, creating the risk of unsustainable IPs being approved.

IP regulation should include clear criteria for designating IPs through rigorous and transparent applications and approval processes. Clear IP designation processes will ensure optimally suitable locations. It should also include provisions for extensions and revocation of IP designation. Article 3 of the IP Directive establishes a relatively efficient and transparent IP-designation application process consistent with best practice. This is despite gaps at the statutory and regulatory levels, which continue to create a degree of risk around some of the fundamentals for site approval.

(g) Fiscal incentives, tax, and customs procedures

The IPs regulator should work closely with national customs to administer customs procedures in the IP. The IPs regulator should seek to ensure that these customs procedures are administered efficiently, using streamlined submission and approval of documents and fast-track clearance at the IP, rather than at the point of entry. Best practices for SEZ-style IP customs regimes require that all nonprohibited imports enter on a duty-free basis and suspend value added taxes (VAT). They also grant freedom of enterprises to sell internally and defined duty-free consumption. Moreover, good practices in customs also include the adoption and application of streamlined World Customs Organization Kyoto Convention-compliant customs procedures such as risk-based inspections, coordinated interagency inspections, single and simplified and anticipatory declarations, on-site clearance, customs clearance credit lines, and fast-track (green channel) clearances for certain items.

In general, Article 19 of the IP Regulation institutes a favorable customs regime for Ethiopia's IPs, including declaring parks as customs-controlled areas (partially or fully) with simplified customs procedures and exemptions. Articles 32 to 34 of the IP Directives require that an IPs' customs system, with simplified and automated procedures, be designed by the Ethiopia Revenue and Customs Authority and provide for post-entry, risk-based inventory checks in line with good practices.

However, operational inefficiencies in customs services within the OSS may in practice cause delays in customs clearances with serious consequences for time sensitive industries such as textiles and garments. For instance, investors interviewed reported challenges in the administration of the new online customs system. Industrial Park tenants in Bole Lemi I reported that the online customs system has frequent outages, leading to delays in processing exports. Interviewees also noted that the customs office's work schedule (Sunday being a day off) is not aligned with Djibouti's work week, resulting in border closures and missing outbound

vessel departure times. Missing contracted delivery times can mean manufacturers facing financial penalties from international buyers or even the costly need to air freight shipments.

Fiscal incentives should be considered a marginal IP policy aimed at not losing investment to neighboring IP competitors, with otherwise comparable characteristics. The fact that both successful and failed IPs offer similar packages of tax incentives suggests that fiscal incentives are not the key success factor for an IP program. Studies have found mixed evidence of the effectiveness of fiscal incentives like tax exemptions for IPs, and they are likely to be less important than other pull factors for investors (such as availability of labor, proximity to markets, presence of upstream suppliers, and political stability).¹⁵⁵ Most importantly, income tax and VAT should be administered efficiently through streamlined submission and approval of documents, clear rules for calculating assessable income, efficient refund processes, and limited post-assessment audits. Tax administration good practices include predictability, application of International Accounting Standards Committee norms; a maximum of three to four taxes; automatic incentives; unified tax and social security filings, inspection, and collection; rates competitive within the region and country; elimination of indirect taxes; low, flat tax on intra-park and offshore income; and regular taxation of income from transactions inside the national customs territory.

An amendment to Regulation No. 312/2014 on investment incentives and investment areas reserved for domestic investors, grants corporate income tax exemptions to IP investors based on the location of the IP. Investors get between 6 and 8 years of corporate income tax exemption and between 8 to 12 years if they export over 80 percent of their output.¹⁵⁶ This latter incentive may be a subsidy that is in violation of WTO's Subsidies and Countervailing Measures Agreement as tax incentives are tied to minimum export quotas, making them illegal export subsidies.

IP investors interviewed viewed the IP regime's tax and duty-free benefits as conducive to business. Ethiopian industrial parks' tax benefits were viewed as more generous than those of many other SEZ options in other countries. Similarly, investors noted that the five-year tax relief for expatriates is a measure that its members welcome. From a tax administration standpoint, it is further noteworthy that customs is now run online and connected to Djibouti customs.

However, IPs investors claim that tax breaks are inadequate to compensate for challenges related to infrastructure, completion of superstructures, and political unrest, which confirms international experience that fiscal incentives are not investors' key consideration. Investors interviewed pointed to operational challenges that eroded the value of the tax incentives. For instance, investors at Hawassa IP noted that they had to spend as much as three years dealing with challenges related to infrastructure and superstructures completion, unrest in Oromia and Sidama regions, sourcing and training workers, and disruptions brought by the COVID-19 pandemic. This highlights that for IPDC and EIC, the key lever is the provision of infrastructure and effective services in the IPs rather than the level of fiscal incentives.

The Bole Lemi IP Investors Association noted that certain new national bank regulations are problematic in terms of charges and rates. For example, the National Bank of Ethiopia Directive No. FXD/79/2022 for the Amendment of Retention and Utilization of Export Earnings and Inward Remittances (Jan 6, 2022) states that exporters of goods can retain only 20 percent of foreign exchange in the foreign currency (for future imports of goods and services) after they surrender 70 percent of total earnings. Given the challenges of obtaining foreign currency in Ethiopia, many considered a more liberal foreign exchange regime for IP investors to be a critical factor when making investments in the country. Current foreign exchange rules reinforce incentives for investors to establish businesses on a cut-and-make basis, where inputs and foreign exchange transactions are handled offshore, ultimately reducing the value added and foreign exchange benefits to Ethiopia (see chapter 1). This issue is further exacerbated by repeated and unpredictable change in foreign exchange regulations that also lack consultations with investors and key investor-facing institutions.

(h) Labor management (see also chapter 5, Labor Practices and Social Inclusion)

As IPs in developing countries commonly build on the availability of cheap labor, policy makers need to strike a balance between protecting workers but stay flexible enough to attract investors. Labor laws may become inflexible if they pose undue limits on working hours, shifts, time off, and vacations. If not designed carefully, such measures may raise costs to employers

¹⁵⁵ For a discussion on studies on the effectiveness of fiscal incentives, see World Bank 2017.

¹⁵⁶ IPs enterprises in and around Addis Ababa get six years of tax exemption, whereas they receive eight years elsewhere and up to two to four additional years if they export at least 80 percent.

and discourage them from hiring, and importantly, may also not protect workers—for example those in the informal sector or if enforcement is insufficient. At the same time, unregulated labor markets can give rise to poor working conditions (such as so-called “sweatshops”) due to restrictions on unionization, not ruling out child labor, and not enforcing a safe working environment. Most internationally competitive IP regimes therefore have dedicated frameworks for labor regulation. Among other policies, the International Labour Organization (ILO) promotes collective bargaining as a fundamental right and puts emphasis on negotiations between workers and organizations to create sound labor relations that strike a balance between workers’ and businesses’ interests.

IP regulations that are compliant with ILO requirements include (1) flexible employment and compensation measures—for instance, part-time, temporary, casual, on-call, fixed price; (2) apprentice, seasonal, and outsourced employment arrangements); (3) flexible dismissal measures without “prior administrative authorization;” (4) a credible and simple system for resolving employment disputes; (5) a transparent foreign worker regime; (6) a unified system that provides options for a multiple-entry visa, work permits, residency, identification cards, and/or a social security card system for foreign workers; and 7) visa-free temporary entry for business guests.

In line with good practices, the IP Regulation provides for labor rules and procedures that enable ILO-consistent policies with a focus on negotiations in labor relations. Article 28(1) provides that “Labor contracts may be negotiated between the employer and employee taking into account the Industrial Park’s exceptional nature.” Under Article 28(3), “The Ministry of Labor and Social Affairs shall establish the rules and procedures on labor issues [. . .] on the basis of a tripartite modality, the details of which shall be specified in the Regulations.” The IPs should adopt and demonstrate good practice in labor management that would hopefully encourage all other manufacturers in the country (inside and outside the parks) to adopt international good practices.

Ethiopian regulations deviate from international good practices by requiring “nationalization” of IP firms’ staff while the focus on workforce training is positive. Several articles in the IP Proclamation require the developer, operator, and all enterprises to “replace expatriate personnel or professional by Ethiopian nationals by transferring required knowledge and skills through specialized trainings.” Such nationalization requirements for multinational enterprises’ staff may be unsuitable, at least for management-level personnel. On the other hand, Articles 18 and 35 of the IP Regulation encourage efforts toward on-site workforce training programs and require the establishment of tripartite labor committees in each IP. Such provisions may encourage IP workforce training and mechanisms for the facilitation of harmonious labor relations in each IP in line with good practices.

(i) Dispute settlement

In countries where formal dispute settlement processes may be slow, uncertain, or expensive, IP enterprises may require a more efficient and equitable mechanism to resolve legal disputes. Therefore, many IPs provide an internal dispute settlement procedure that can be used before reaching out to the IP regulator and its board of directors. Such decisions are typically nonbinding with either party free to refer the dispute to international arbitration or the local judiciary. Fast administrative appeal and mediation systems are additional measures that reassure investors and are often adopted by IP regimes. Countries such as the United Arab Emirates, Panama, and Bangladesh set up dedicated courts and labor tribunals for IPs.

Articles 21–32 of the IP Regulation provide a comprehensive and efficient administrative and commercial dispute resolution aligned with good practices. Among other elements, the articles provide for alternative dispute resolution, progressive EIC sanctions, an efficient EIC administrative complaint and review mechanism, and an efficient OSS conciliation and arbitration of disputes between private IP parties as well as the possibility of involving a dedicated IPs Circuit Court Judge.

(j) Private sector participation in IP development and operation

IP laws should encourage private sector participation in development and operation and enable government entities to delegate certain functions in the interest of greater regulatory efficiency. Under Article 5(1), IPDC develops and administers IPs with no limitations imposed on the scope of this function. This situation is contrary to international good practices under which the government would (a) ideally not develop IPs itself; (b) at least not operate IPs; and/or (c) at least be required to limit its involvement to assisting the private sector, for example, by catalyzing or co-financing the development of IPs by mitigating financial risks of private developers that hinder private sector involvement. Under Article 5(4), IPDC may outsource IPs management. While it is positive that the law mentions this possibility, it would be more aligned with international good practice if IPDC leverages private sector expertise and resources by outsourcing more of the park management (see chapter 4, Operation and Management).

4. Assessment of IP Governance in Ethiopia

This section focuses on the mandates and roles of the regulator and development corporation/developer. Governance related to planning and development as well as operation and management are covered in chapters 3 and 4 respectively.

Intrinsically linked to the legal framework is the governance model of IPs, including the institutional framework and definition of regulatory authority. Industrial parks pursue diverse policy goals, for example, to attract investments, stimulate exports and knowledge transfer, and contribute to industrial upgrading and diversification and job creation. The parks, therefore, have to involve multiple public, private, and public-private institutions. A well-balanced and clearly defined governance framework is critical for the success of IP programs. This section first presents an overview of the types of institutional frameworks for IPs and highlights essential elements for their effectiveness. Against this background and based on stakeholder interviews, it then assesses the design of Ethiopia's governance with regards to IPs—in particular, regarding its key institutions EIC, EIB, federal-level IPDC, and regional IPDCs.

Ethiopia's IP governance has evolved as the core institutions mature. However, there are overlaps and duplication in IP operational functions that impact the efficiency of the IPs. The EIB, EIC and IPDC are the key institutions governing federal-level IP governance. Article 30 of the Investment Proclamation gives the EIB power to regulate the designation, operation, and supervision of IPs. At the same time, under Article 38(1) of the Investment Proclamation, the EIC has the mandate to administer and regulate IPs. The IPDC Establishment Regulations 326/2014 created the IPDC as a state-owned corporation in 2014 with the mandate to develop and administer IPs, lease developed land, and prepare master plans for IPs, among others. These institutions are relatively young, with the EIC and EIB established in 2012. As such, they are still redefining their mandates on IPs through amendments to the Investment Proclamation and IP Regulations.

4.1. Institutional framework and regulatory authority for IPs

Well-defined institutional roles and administrative arrangements for IP regulation and development spur the success of an IP program. As indicated in figure 2.1, an IP's institutional framework includes three key roles: 1) regulator, 2) developers, and 3) operators and service providers. In some countries, a development corporation may serve as a fourth role, taking up mixed functions between a regulator and developer. These four roles may be divided or shared among one or more institutions in the public or private sector (see also box 2.2). It has proved to be beneficial that regulatory responsibilities are separated from IP development and operations given the distinct nature of these tasks and to avoid conflicts of interest (for example, developers may create IPs for a profit and therefore should not decide or enforce regulations). Moreover, private sector or public-private partnership (PPP) development and operation is now the norm worldwide because it leads to greater success and lower costs than public development and operation.

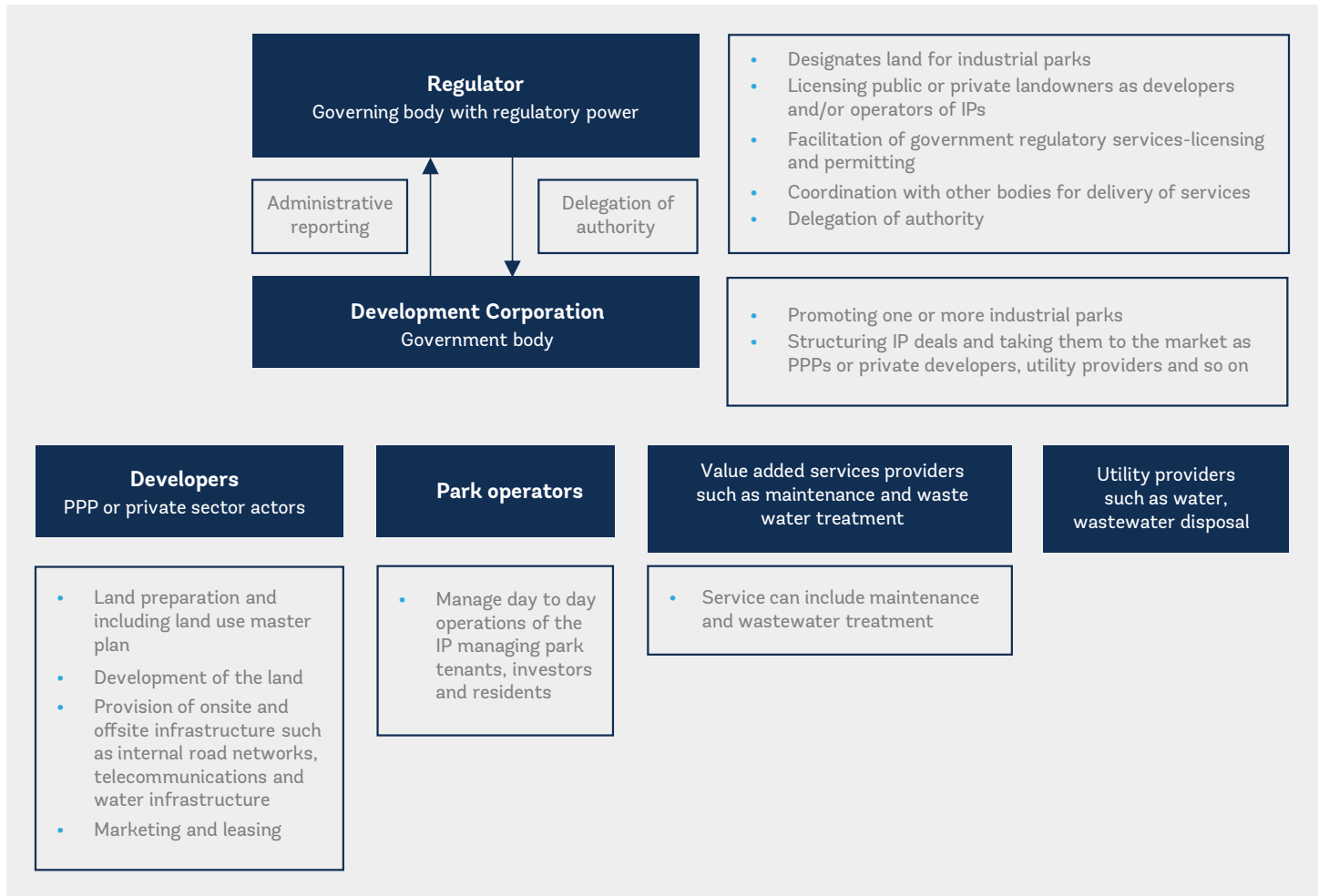
4.1.1. Industrial Park regulator

Contrary to international good practice, Ethiopia chose to make its investment promotion agency, EIC, the regulatory agency for IPs. International experience shows that the most effective IP regulators are dedicated authorities rather than the national investment promotion agencies. This is due to their different institutional logics of regulatory oversight and investment promotion. Examples of dedicated IP regulators include Subic Bay Freeport in the Philippines, Aqaba SEZ in Jordan, and Panama Pacifico SEZ in Panama. Other examples include Saudi Arabia, Dubai and Ras-Al-Khaima in the United Arab Emirates, Oman, the Russian Federation, Thailand, Bangladesh, Lao People's Democratic Republic, Peru, Rwanda, and Kenya.¹⁵⁷ See box 2.3 for country examples on IP governance.

International practice shows that the regulator needs to have autonomy from the usual civil service, procurement and budgetary rules controlling government ministries and agencies. As an independent legal entity, the regulator should be able to appoint and dismiss staff, set staff salaries and performance measures, adjust its corporate structure, manage its budget and finances, and procure goods and services independent of restrictive civil service regulations. If structured properly, these characteristics

157 Farole 2011.

FIGURE 2.1. General Governance Framework for IPs



Source: Adapted from Farole et al. 2013, UNIDO 2019, and Mangal 2019.
Note: IP = industrial park; PPP = public-private partnership.

should enable and encourage financial independence to do what is required and gain exemption from civil service compensation and government procurement requirements, resulting in operating efficiency. Moreover, independent IP regulators have a greater ability to simplify and streamline investor compliance requirements within IPs.

The IP regulator should have authority over other government agencies for the administration of the IPs—EIC’s mandate, and accountability to the prime minister is beneficial in this regard. There should be clearly delineated responsibilities between the IP regulator and other government agencies (that is, customs, revenue, labor, immigration, urban planning, and environment). The regulator should also have the mandate to require coordination and scheduling of inspections or other government regulatory functions through the regulator or under its supervision. Ethiopia’s Investment Proclamation gives EIC a mandate to coordinate with other agencies for the provision of services in IPs. To enhance its authority and effectiveness in its interagency relations, the regulator should have a senior line of reporting and accountability, ideally to the head of government. The EIC benefits from such authority as it is accountable to the prime minister.

A sound structure for an IP regulator involves a board of directors, to whom a general manager reports and under whom there are various departments or specialized bureaus for the governance of the IP program and of the regulator itself. The board of directors typically comprises four to six members, including senior government officials and influential private sector representatives. The chairperson of the board should ideally report to the head of government. The board of directors should be a regulatory and supervisory board with part-time members of high political rank that guarantee board independence from narrow interests and credibility vis-à-vis international investors. The regulator’s general manager should sit on the board of directors without voting

BOX 2.2:

Organizational Setup of IP Regulators

The organizational setup of the IP regulator can follow two main forms, as an autonomous entity or interagency committee:

If formed as an interagency committee, an IP regulator would integrate key stakeholders at local, regional, and national levels and comprise representatives from various government entities. Such an interagency committee can be chaired by a secretary general appointed by the head of government. Members of the committee could include ministers responsible for commerce, labor, urban planning, finance, interior, and environment to ensure that there is cooperation in their areas of competence. The head of the apex chamber of commerce could represent private sector interests in the committee. This model helps minimize potential bureaucratic delays in IP oversight. The model relies heavily on a complex network of bilateral and sometimes multilateral memoranda of understanding (MoUs) signed between various entities. The strength of the MoU allocating responsibilities under an interagency framework is critical. In the absence of a regulator's autonomy, the MoU would govern most, if not all, of the regulatory roles performed in the IPs. The decentralized agency model can take different directions depending on how the various entities are managed. For instance, agencies can be constituted under “bureaus” representing relevant ministries or public agencies to carry out specific functions such as tax and customs, or labor bureau.

If the IP regulator is established as an autonomous entity, the regulator either exercises regulatory functions and services that other entities normally perform themselves or oversees them based on interagency MoUs. The IP regulator needs to be equipped with a strong mandate while also being inclusive and capable of coordinating between different stakeholders.^a In order to effectively create the IPs' regulatory framework as well as oversee and assure the quality of its implementation, the regulator needs to have high-level political support so that it has sufficient authority when interacting with line ministries. This can be done by having the regulator report to heads of government such as the prime minister. Some functions—customs, immigration, and security, for example—are typically still performed by the competent ministries rather than the IP regulator directly. In such areas, MoUs between the responsible ministries and the IP regulator support coordination. Making the IP regulator an autonomous entity minimizes bureaucratic delays and political interference, allowing it to efficiently regulate, outsource, and monitor regulatory matters.

a. Farole 2011, 182.

rights. The general manager should be a full-time executive in charge of day-to-day operations and lead a team of managers and experts. Ethiopia has generally adopted this structure with the EIB, which is chaired by the prime minister and includes representatives from government departments responsible for finance, trade, industry, agriculture, and revenue.

The best IP oversight bodies are characterized by business-like management structures and systems, including the private sector being represented on their boards of directors. Some institutional frameworks—such as government corporations or autonomous bodies—inherently have more flexibility in setting up such systems. The Subic Bay Metropolitan Authority and Labuan offshore Financial Services Authority, for instance, both maintain relatively business-like organizational structures that include private sector participation on their boards. Moreover, many park authorities organize themselves as corporate entities to escape civil service limitations. Examples include the Industrial Estate Authority of Thailand (IEAT) and Costa Rica's Investment Promotion Agency (CINDE). In Ethiopia's case, the Investment Proclamation includes representatives of the private sector as nonvoting members of the EIB, even though participation has not started.

Most successful IP regulators also tend to operate OSS offices in each IP to provide tenants with a single point of contact for interfacing with the government (see also chapter 4, Operation and Management). The OSS should be created through legislation granting it the necessary authority to assist IP clients in meeting all regulatory requirements and coordinate all relevant government entities to this end. The OSS should ideally be managed entirely by the IP regulator to centralize decision making and

BOX 2.3:

Country Examples of IP Governance Models

In **China's Shenzhen Special Economic Zone (SEZ)**, the SEZ is wholly controlled by the government. The Shenzhen Municipal Government governs, develops, and operates all government-owned IPs in the city. IPs are thus subject to the legal and regulatory framework set by Shenzhen Municipal Government. There are, however, fewer administrative requirements and a wider set of incentives for the Free Trade Zone (loosened foreign exchange restrictions, for example) than for some of the other industry parks in the city. While there are various bureaus within government such as the Greater Industrial Estate Administration Bureau and the High-Tech Industrial Park Administration Bureau, each with specific functional responsibilities, the municipal government sets IP rules and regulations and provides all required administrative services to IPs within its jurisdiction, all under one roof.

The **Turkish Free Trade Zones (FTZs)** come under the overall jurisdiction General Directorate for Free Trade Zones (GDFTZ), an entity itself under the jurisdiction of the Undersecretariat of Foreign Trade of the Prime Minister, responsible for setting rules and regulations for Turkish FTZs. It has various regional directorates that issue all FTZ permits and licenses and regulate and supervise all IP activities in their region. The individual IP developer/operators oversee the building of infrastructure and run their respective IPs. They can be based on public, private sector, or public-private sector land ownership models. Finally, another key entity located in the Turkish IPs is the Turkish Undersecretariat of Customs, which has instituted simplified and efficient procedures (for example, one-day clearance for exported manufactured goods) within the country's FTZs.

The **Gateway City Industrial Park in Thailand** is under joint public-private control. The Industrial Estate Authority of Thailand (IEAT), a government entity, set the IP's rules and regulations and provides one-stop shop (OSS) administrative services. The developer/operator is, however, a private sector entity that owns the park's land, has developed its infrastructure, and operates the park. Other key entities located in the IP that have simplified and made procedures more efficient are the Bureau of Revenues and the Bureau of Customs.

The **South African SEZ** governance model consists of the Department of Trade and Industry (DTI) as the central government SEZ regulator and five provincial-level SEZ development corporations in some of the country's various provinces. These Zone Development Corporations, which are regulated and licensed by the DTI, have the following characteristics: a "proprietary limited" (pty) company with a state-owned corporate structure; public sector shareholding for landholdings (often expropriated municipal land by the Department of Public Works); the ability to represent the national, provincial, and local governments; profit orientation; responsibility for establishing developmental parameters; coordination of off-site infrastructure development; promotion of the IP projects; and responsibility for specific on-site infrastructure.

Sources: Adapted from Farole 2011, Zeng 2012, and UNCTAD.

enable rapid processing of investor applications, timely aftercare and compliance, and reporting and monitoring. The regulator that is responsible for the OSS should sign MoUs with other government entities to most effectively facilitate access to services, collaboration, and information sharing. The OSS service delivery should offer a broad range of interface channels to service customers according to their individual preferences, including web-based services, interactive voice recording telephone services, telephone hotlines, and email and mobile applications including options for document submission and communication. Both the Investment Proclamation (Article 38) and the IP Proclamation (Article 27) give EIC the mandate to provide and coordinate OSS. The latter states that EIC shall provide OSS services within the IPs "so as to bring into line other competent organs and coordinate their day-to-day functions."

IP tenants interviewed for this report stressed the need for a more effective and stronger role of EIC in OSS services at the park level. In particular, stakeholders noted that EIC has not been very effective in coordinating other institutions to provide

streamlined OSS services. Weak institutional capacity at different institutions (such as labor and environment) coupled with a lack of effective coordination and the weak power of EIC to enforce these mandates have contributed to the deficit in the provision of OSS. According to interviewees, there seems to be a feeling that EIC is becoming less effective in the provision of OSS, having once been able to handle or effectively mediate at least 50 percent of investor problems instead of their current rate of closer to 15 percent.¹⁵⁸

A lack of clarity on mandates and reporting lines between the EIC, IPDC, and the Ministry of Industry (Mol) have further exacerbated the problem. One of the key contributing challenges has been the fact that both EIC and IPDC were involved at the same time in the development and operationalization of public IPs. While this was done, during the early stages of the IP program, to leverage expertise, pool resources, and make coordinated decisions, it has blurred the line for who does what with clear accountability. EIC has been heavily involved in the development and operationalization of the IPs, rather than in its regulatory role. In addition, lack of clarity on investment promotion mandates and division of responsibilities related to industrial parks have at times contributed to misalignment of investment targeting and mobilization. In addition, investors complain of lack of effective coordination between federal and regional agencies in service provision as well as lack of high-level ownership and coordinated leadership and regulatory changes on the industrial park program, especially in the last couple of years.

It is an international good practice that IP regulators delegate nonregulatory and quasi-regulatory functions to the private sector. Examples of functions widely left to the private sector include construction, banking, transportation services, marketing and promotion, security and policing, professional services, and social and cultural services. In some IPs, and even at a national level in some countries, certain core functions—such as environmental and health services, business registry operation, labor inspections, issuing visas, trade facilitation, utilities, and investment facilitation—are also being outsourced to private service providers. This has led to more efficient and cost-effective delivery of services and increased investor satisfaction.

4.1.2. Industrial Park developers

Like Ethiopia's IPDC, IP developers play a critical role in the success of an IPs program. These are often created to (1) serve as an IPs land bank, (2) kick-start development with public funds when IPs projects are not bankable for the private sector, (3) ensure collaboration with the concerned bodies so that necessary connective infrastructure is in place for IPs, and (4) promote IPs and attract investors to them. Under such circumstances, the IP developer may well be the predominant services provider in IPs and the efficient assignment and management of responsibilities to various departments can be a great asset to investors.

An IP developer should ideally be a private sector firm or follow a PPP model. The entity could either own the IP in its own name, co-own it with the government, or receive a concession from the government to develop and operate it. The entity will then finance, design, plan, and manage the development of the park's infrastructure and facilities. The entity typically subcontracts for construction and other tasks (waste removal and treatment, maintenance, security, as examples). It also oversees day-to-day service provision within the park and markets and leases or subleases its land and/or buildings.

Overall, IPDC's capacity to build and operate IPs in Ethiopia is improving; however, there are several operational challenges that impact the efficiency of the IPs' framework. Ethiopia's IPDC has a vision statement, goals, and a program performance management framework. Furthermore, the nucleus of employee performance management and customer relations management (CRM) are in place. IPDC is also migrating to an Enterprise Resource Planning solution to automate the business transaction recording and reporting system. In addition, the organizational website and e-mail platform have recently been upgraded at the IPDC. Finally, IPDC has built technical expertise across many areas of IP development and operation over the years and investors interface with key account managers in an OSS-investor services context. More details are provided on some of the key challenges under chapter 3, Planning and Development, and chapter 4, Operation and Management.

¹⁵⁸ Based on interviews with members of IP associations.

5. Conclusion

Overall, Ethiopia’s legal and governance framework covers the key aspects for an IP program and establishes the required institutions. The legal framework follows a layered approach of different legislative acts, gives IP laws legal primacy over other legislation, has a broad scope of technical and legal application, and defines the roles and responsibilities of key institutions like EIB, EIC, and IPDC. The framework creates a special regulatory business environment for IPs and protects investors from some of the constraints in the national investment environment. The establishment of an OSS in each IP eases administrative procedures for investors.

However, the legal framework could go further in some areas and reduce existing constraints, like export requirement, sectoral limitations of IPs, and investor protections. Comparing Ethiopian laws with international good practices reveals that the country’s legal framework could, for example, expand investor guarantees and protections, strengthen the effectiveness of commercial dispute resolution mechanisms, further reduce bureaucracy (such as in terms of approval, occupancy, tax and customs procedures) and other investment-hindering provisions (for example, WTO TRIMs noncompliance). Moreover, the legal framework could widen the focus on other types of productive economic activity in IPs beyond industry and reduce current limitations concerning 80–100 percent export requirements. In addition, the legal framework can be further strengthened in terms of incentivizing sustainable practices and investments.

Importantly, there are overlaps and duplications in IP regulatory and operational functions and more recently lack of high-level leadership and coordination that impact the efficiency of the IPs. EIB, EIC, and the IPDC are the key institutions in federal-level IP governance. However, there are overlapping responsibilities concerning regulatory functions as well as the designation, operation, and supervision of IPs. Some of the lack of clarity relates to mandates around investment promotion and facilitation and de jure practice of managing IP development and operation by both IPDC and EIC. Park investors report of a lack of high-level leadership and strategic oversight of the IP program to address coordination issues among institutions including federal and regional agencies as impacting investor service delivery and an unpredictability in regulatory changes, for instance, around access to foreign exchange. In addition to better coordination and high-level leadership, there is also a need to put in place clear responsibilities, performance measures, and accountabilities for each institution.

There are crucial shortcomings concerning a lack of procedural requirements for the designation of IPs and provisions to encourage involvement of private sector developers and operators. As per current provisions, developers are not required to submit financial modelling, market demand, nor transport economics and logistics studies for IPs approval, creating the risk of unsustainable IPs being approved. This is a critical aspect of setting up successful and commercially viable IPs, and Ethiopia may consider requiring such procedures by adding them to existing laws. Moreover, while the IP Regulation provides IPDC with responsibilities for developing and operating IPs, it does not encourage outsourcing operation and management to private sector developers and operators.

In addition to these high-level points, there is a range of specific gaps and challenges concerning EIC and IPDC that the government of Ethiopia may consider addressing. These are addressed in table 2.2.¹⁵⁹

Lastly, while this report focuses on the federally led industrial parks program and does not cover the Integrated Agro Industrial Parks (IAIPs), there are missed opportunities in terms of leveraging institutional capabilities and coordination. The parallel legal and institutional arrangements for the IPs and the IAIPs have created a missed opportunity to streamline and integrate the legal and institutional framework that would have benefited the government better in terms of cross learnings and leveraging expertise across institutions. Conversely, the government could have done better in actively involving and collaborating with regional governments in the planning, development, and operationalization of the federally owned IPs to get strong ownership and support on the IP program, and to create better linkages with the local community.

¹⁵⁹ These points were identified through stakeholder interviews, internal IPDC reports, and World Bank project reports.

TABLE 2.2. Gaps and Challenges: Opportunities to Affect Change

Area of reform	Actions needed
Strategic objectives and framework	<ul style="list-style-type: none"> Given the multiple shocks the Ethiopian economy is facing, it is imperative for the government to put in place a high-level oversight and coordination mechanism for the IP program to ensure Ethiopia does not lose the gains of the past few years and that the IPs overcome the current challenges to continue toward a positive trajectory. For effective implementation of the IP program and to formulate strategies to maximize value from the existing investments, IPDC needs to have an approved corporate strategy and EIC should have an IP-specific strategy to implement its IP regulator responsibilities. The “big picture” IPDC vision and goals are not widely known among staff, who rather tend to focus on the day-to-day operational details of their directorates.
Operations and institutional design	<ul style="list-style-type: none"> There are few standard operating procedures manuals developed or in use in the IPDC’s and EIC’s various IP functional areas of intervention and few MoUs with other outside public institutions that set procedural standards, service delivery standards and timelines, provide clear responsibility and accountability, and so on.
Human resources	<ul style="list-style-type: none"> IPDC and EIC are understaffed relative to their functions and goals, resulting in a high workload. There seems to be insufficient delegation of decision-making or empowerment of line-level IPDC officers. Lack of clear descriptions of job functions within IPDC. Investment in human resource development is inadequate at the IPDC, EIC, and RIPDCs alike. IPDC should also adopt a business-driven organization and hire relevant professional staff to ensure its business sustainability.
One-stop shop	<ul style="list-style-type: none"> There is lack of services such as on-site notarial, legal, or accounting services to investors by EIC’s OSS and IPDC’s investor services.
Developer agreement management	<ul style="list-style-type: none"> IPDC does not have a strong multidisciplinary contracts management team for outsourced IP design, construction, and operational servicing functions.
IT and management information systems	<ul style="list-style-type: none"> There are no IT units in the IPs, and fully CRM systems are not in use.

Source: World Bank staff assessment.

Note: CRM = customer relations management; EIC = Ethiopia Investment Commission; IP = industrial park; IPDC = Industrial Parks Development Corporation; IT = information technology; MoU = memorandum of understanding; OSS = one-stop shop; RIPDC = Regional Industrial Parks Development Corporation.



3 Planning and Development

1. Introduction

Whereas there are multiple legal and governance frameworks that are possible for industrial parks (IPs), all IPs depend on rigorous planning and development. As chapter 2 has shown, there is a range of options to delineate legal mandates and assign responsibilities for IP regulation, development, and operation. This brief chapter singles out key considerations regarding planning and development of IPs and assesses the performance of Ethiopia's publicly developed and owned parks in this regard.

Except in few cases, Ethiopia's IP program overall lacked robust demand analyses and feasibility studies as well as sequencing of development based on occupancy. Whereas Hawassa IP was initiated and developed based on tangible interest by an anchor investor, multiple other IPs were initiated in parallel without a definite investment pipeline or a robust demand analysis and some were influenced more by political interests than economic rationale. Full-fledged, comprehensive demand analysis and feasibility studies were done only for Bole Lemi II and Kilinto IPs. A phased approach that is informed by concrete investor demand would have helped target financial resources and public sector capacity and ensured that infrastructure and construction projects were best suited for its future users. Moreover, the government's ambition to develop multiple IPs in parallel, partly for political reasons, cost the government by stretching limited financial and human resources and causing suboptimal investor uptake and capacity utilization, which compromised the sectoral focus of the IPs during or after development and affected the financial viability of the IPs. Incomplete feasibility assessment also contributed to infrastructure and utilities challenges, such as availability of water in Adama and Dire Dawa IPs and missed the opportunity to identify sustainable infrastructure investments ahead of time (such as water harvesting facilities, renewable energy alternatives, and so on. See chapter 6, Environmental Sustainability). As outlined earlier in this report, this shortcoming has also overall damaged the belief in the IP program's ability to deliver the promised jobs, exports, and structural transformation, which led to discontent, especially where land acquisitions were not done in a consultative and inclusive manner and where investment uptake has been very low.

2. Good Practices for Planning and Developing Industrial Parks

The growing global competition between IPs for investors has made it much more important to systematically plan and develop IPs based on investor demand. A “build it and they will come” approach to IP development is an increasingly risky and unsuccessful way to set up attractive and impactful IPs—especially as investors have a range of options for locations across

FIGURE 3.1. Key Steps in Strategic Planning of IPs

- 1 **Analysis of trade data and trends:** Analyzing global and regional trade patterns and investment flows helps determining investment levels that could potentially be expected and emerging trends. Such an analysis supports the strategic positioning and marketing approach for the IP program.
- 2 **Assessment of sources of comparative advantage:** Based on the current industries and economic complexity of produced goods, the assessment should determine feasible pathways based on comparative advantages (for example, labor costs, natural resources, location, market access preferences, and synergies with adjacent industries).
- 3 **Input from investors:** Whereas the research and analysis in steps one and two are important, it is as important to gather insights from existing and potential investors on selection of investment locations and the criteria driving it. This also helps identify IPs in other locations that compete with the planned IPs.
- 4 **Benchmarking:** Lastly, the IP program should be compared to other IPs along dimensions like proximity—for example, to markets, labor costs, presence of supply chains, infrastructure conditions, and political stability and reputation.

Source: Farole 2011.

the world.¹⁶⁰ It is therefore crucial to follow a structured and sequential approach that gathers and analyzes relevant information prior to designating IPs and not let political considerations outweigh a thoroughly prepared business case (see figure 3.1). Moreover, closely aligning infrastructure development with investor requirements ensures that public budgets are used cost effectively and are able to generate the best environment for investors to succeed.

3. Assessment of IP Planning and Development in Ethiopia

This assessment identifies shortcomings in Ethiopia particularly related to an (1) integrated development approach to IPs, (2) demand assessments, (3) feasibility studies, (4) long-term strategy, and (5) infrastructure development processes.

3.1. Integrated development approach

To maximize the benefits of the IPs to the local economy and create agglomeration of economies, the development of IPs should be integrated within the development plan for the cities and areas where they will be located. While some of the IPs were already included in the urban development plan of the cities, in most cases, the IPs were developed before the master plan and the urban development plans of the area were updated.

The absence of integrated planning and development has resulted in overstressing basic services, including water and power, the lack of basic infrastructure to serve the IP investors and workers such as transport and housing, and a shortage of labor supply. This has resulted in retrofitting many services and infrastructure to accommodate the IPs. Some local officials and residents have voiced concerns about a top-down decision-making approach without sufficient consultations, which led to pressure on local administrations to deal with multiple challenges to respond to the needs of the community. As a result, at least initially, some IPs were seen as a burden to local administrations and created enclaves that did not benefit the local community and economy. As stated in the earlier chapter, a more proactive involvement and constructive collaboration with regional governments would have helped address some of these issues early on. Advance integrated planning could also help with coordinated infrastructure development and shared investments in instances where IPs are developed in close proximity to either the IAIPs, railway, roads, or other major public infrastructure.

160 Farole 2011.

3.2. Demand assessments

Better sequencing of development with investment would also help in developing the IPs in line with sector-specific needs that avoid inefficiencies, such as changing infrastructure design and technology during or after development. Under Article 4 of the IP Directive, current IP designation criteria do not include the need to prove an investor market, business activity, investment interest or demand, reasonable distances from labor and distribution markets, or supply chains. The Directive does not require proof of favorable transport economics, financial feasibility, or socioeconomically positive project returns. Such gaps in IP designation criteria are prone to lead to technically and financially unviable and non- impactful IPs being designated and subsequently failing. A better assessment of demand and investor requirements could also inform better design of the IPs and the factory sheds, rather than adopting a one-size-fits-all approach that could create added costs to the government to retrofit factory sheds to meet investors requirements, as in the case of Hawassa IP in the early days of its development.

The example of Mekelle and Kilinto IPs illustrate the downsides of misaligning investor demand and the orientation of IPs. Mekelle IP is targeting garment and textile industries in a region which, in general, has water supply shortages. However, the garment and textile industries—especially those that include washing and dying—would have difficulty in setting up a productive operation given these water shortages. On the other hand, Kilinto IP was designed based on a feasibility study that identified the agro-processing and electronics sectors as the most viable sectors for the location of the IP. However, the government decided to change its sectoral focus to the pharmaceutical sector after the detailed design for the IP had already been completed and construction started. One significant impact of this change is that the zero liquid discharge (ZLD) wastewater treatment plant—an expensive technology to operate and maintain—is not necessarily critical for pharmaceutical industries as most do not use recycled water, the main rationale behind using the ZLD technology. There was also a need to do zoning of the IP once construction was completed to accommodate the specific sanitary and ecosystem requirements of different pharmaceutical industries. While the government had developed a pharmaceutical investment strategy, a robust demand and feasibility analysis for the pharmaceuticals sector was not conducted, which may have contributed to the current low level of investment in the IP.

3.3. Feasibility studies

International good practice suggests that the development of IPs should be based on a robust feasibility study that entails location-specific assessments, demand analyses, environmental and social risk assessments, and market studies.¹⁶¹ However, the development of IPs in Ethiopia, except in few cases, was done without conducting comprehensive feasibility studies that could have provided better information on sector targeting, resource optimization, investor attraction strategies, financial viability, opportunities for sustainable/ green infrastructure development, and environmental and social mitigation measures. In addition, there is no financial model developed and adopted for the IPs that assesses financial returns and timelines, compromising decisions that affect efficient use of public resources. The absence of these feasibility studies, or not utilizing the information in the feasibility studies, has resulted in additional cost and burden to the government, such as in sludge and solid waste management; housing and transport provision; water shortage; missed opportunities for recycling, reuse, and resource efficiency; and the potential environmental impact of the IPs. In addition, it has affected investment mobilization efforts such as investments in Bole Lemi II where the lack of prebuilt factory sheds is creating challenges for the government to mobilize investors in the targeted garment sector as well as co-locating mixed industries that require different waste management systems, power and water consumption, or as the case of Kilinto, where the investment on the expensive ZLD may not be necessary for the targeted pharmaceutical sector.

3.4. Long-term strategy

A long-term strategy for IPs can provide better use of assets and long-term return on investments. As indicated in the financial analysis chapter of this report, the IPs will require a long time to return on the investments made. Given most of the IPs are focused on garment production, which tends to move to other locations as production cost increases, planning and designing the IPs in a more flexible and adaptable manner could have provided more favorable options for the government in the future to

161 Farole and Akinci 2011.

adapt the IP infrastructure to emerging and next-generation industries. It could also provide the opportunity to have environmentally friendly, resilient, and green infrastructure that would be more resource efficient. A long-term strategy that was informed by a robust financial model would have also helped the government make informed investment decisions that consider the trade-offs between policy and financial returns.

The government has used a procurement approach with limited tendering for the construction of the IPs, except for Bole Lemi I. The government has awarded the infrastructure development contracts, for the nine IPs reviewed under this report, to two Chinese contractors—China Civil Engineering Construction Corporation for five IPs and the China Communications Construction Company for three IPs. While there may be advantages to scale, open competition provides more competitive bids for the client, not only financially, but also technically as firms/contractors price their bid strategically with the aim of building a reputation and winning more awards and contracts. It would also help minimize risks of cross-subsidizing cost where contractors may compensate or over bill for losses as well as variations at one site to the contract of another site, especially where capacity for construction management, supervision, and contract management is weak. Open bids would also have helped the government in addressing transparency and governance concerns around the development of the IPs.

Even though construction started at different times since 2015, a formal handover of some major infrastructures to the government has not been made to date. In most of the nine IPs, the contractors are still providing facility maintenance for major damages. This arrangement lessens the burden on IPDC in terms of facility management and maintenance, but it also has the downside of not building IPDC's own capacity for longer-term capability to handle this responsibility and may expose the government to claims and contractual disputes.

4 Operation and Management

1. Introduction

Operation and management take place after an industrial park (IP) is developed and refers to the day-to-day handling of service provision as well as investor attraction and follow-up support. It involves a range of different services, including to manage, maintain and improve facilities, promote and lease industrial park plots to investors, provide administrative services, and evaluate and monitor park performance. As IPs are integrated real estate solutions for investors, operations and management are a crucial success factor for IPs. Operations and management need to be dynamic and demand-oriented to create conducive working and living conditions for companies and residents in IPs. Over the medium term, the government may also create economic spillover effects by creating viable business models that allow it to successively offer IP services to companies outside the parks.

While fiscal incentives are an important consideration for investors, high-quality operation and management of IPs are a key factor for successful, long-term investor relations and the success of the industrial park program. The government provides a range of fiscal and nonfiscal incentives to investors both within and outside of IPs, with more incentives for investors inside (see table O.4 in the Overview). Nonfiscal incentives primarily relate to services in industrial parks that are provided to the companies. Such services are critical preconditions for a firm's performance and support domestic production. This chapter reviews how operations and management are implemented in the publicly owned, federal-level industrial parks in Ethiopia.

Overall, there has been an improvement in the operation and management of Ethiopia's industrial parks; however, several challenges—for example, the provision of utilities—remain to be addressed. Since Ethiopia's IP program is relatively new, the government has adopted an approach of learning by doing and making changes as it goes along. According to a satisfaction survey conducted by IPDC and a discussion with Bole Lemi IP and Hawassa IP Investors Association and the Hawassa IP one-stop shop (OSS) team, major concerns of investors are lack of water, quality certification for potable water (Hawassa IP), frequent interruptions of power and telecom networks, labor supply, strike and worker turnover, lengthy processes for securing and renewing residential and work permits and visas (where investors want the service to be handled end to end at IP level), and high logistics and transportation costs. Ethiopia may consider inviting experienced private sector operators to handle the IPs' operations and management as international experience indicates that this may provide higher quality service provision as well as unburden public entities. The Industrial Parks Development Corporation's (IPDC's) pilot to contract the management of Hawassa IP has been a noteworthy step, but it had mixed success for various reasons.

TABLE 4.1. Four Operation and Management Models That Have Been Applied to Ethiopia's IPs

Operation and management model	Description
Operation and management by developers (that is, owners of the IP)	This is the predominant model in Ethiopia. It is applied to all publicly owned IPs that are managed and operated by IPDC (except for Jimma IP, see below) as well as all private IPs and IAIP.
Entirely outsourcing operation and management to a private sector contractor	The model was temporarily applied at Hawassa IP, where operation and management were contracted to the contractor who developed the IP infrastructure, but only for 15 months.
Operation and management by IP enterprise	This model is applied in Jimma IP by transferring the responsibility of operation and management of infrastructures and facilities through the shed rent agreement. In this particular case, there is no separate agreement for operation and management, but the IP tenant firm is given the responsibility to operate and manage the IP through the shed lease agreement.
Outsourcing specific operation and management services	This is done in Hawassa IP where the wastewater treatment plant is operated and maintained under a contract with the contractor and owner of the technology company (Arvind Envisol Limited).

Source: IPDC.

Note: IP = industrial park; IAIP = Integrated Agro Industrial Parks; IPDC = Industrial Parks Development Corporation.

2. Different Operation and Management Models in Ethiopia

As with the development of IPs, there are several operation and management models for IPs. While each has its strengths and weaknesses, at least partial operation and management by private firms has become an international good practice. An IP can be developed and operated by the government (at the national, state, or local level), by a private enterprise (such as a construction company developer or consortium, manufacturers' association, or professional operator), or through a public-private partnership (PPP) model (for example, a joint venture between government and private enterprise).¹⁶² Each model has its advantages and disadvantages and also depends on the chosen model for the development of IPs. Outsourcing to a professional private operator tends to create higher-quality service provision and increased efficiency while unburdening public entities from managing day-to-day operations so that they can instead focus on strategically steering IPs and improving the regulatory environment for investors. The success of outsourcing to a private contractor depends on putting in place a competitive and effective bidding process that leads to the choice of an operator with the required experience and expertise. If the government itself runs an IP, it gives the public sector greater control and the opportunity to gain experience in how to improve business conditions for investors. In PPP models, the day-to-day management is typically conducted by private operators, while the public sector partners manage land acquisition, compensation, and resettlement as well as government relations.¹⁶³

Over time, the government of Ethiopia has adopted different models to operate and manage its IPs, as well as incorporating experiences from special economic zones (SEZs) in Asia (see table 4.1). In Bole Lemi I, Ethiopia's first IP, the government put the full responsibility for operation and management on IPDC, which had also developed the park. This model is the predominant model for Ethiopia's publicly owned IPs. A different model was used for Hawassa IP where the government outsourced operation and management to the contractor who built the IP. However, due to limited success, this model was used for only 15 months. The other model used by IPDC is giving the major operation and management responsibility to the IP enterprise through the shed rent agreement, which is applied in Jimma IP. Lastly, IPDC has applied the model to outsource selected services, which is done, for example, in Hawassa. The following sections describe Ethiopia's experiences with the three models. In operation in greater detail.

¹⁶² UNIDO 2019.

¹⁶³ UNIDO 2019.

(a) Operation and management by IPDC

This model was first introduced in Bole Lemi I, the country's first publicly owned IP where IPDC took full control of its management. IPDC appointed a dedicated IP manager that liaised directly with the park investors and factory managers. IPDC also manages critical facilities such as wastewater treatment, the provision of water, and electricity supply. In addition, the Ethiopian Investment Commission (EIC) established an OSS to provide integrated services such as customs, immigration, duty-free approval, banking, and so on. This model of operation and management is used in all public IPs except Jimma IP and private IPs in Ethiopia.

(b) Entirely outsourcing operation and management to a private sector contractor

The government outsourced operation and management of Hawassa IP to the contractor that built the park, but while IPDC had hoped to apply the best practices of this model to other IPs, it had only mixed success. The operation and management agreement required the contractor, China Civil Engineering Construction Corporation (CCECC), to supply maintenance services for infrastructure and facilities, while another firm (Kunshan Economic and Technological Development Zone; KETD¹⁶⁴) would provide investor and business development services. The IPDC terminated their agreement with CCECC after 15 months. According to the government, reasons for terminating the agreement with CCECC were failure to deploy senior officers from KETD, failure to introduce model IP operation and management systems, the inability to develop systems for efficient service delivery, and failure to design and share systematic key performance indicators.¹⁶⁵ However, it has been difficult to get independent views and confirmation of the reason for the termination of the contract. Despite the lack of success from this arrangement, IPDC gained important lessons including the organizational structure and manuals and guidelines prepared by CCECC.

In general, there has not been a systematic approach and analysis to attract private sector in the operation and management of public IPs. To make it more attractive, the government would have to find additional incentives to attract credible actors. Factors such as the pricing of IP land lease and low pricing for utilities may dissuade the private sector. Alternative means, such as combining ownership of the IPs and operations and management or concessions could make it more attractive to the private sector.

(c) Operations and management by IP enterprise

A variant of the private entity model gives the operation and management functions to the resident firms. In Jimma IP, IPDC transferred the operation and management to an enterprise (Huajian) that rented the whole IP as a tenant investor. The responsibility of operating and maintaining horizontal infrastructure and common facilities lies with Huajian and not IPDC. In Bahir Dar IP, a single company rented all factory sheds, but the other infrastructures, common facilities, and operation and management are under IPDC responsibility, unlike Jimma IP. It is relatively early to assess this operation and management by IP enterprises model. However, from the shed rent agreement, it is clear that this model can reduce the burden to the government of operation and maintenance of infrastructures like waste treatment plants, water supply stations, and provision of services like security, cleaning, greenery, and solid waste collection. The main limitation of this model is the gap in transferring knowledge to IPDC.

(d) Outsourcing specific operation and management services

IPDC piloted this approach by outsourcing the wastewater treatment plant in Hawassa IP to a private firm that also owned the technology. Hawassa IP receives special attention since it is surrounded by an ecologically sensitive environment such as Lake Hawassa, Tikur Wuha River, and the nearby wetlands. IPDC constructed a state-of-the-art centralized effluent treatment plant (CETP) and sewage treatment plant (STP) with zero liquid discharge (ZLD) technology to protect the sensitive environment around Hawassa IP. Since the technology is new for Ethiopia, the operation and maintenance of the plant has been given to the technology owner and the contractor Arvind Envisol Limited. The agreement was extended to four years from the initial two years because of limited capacity within IPDC to take over the operation and maintenance of the ZLD plant. While this arrangement has

¹⁶⁴ The investors' services and business development deliverables expected from KETD had been proper sheds and infrastructures management, facilitation of connection of utilities, connecting investors with other institutions, gate access control, security, fire and safety services, provision of compliance certificates and service automation, and development of a business model.

¹⁶⁵ Contract termination agreement for outsourcing of the Hawassa IP operation and management.

helped with the effective operation and management of the ZLD system especially in HIP, there are lessons learned in terms of timeliness and adequacy of knowledge and technical skills transfer to IPDC staff, the pricing and costing arrangement that could have minimized the financial burden on IPDC, and integrated planning and problem solving that include sustainable management of the sludge from the ZLD system. There are also concerns around full dependence of the government on such highly proprietary technology deployed in many of the public IPs, which weakens the government's negotiating power with the service provider.

As more public IPs become operational, private sector participation in operations and management of IPs is essential to improve the quality of services provided in the public IPs and to minimize the burden on the public sector. The government needs to incentivize experienced private sector actors to manage the IPs wholly or—as tested with Hawassa ZLD— outsource some services. The government can start piloting such initiatives based on the feasibility study done for Bole Lemi II and Kilinto and adopt an approach to carry out similar feasibility studies to identify the potential of private sector participation in the other IPs as well.

3. Assessment of the Quality of Services in the IPs

(a) One-Stop Shop (OSS) and investor services

An effective OSS is essential to maintaining a competitive advantage as these services are the major nonfiscal incentive for investors. Under Article 27 of the IP Proclamation and Article 15 of the IP Regulation, EIC is responsible for providing OSS services within the IPs by coordinating with various ministries and other public bodies (see chapter 2, Legal and Governance Framework). According to Article 15 of the IP Regulation, any IP developer, operator, or enterprise that received an investment permit from EIC may access OSS services at the IP level. Also, see box 4.1 for information on banking services.

EIC has established OSS services in all public and some private IPs with varying levels of service quality. The IP regulation cites more than 25 government services that should be provided under the OSS; however, varying OSS services are functional

BOX 4.1:

Provision of Banking Services in the IPs

As part of the one-stop shop (OSS), the Commercial Bank of Ethiopia (CBE) provides banking services in all industrial parks (IPs). In some IPs, like Hawassa IP and Bole Lemi IP, the National Bank of Ethiopia has delegated the CBE to provide services such as the determination of cut-make value, reexport approval services, import export delinquency approval, letters of credit, Cash Against Document (CAD) services, and foreign currency approval. In all IPs, CBE offers services, like factory workers' salary payment, ATMs, and money transfers. IP enterprises can use the services from other banks if they prefer. But in IPs, space has been provided only for CBE, and the Industrial Parks Development Corporation (IPDC) has not been allowed to rent spaces to other banks. Currently, other private banks are allowed and started delivering their services.

Despite the availability of bank functions inside the IPs, there have been grievances from the investors around both service quality and uncompetitive costs. The number of ATM machines is insufficient compared to IP workers and often result in high crowding during payment of salaries. Investors also point to other challenges, such as high banking service charges and a fixed percentage rate that results in high fees when transferring large amounts. Given the reliance of imported inputs, on which most park investors depend, many have also complained about a new central bank directive, TDX 79/2022, which converts an increased share of foreign exchange earnings into local currency. (Banks are required to surrender 70% of earnings from export to the National Bank and exporters have the right to retain 20% of their export earnings in foreign currency in their retention account and the remaining 10% is surrendered to the respective bank at the prevailing buying exchange rate immediately on the date of the receipt.)

Source: EIC.

within all public IPs and three private IPs (EIP, Huajian, and George Shoe). Up to 18 services are available in Hawassa IP, 12 in Bole Lemi IP, and 10 in Kombolcha IP. Services not available are mainly license issuance and renewal-related services like commercial registration, investment permit, business license, amendment or change of name of business organization, trade name, and tax-related services. These unavailable services may not be a big issue for BLIP investors since they can get the service at EIC headquarter in Addis Ababa. Many institutions mandated by the proclamation 886/2015 to provide services are not delivering their services in the OSS. Other institutions, like the Immigrations Department, provide consultation and troubleshooting but send all documents to the head office for processing.

The EIC needs to enhance the quality and efficiency of OSS services by implementing clear standard operating procedures and automation of services. The OSS in each IP needs to have clear workflow procedures and clear communication among service providers and be automated. The online investment management system that EIC has rolled out enables online registration of new investment permits and registration of expansion of investments. Eight other services, including incentives management and commercial registration, are currently at the pilot testing stage.¹⁶⁶ Gaps remain in automating OSS services—for instance, a lack of an e-payment and online notarization of MoUs or memoranda of association (MoAs) requires investors to go to the EIC offices. The IP-level online services, such as duty-free approval and custom clearance, need to be scaled up and all services automated to provide high-quality service to investors, retain current investments, and position Ethiopia as an attractive business operating environment.

(b) Aftercare services and grievance handling

Aftercare service is the most effective investment promotion technique to attract new and maintain existing investors. New investors often rely on feedback from existing investors when making an investment decision. Through an effective aftercare service, countries can gain more foreign direct investment (FDI) from reinvestment by existing investors, which helps reduce costs of investment promotion to attract new investors. In developed countries, 70 percent of investment is from reinvestment by existing investors, and in transition economies, reinvestment accounts for 32 percent of investments.¹⁶⁷

While the government has taken important steps to adopt an aftercare strategy, several gaps remain. EIC and IPDC have an aftercare strategy, while EIC has a broader investor aftercare service program. The aftercare strategy involves various initiatives, including appointing dedicated key account managers (KAMs), conversing with investors through investor associations within each IP, and conducting annual investor satisfaction surveys. Key gaps in investor aftercare include the following.

- Aftercare services delivered by EIC and IPDC are mostly reactive and respond only when problems arise with investors.¹⁶⁸
- There is no well-defined investors' development program. IPs are focused more on the provision of the first two stages of aftercare services—services at the entry and establishment stage and there is limited support to investors once they become operational.
- Lack of consistency and coordination between aftercare services offered by IPDC and EIC. For instance, the KAMs by EIC and IPDC do not often coordinate effectively (see the following section).
- Lack of digital customer relations management (CRM)/account management systems to monitor and support investments and for relation management.

Through associations such as the Hawassa Investor Association and Bole Lemi Investor Association, investors can inform the EIC and IPDC of their challenges. EIC and the IPDC used to hold monthly meetings with factory managers and quarterly meetings with company CEOs. Feedback is collected during these meetings to identify problems and provide solutions. As the strength of each investor association varies per IP, the government needs to take a proactive approach to identify operational challenges of the IPs and individual investors through the KAM systems.

¹⁶⁶ EIC 2019.

¹⁶⁷ See https://unctad.org/system/files/official-document/itejpc20071_en.pdf.

¹⁶⁸ EIC Aftercare Strategy 2020.

(c) Key account management system

As both EIC and IPDC use their own KAM systems, there are possibilities to streamline KAM systems in the interest of providing efficient services to investors. International experiences suggest that it is best practice to appoint KAMs that serve as a single point of contact for each investor to resolve investor inquiries by liaising with the responsible institutions. Currently, both EIC and IPDC assign a KAM for IP enterprises: EIC KAMs support services such as licensing and resolve problems in collaboration with the OSS coordinators. IPDC's KAMs help investors with inquiries related to maintenance of infrastructure and facilities, waste treatment and collection, security, labor issues, and provision of compliance certificates. In addition, EIC assigns IP leads to each IP to support the investor and liaise with the OSS coordinators. As the purpose of KAM systems is to have a single responsible manager for investor concerns, it may be beneficial to merge EIC's and IPDC's KAM systems so that investors do not have to deal with multiple individuals to receive support.

Neither EIC nor IPDC have automated comprehensive investor relation management systems that enable them to track investors and resolve issues identified through the KAM systems. Typically, EIC as the investment promotion agency and the IP regulatory agency should have a comprehensive database of all investors from their first point of contact with EIC until their operational stage. However, there is no automated end-to-end investor relations management system even though some piloted, online functions—such as the investment services management system—focus on specific areas of service. These systems do not provide end to end investor services. EIC should roll out a fully functional CRM system for investors to enable EIC to track investors from the initial point of contact through the various investment cycles and provide effective aftercare services.

(d) Utility management (power, water, and telecom services)

The most essential services provided by IPs are integrated utilities, in particular, sustainable and reliable power, water, and telecom services. The provision of these utilities is not solely managed by IPDC. Power supply and utility management are under the mandate of Ethiopian Electric Power (EEP) and the Ethiopian Electric Utility (EEU). Ethio Telecom manages the telecom services, although IPDC develops data centers within the IPs. All IPs rely on boreholes for their water supply.

While Ethiopia has the advantage of affordable renewable energy, the reliability of power supply to IPs has been problematic. With hydropower accounting for 96 percent of the country's electricity generation and wind for 4 percent, Ethiopia is attractive to global investors and sustainability-orientated international buyers that seek sustainable energy solutions.¹⁶⁹ In addition, low energy costs of US\$0.027 per kilowatt hour up to 200 kilowatts consumption and US\$0.04 over 500 kilowatts consumption a month compared to the regional peers can be an important incentive for capital-intensive industries such as textile manufacturing. However, frequent power disruptions reduce the value of these advantages. For example, before installing dedicated mobile substations, Bole Lemi I and Hawassa IP suffered frequent power cuts that damaged machinery, spoiled raw materials on the production line, and affected the firms' productivity and ability to deliver to buyers on time.¹⁷⁰

Although the government has provided dedicated power substations, most of the IPs' investors still report power interruptions that affect their production. As indicated in table 4.2, all operational IPs have dedicated power substations of varying capacities, with Hawassa having the largest substation of 200 megawatts. Nonetheless, IPDC reported power outages in the IPs. For instance, in 2020, Hawassa IP and Bole Lemi IP experienced up to 10 and 12 days of power interruptions per year, respectively.¹⁷¹ The proper handover of the electric system from the contractors to EEU is important with well-designed training, spare parts, and operational manuals.

(e) Information and communication technology (ICT) services

While the government has set up data centers in most IPs, investors face challenges of low internet speed and telecom service interruptions. At a national level, Ethiopia suffers from low internet penetration rates of 19 percent of the population (compared to 30 percent in Sudan, for example).¹⁷² Low-quality broadband internet services with frequent interruptions hinder the operations of investors. IPDC has established data centers in all IPs except for Bole Lemi I to minimize interruptions. Other initiatives

169 See the International Energy Agency (IEA) website, <https://www.iea.org/countries/ethiopia>.

170 IPDC 2018.

171 See the IPDC 2013 Ethiopian Fiscal Year Annual Report.

172 Ethiopia Digital Foundations Project P171034, World Bank, 2021.

TABLE 4.2. Power Supply in Publicly Owned IPs

Industrial Park	Power supply
Bole Lemi I	30 MW temporary mobile substation
Bole Lemi II	134 MW permanent substation under development (for both Bole Lemi I and II)
Hawassa IP	200 MW permanent substation
Kombolcha IP	20 MW temporary, 60 MW permanent under development
Mekelle IP	8 MW temporary
Adama IP	20 MW temporary
Dire Dawa IP	20 MW temporary
Jimma IP	8 MW temporary
Bahir Dar IP	8 MW temporary
Debre Berhan IP	17 MW permanent
Kilinto IP	160 MW permanent under development
Information and Communication Technology IP	10 MW under development

Source: IPDC.

Note: MW = megawatt.

to improve ICT services involves unblocking internet services for IPs during national internet blackouts, although reports from investors suggest this is not always the case. This can create significant challenge for operating in modern supply chains where timely production and management information is continuously shared. IPDC could further improve the operations of the data centers by signing service level agreements with telecom service providers.

Operations related to water supply and waste management are highlighted here in brief because chapter 6, Environmental Sustainability, covers these aspects in greater detail.

(f) Water supply

The quality and stability of water supply in IPs is still a challenge. IPs mainly get water supply from their own boreholes, and in Hawassa IP's case, by using recycled water from the wastewater treatment plant.¹⁷³ However, there are several issues around water access. In Hawassa IP, the quality of drinking water did not meet quality standards; the park is supplied water from the city administration via water trucks. Adama and Dire Dawa IPs did not have a reliable industrial water supply at the time of writing, again requiring investors to rely on water trucks and develop their own boreholes. Even though Mekele IP has three boreholes, interference from nearby communities make two boreholes inaccessible.

(g) Wastewater treatment and solid waste management

Though wastewater treatment and solid waste management systems are in place, gaps remain concerning their operation and management. The IPs lack a standardized waste management plan for waste prevention and management. There is also a need to strengthen the government's capacity to operate and manage the wastewater treatment plants. For instance, handover to IPDC of the operation and management of the ZLD facility in Hawassa had taken longer than expected due to lack of technical skills and know-how of the specific technology for the ZLD system.

IPDC is responsible for all solid waste collection and disposal within public IPs and usually outsources this function to private sector providers. Factories are responsible for collecting and preparing their waste for collectors. Solid waste from IPs

¹⁷³ IPs with a ZLD treatment plant have access to recycled water for toilet flush, greenery, and industrial use.

is brought to landfills owned by the city administrations. However, most city landfills are near residential areas and have limited capacity to accommodate the additional waste from the parks. IPDC needs to continue to engage with the city administrations to identify sustainable solutions to landfills. IPDC—with the support of federal and regional environmental authorities—needs to increase awareness of environmental management systems and cleaner production practices by factories. Furthermore, as indicated in chapter 6, sustainable solutions are needed for the management and disposal of industrial solid waste (sludge), which is currently not properly and effectively managed.

(h) Disaster risk management

Despite their benefits, IPs pose a range of potential risks that need to be accounted for during planning, design, and operation through adequate disaster risk management (DRM) systems. As table 4.3 shows, there are various risks associated with IPs that need to be managed through a DRM strategy that identifies and prioritizes risks and provides prevention and mitigation approaches. IPDC is designing its DRM strategy with the support of development partners. IPDC needs to implement clear decision-making processes and protocols for DRM in IPs. IP management and the parks' resident enterprises must also ensure that their employees are informed of their responsibilities before any incident.¹⁷⁴ IPDC has established fire

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TABLE 4.3. Potential IP Risks

PLANNING RISKS	<ul style="list-style-type: none"> • Planning compliance • Surrounding population density • Traffic and congestion • Adjacent projects • Utilities capacity • Enterprise layout • Land title • Demand risks • Economic justification 	ENVIRONMENTAL AND HAZMAT RISKS	<ul style="list-style-type: none"> • Storm flood • Fire/explosion • Hazardous materials • Waste and wastewater disposal • Natural disasters
STRATEGIC RISKS	<ul style="list-style-type: none"> • Construction risks • Supplier and partner non-performance risks • Policy instability • Promoter capacity • Operations • Governance • Technology • Regulatory framework 	HUMAN RESOURCE AND OCCUPATIONAL RISKS	<ul style="list-style-type: none"> • Accidents/health • Operational safety • Reduction and retention • Knowledge management • Emergency support • Management
FINANCIAL RISKS	<ul style="list-style-type: none"> • Stock exchange/capital market fluctuations • Exchange and interest rate fluctuation • Liquidity/cash flow • Fraud • Financial viability 	FIXED ASSET RISKS	<ul style="list-style-type: none"> • Security • Energy supply • Property damage • Machinery breakdown
MARKET AND COMMERCIAL RISKS	<ul style="list-style-type: none"> • Competitors/Market share/Reputation • Business interruption 		

Source: UNIDO 2019.

174 UNIDO 2019.

and disaster prevention as well as rescue departments within its IPs as most host cities do not have adequate capacity to provide such services. These departments are equipped with fire trucks, firefighters, and ambulances in varying degrees. Preventive measures, such as heat and smoke detectors, are in place in many sheds. The routine maintenance and continuous functioning of these is a priority both for the protection they provide and for the audit protocols of international buyers placing orders with investors.

(i) Security

While IPs implement physical security measures to protect property and staff, there are still incidents of theft and attacks against factory workers outside the parks. IPs have a four-layered security system involving security of individual sheds, public police provided by IPDC and the local administration, inner perimeter security hired to safeguard park infrastructure, and outside the IP security provided by regional or federal security agencies. Various IPs also implement access control systems and CCTV at the IP entrance and within individual factories. Despite all the efforts to prevent and control security problems within the IPs, there are thefts of IP workers' property and harassment outside the IPs. The particular needs and vulnerabilities of the typically young female workforce raise the seriousness of addressing these challenges. Measures to equip and enhance the capacity of the different security forces to properly handle disputes and communicate with workers could help improve security around the IPs. Close engagement with the city administration where the IPs are located during all phases of developing the IPs could also help address security threats to property and workers in the IPs.

(j) Maintenance and property management

According to the investors' survey conducted by IPDC,¹⁷⁵ maintenance of facilities is one of the major investor's grievance areas that IP operations and management teams should address. There is an engineering and maintenance department in charge of maintaining property outside the factory sheds and common facilities in all IPs. However, there is inadequate capacity of the maintenance staff, and workshops are ill-equipped. A proactive preventive maintenance approach is necessary to assure sustainable operation of IPs. IPDC needs to build capacity by training more maintenance staff and developing appropriate facilities. For public IPs, IPDC has tended to rely on contractors responsible for constructing the facilities to address major maintenance problems.

Since all materials are imported under "design and build" construction contracts to develop the IP infrastructure,¹⁷⁶ for most public IPs (except Bole Lemi IP I), there are no adequate spare parts in the local market.¹⁷⁷ It is a challenge to have a continuous and regular supply of spare parts needed for timely maintenance. IPDC should require the contractors to avail adequate supply of spare parts as an integral part of the contract. Furthermore, the contractor should provide adequate training and transfer knowledge to IP operations and maintenance staff based on the "as built" drawings and comprehensive training modules covering each facility's operation and maintenance.

4. Investment Promotion for IPs

Both EIC and IPDC hold the mandate for promoting IPs to investors, typically seen as one of the tasks in operation and management. The IPDC establishment regulations stipulate as a core mandate of IPDC to promote the benefits of IPs extensively and thereby attract investors to the IPs.¹⁷⁸ On the other hand, Article 4 of the IP Regulation gives EIC a similar mandate by stating that it shall recruit investors that can engage in the development of IPs and in the manufacturing sector. To achieve this, the Regulation tasks EIC to conclude agreements with investors and ensure full occupancy of IPs by manufacturing enterprises.

Inadequate coordination and collaboration between EIC, IPDC, and other government agencies (such as the Ministry of Foreign Affairs) weaken investment promotion. In 2018, following a decision by the board of directors of IPDC, EIC and IPDC

175 Satisfaction Survey conducted by IPDC (2019).

176 IPs (except Bole Lemi IP I) are built by Chinese contractors using materials mostly imported from China.

177 IPDC 2018.

178 Council of Ministers regulation No. 326/2014, Article 5 (5).

signed an MoU that gives EIC full responsibility for investor attraction for IPs. As per the MoU, IPDC and EIC shall jointly plan promotion activities, and IPDC shall update EIC quarterly on the status of IPs. However, this arrangement has not been effectively practiced beyond information exchange. Moreover, several ministries engage in investment promotion but without clearly defined coordination mechanisms. For example, the Ministry of Foreign Affairs hosts investment promotion events through Ethiopia's embassies abroad. Despite efforts by EIC to develop sectoral strategies—like for textile and garment, pharmaceutical and agro-processing—the promotion activities need to be led by a joint investment promotion team that involves different actors (for example, involving the ministries of industry, trade, agriculture, and foreign affairs as well as regional governments).

EIC and IPDC can strengthen its investment promotion strategy by adopting a more proactive and targeted approach to attract credible investors to IPs. EIC's investment strategy currently involves organizing investment promotion events within target markets to attract investors in specific sectors. This approach successfully attracted apparel investors from Asia to IPs dedicated to textile and apparel sectors such as Hawassa. Given the immediate challenges created by the ongoing conflict and insecurity and the suspension of African Growth Opportunity Act (AGOA) trade privileges into the US market, it will be important to review and adapt investment promotion strategies. Given the previous successes linked to using major international buyers (such as PVH) to encourage supply chain partners to invest in Ethiopia, a reinvigorated approach to investment promotion should consider proactively targeting the appropriate supply chain actors—for example, brands in the case of the garment industry—to achieve maximum results. In the current circumstances, the government should adopt a long-term investment promotion strategy and should be more proactive and coordinated, target specific anchor investors, and enable more relationship building and trust to attract potential investment especially in sectors that are relatively new to Ethiopia such as pharmaceutical.

5. Conclusions and Recommendations

Even though earlier experiences have been mixed, there are advantages to the government involving the private sector more in operation and management of industrial parks. IPDC as the primary developer and operator of IPs in Ethiopia has gained experience applying various industrial park operation and management models: from managing all aspects of an IP to contracting the entire IP management to a contractor. IPDC's experiences with the pilot engagement of the private sector for operation and management of Hawassa IP or the contract for the ZLD merit a deeper assessment. However, emerging lessons indicate the need to apply detail feasibility study and competitive selection procedures to attract firms that are experienced in operations and management. At the same time, IPDC needs to ensure transfer of knowledge and skills from the private sector to its staff to enable adequate supervision. Passing on some of the responsibilities for operation and management of industrial parks (either through outsourcing, PPPs, or so on) enables the government to focus on provision of adequate infrastructure for the IPs and investor services.

The OSS in each IP needs to have clear workflow procedures and clear communication among service providers and be automated to provide services end to end at the IPs. In addition, depending on the specific needs of each IP, EIC shall ensure provision of all listed OSS services at IP level (in line with IP regulation number 417/2017 Article 15).

A proactive approach for aftercare services supported by a functioning CRM and well-coordinated KAM system between IPDC and EIC, effective engagement of other institutions and regional governments is important to identify and address problems faced by investors.

IP services currently are more focused on the provision of aftercare services at the entry and establishment stage and provide limited aftercare services after operationalization. The government may consider introducing an investors' development program to maximize the economic contribution of existing investors in the form of reinvestment and supply chain integration with local producers.

Integration of IP promotion and facilitation strategy and efforts of the two institutions (EIC & IPDC) is important for better attraction of investors. EIC and IPDC should strengthen their investment promotion strategy by adopting a more proactive and targeted approach to attract credible investors to IPs.

Waste treatment plants' operation and maintenance capacity shall be built within IPDC and regular auditing shall be conducted to ensure companies are discharging on the basis of the agreed parameter threshold.

IPDC shall have DRM strategies for IPs that identify and prioritize risks, indicate and implement prevention methods, and provide for control and rehabilitation activities

Maintenance workshop, spare parts, and well-trained crews shall be arranged based on a well-designed strategy. Service level agreement shall be signed with EEU and Ethio-telecom for smooth operation and maintenance of power and telecom services and enhancing IPDC capacity. IPDC needs to ensure that contractors prepare as-built drawings, and manuals for maintenance and operation. Contractors also need to provide proper training to IPDC staff to facilitate a smooth transition between contractors and IPDC operations and management teams. In addition, contracts signed by IPDC should ensure that the contractors deliver spare parts that have long shelf time to fulfill maintenance and repair needs.



Labor Practices and Social Inclusion

1. Introduction

One of the primary policy objectives of Ethiopia's industrial park (IP) program was to generate employment and the government has made a set of targeted investments to embed social sustainability principles in its IP program. These investments include the Ethiopian Investment Commission (EIC) establishing an Industrial Peace Directorate inside its one-stop shop (OSS), and a revised labor proclamation that came into effect in 2019. Industrial parks have made investments in park level clinics and daycares, although these are not available or functional in each location. The Ethiopian Investment Board (EIB) has enabled private investors to enter the IP worker housing market as well as allowed factories to build their own dormitories. Both national and regional governments have supported employment linkages programs that address labor market asymmetries. Despite these efforts, working conditions in individual factories at the IPs continue to vary widely.

The obstacles of transitioning workers into an industrial work force were underestimated, and gaps to the safety and protection of workers remain. The presence of weak labor markets led to burdensome and inefficient recruitment processes. Despite the availability of competitively priced workers, this has not translated into productive labor on the factory floor. Many firms had higher turnover and absenteeism than anticipated at the start of operations. Availability of social infrastructure for housing, transport, and health services, among other services, were lacking when compared to the shed or production specific infrastructure. Workers' knowledge and introduction to manufacturing culture was not well developed, and there were disparities between workers' expectations and factory realities. Finally, the scale of labor migration to fill the employment opportunity was larger than expected in some locations.

The majority of IP workers undergo a number of simultaneous transitions—moving away from the familial home, moving from a rural to urban setting, and entering into factory work. The lack of integrated social services made the migration and transition into urban living difficult for the mostly young female workforce. The transition into factory employment meant workers had to adapt to a working culture that was unknown and for which most were ill-prepared. Interventions by government, development partners, and investors with social corporate responsibility agendas have attempted to bridge these gaps but are, at present, limited and fragmented in implementation.

This chapter is presented in three sections. First, it reviews the labor market context looking at existing legal and institutional frameworks, the state of industrial relations, and social dialogue

and the expectations and practices of social standards in the parks. Second, it presents a discussion of the workers' transition into park employment. This particularly focuses on labor market challenges and the role of programmatic interventions for making employment linkages, integrating into host communities, and enabling factory and park level transition smoother. The final section concludes and offers a set of policy and implementation-level recommendations.

2. Labor Practices in Industrial Parks

In line with ILO policy and best practice, Ethiopia applies its national labor legislation within and outside IPs equally. ILO policy and best practice is for investment zones to be covered by national labor laws and the relevant enforcement agencies. However, most export processing zones around the world either have separate legal frameworks for their export processing zones or have a distinct set of employment relations to attract foreign investment. For example, Bangladesh has excluded its export processing zones from the applications of its national labor relations law and sparked many years of criticism for doing so.

There are no one-size-fits-all best practices, and often the approaches to labor management in IPs will need to be negotiated according to the circumstances of the country. Sometimes, the debate is less about exclusions from the labor law and more about who would enforce them. For example, in India the Special Economic Zone Act of 2005 gave the development commissioner who runs the zone, the authority to enforce labor standards in the special economic zones (SEZs). This leads to considerable variation in approaches between the different SEZs globally. Sri Lanka and Bangladesh have located labor relations units inside the investment zones themselves. Governments of Nicaragua, Philippines, and Indonesia have established a Tripartite Labor Committee that facilitates various tripartite negotiations in their IPs. In addition to legal and institutional consideration, the practical capacity to enforce labor management is a concern—a United Nations Conference on Trade and Development (UNCTAD) survey of 100 IPs globally found that only about 20 percent had labor inspectors in them.¹⁷⁹

2.1. Labor market context and Ethiopian IP employment

Young Ethiopian women have fewer options than men, both in education and employment. Investments made in girls' education in the last two decades have seen that primary school enrollment of girls increased to 81 percent by 2015.¹⁸⁰ However, girls drop out of school in higher numbers than boys with only 54 percent completing primary school and only 25 percent attending secondary school as compared to 71 percent and 31 percent for boys.¹⁸¹ Women make up about 27 percent of the college and university population, but a quarter will drop out before graduation.

Compared to men, women tend to be overrepresented in nonwage employment and underrepresented in paid employment. There are large differences in labor force participation and employment rates between men and women. Despite Ethiopia having a modest national-level unemployment rate, youth unemployment, particularly for women, is much higher in urban areas. Women tend to suffer from higher rates of unemployment across all urban areas, with an average female unemployment rate of 27 percent in 2018.¹⁸² Moreover, once employed, women tend to earn substantially less than men with total wage earnings being on average one-third lower than for men,¹⁸³ despite the constitution and the labor law making provisions for rights to equal pay.¹⁸⁴

Industrial parks provide employment opportunities for young Ethiopians for whom few formal employment options exist. The 2013 National Labor Force Survey showed that rural migrants are leaving agriculture and moving largely to informal, home-based work rather than to more productive employment in manufacturing or high-end services. Wage employment in nonagricultural sectors accounts for only 10 percent of total employment in the country and Ethiopia's growing rate of urbanization and the increasing rural-urban migration continues to put pressure on urban labor markets. Unemployment, at just under 20 percent in 2018¹⁸⁵ is largely an urban phenomenon. At the current average annual growth rate, Ethiopia's urban population is expected to triple by 2035 (relative to 2013).¹⁸⁶ Female workers are drawn to park employment by the "prospects of financial independence,

179 UNCTAD 2015, p. 13.

180 See https://data.worldbank.org/indicator/SE.PRM.NENR.FE?locations=ET&most_recent_year_desc=false.

181 UNICEF Ethiopia Children Fact Sheet 2018.

182 CSA 2018.

183 CSA 2005.

184 Constitution of the Federal Democratic Republic of Ethiopia 1994, 42(1)(D); Labor Proclamation No. 1156/2019 14(1b) and 87(1).

185 JCC 2019.

186 World Bank population projection estimates.

autonomy from parents, educational opportunities and the hope of a better life.”¹⁸⁷ For most of these young women, in choosing IP employment, they will be wage employed and making an independent livelihood and accommodation away from family.

However, young female workers in IPs are often employed in the lower end of the manufacturing value chain. Manufacturers in the IPs are dominated by the low skilled, cut-make-trim (CMT) segment of garment production where women make up approximately 80 percent of the total and 95 percent of the operator level workforce.¹⁸⁸ This pattern of industrial works is not dissimilar to international export processing zones where many have argued that export-orientated strategies have so far been exploitative of cheap female labor in the Global South.¹⁸⁹

Rural-to-urban migration is a central feature of industrialization and manufacturing-led growth; however, Ethiopia only shows limited labor mobility. A World Bank study looking at internal migration in Ethiopia showed that only 6 percent of Ethiopians changed residences in the five years prior to 2013 (the most recent year for which the Labor Force Survey has systematic migration data). Younger and better-educated rural dwellers are more likely to migrate compared to older or less-educated villagers. Meanwhile, older and better-educated people are more likely to move to work in commerce, agriculture, and services while young and relatively less-educated women move to urban centers for domestic work.¹⁹⁰ This younger and less-well-educated demographic is typically the target group of the IP labor sourcing programs.

The majority of IP workers undergo a number of simultaneous transitions - having to move away from the family home, moving from a rural to urban setting and entering into factory work. For many young women (aged 15–24) this transition can be overwhelming and difficult: often arriving at the parks in buses, being allocated to employment in the afternoon, having to find housing the same evening, and reporting to work immediately the next day.¹⁹¹ The opportunity for new jobs is inherently linked to new lifestyles and new needs. Within factories, workers need to adapt to an unknown work culture with strict schedules and productivity targets. Outside of the factory, workers need to establish their livelihood basics such as housing. A recent World Bank survey of firms in Bole Lemi, Eastern, Kombolcha, and Hawassa IPs showed that some factories support workers by providing benefits in-kind such as housing (only in Eastern, Hawassa), meals in the workplace, and transportation.¹⁹²

2.2. The legal and institutional framework

Ethiopia has ratified all fundamental International Labour Organization (ILO) labor conventions including the right to form and join trade unions as well as bargain collectively, and the country’s constitution holds several labor and social safeguards for employees. It guarantees the right of workers to form associations that may improve their conditions of employment and economic well-being; the right of women in terms of equal pay for equal work; reasonable limitation of working hours, to rest, to leisure, to periodic leaves with pay; to enumeration for public holidays; and a healthy and safe working environment.¹⁹³ Legislation governing employment conditions and labor relations are an important aspect of ensuring that exploitative working conditions and related adverse consequences do not negate the income generated by IP jobs. The labor rights outlined in the proclamation are complimented by constitutional provisions that clearly recognize freedom of association and collective bargaining. The legislation dedicates an entire chapter to women workers, prohibiting gender-based discrimination, prohibiting women from undertaking hazardous work, and regulating maternity leave.

The Ministry of Labor and Skills (MoLS) (the former Ministry of Labor and Social Affairs; MoLSA) is the key Ethiopian regulator for labor and social policy in Ethiopia, but oversight of labor issues in the IPs is the responsibility of the respective regional government.¹⁹⁴ MoLS oversees the implementation of the federal labor law, employment proclamation, and the disability employment promotion proclamation. There are 12 bureaus of labor and skills (former Bureau of Labor and Social Affairs) within Ethiopia’s

187 Dom et al., forthcoming.

188 EIC Enterprise Partners HIPSTER program data.

189 ILO 2015a.

190 Bundervoet., 2018.

191 Interview with HIP recruiter.

192 World Bank survey of wages and compensation in Ethiopia’s IPs.

193 Article 42(1–2) of the Constitution of the Federal Democratic Republic of Ethiopia.

194 At the time of writing, the government of Ethiopia had restructured MoLS where labor aspects of the Ministry had merged with the Job Creation Commission (JCC) and Technical and Vocational Education and Training (TVET) to create a new Ministry of Works and Skills.

regional states and the federally administered cities that are subunits of MoLS. MoLS is deemed to be significantly understaffed while the manpower of the Bureau of Labor and Social Affairs (BoLSA) varies from region to region, operating sometimes at the regional and other times at the kebele level.¹⁹⁵ An ILO evaluation in 2017 found that both agencies lacked capacity for enforcement of the laws and regulations they are entrusted with, and MoLS' rapid turnover of senior staff impaired efficiency of operations.¹⁹⁶

MoLS and BoLSA operate in tripartite forums with employees' and employers' representatives to manage labor relations both preventatively and through dispute settlement and social dialogue. The agencies work through alternative dispute resolutions mechanisms as well as formal channels. Their labor inspection system at federal and regional level oversees the implementation of occupational health and safety standards. This system, tasked with enforcing adherence to minimum labor standards across the country, suffers from substantial capacity constraints and staff shortages.¹⁹⁷ For example, in 2020 there were only 621 labor inspectors (a reduction of 60 from the year before), which was identified as a key constraint.¹⁹⁸ The public labor administration service requires investment to ensure compliance oversight in Ethiopia's growing industries. Despite a number of initiatives designed to improve the situation, the labor inspection and occupational safety and health services within regional and local Bureau of Labor and Social Affairs remain understaffed, under-resourced, and lacking capacity.¹⁹⁹ The revised Labor Proclamation provides MoLS with mandates for certification of private labor inspection service providers.²⁰⁰

Ethiopia adopted a revised Labor Proclamation in 2019 (No. 1156/2019), which repealed the Proclamation which had been in place since 2003. This revision was initiated by the government as part of efforts to attract new investment. The proclamation clearly outlines the Ethiopian government's strong preference for tripartite social dialogue. It authorizes MoLS to establish key labor rules and procedures, in consultation with the Ministry of Industry (MoI) on the basis of tripartite modality.²⁰¹ It has been criticized for not making enough changes or introducing new conceptual frameworks to create a more investment-friendly legal regime.

2.3. Industrial relations and social dialogue

A key body in the trade union movement is the Confederation of Ethiopian Trade Unions (CETU) which in 2016 comprised 9 industrial federations with 1,800 basic unions organizing 650,000 workers. CETU is an internationally recognized organization that is affiliated with the International Trade Union Confederation and the World Federation of Trade Unions as well as being a member of the African Organization of African Trade Union Unity, and the Confederation of the Horn of Africa for Trade Unions. It is Ethiopia's largest multi-ethnic civil society organization with an establishment history that is closely linked with government authority.²⁰² There are three kinds of unions in Ethiopia—crafts, cross section and industry unions²⁰³—all with the main functions of representation of workers vis-a-vis employers and engaging in collective bargaining. Unionism is on a rise due to the shifts in the economy, with the number of trade unions increasing rapidly from 702 in 2011 to 1714 in 2018,²⁰⁴ which amounts to a growth of 144 percent. However, trade union density of employees is still very low at below 8 percent in 2018.

Capacity issues abound in CETU with weaknesses in financial, research, and technical capabilities. CETU employs about 300 staff, but none of the branch offices have more than two professional staff members in addition to the branch head.²⁰⁵ Branch offices are expected to cover a significant geographical area but lack qualified personnel, vehicles, and office facilities. Recent attempts to organize new members and add new unions has led to tensions due to an inability to provide follow-up training and technical support, which has in turn led to industrial conflict.²⁰⁶ CETU has a women's affairs department that is responsible for implementing the organization's gender policy, but only one out of 10 executive positions that form CETU's decision making body is reserved for women.

195 Admasie 2021.

196 Admasie 2021.

197 US Department of Labor 2013. https://www.dol.gov/sites/dolgov/files/ILAB/child_labor_reports/tda2013/ethiopia.pdf.

198 Admasie 2021.

199 Admasie 2021.

200 Article 17(1(i)).

201 Article 28 (3) of Industrial Park Proclamation No 886/2015.

202 Admasie 2021

203 In Ethiopia, because of its roots in iddirs, some unions have retained certain functions not typically associated with trade unions but with self-help associations, including running credit associations and cafeterias, etc.

204 See <https://ilostat.ilo.org>.

205 Admasie 2021.

206 Admasie 2021; Author's discussions with three factories that had unions that had since disbanded.

Unions in the Ethiopian textile and apparel industry are organized in the Industrial Federation of Textile, Leather, and Garment Workers Trade Union whose members represent about 13 percent of total CETU membership.²⁰⁷ The federation has significantly fewer resources than the confederation with only four elected full-time officials and five permanent staff members. The federation supports basic unions in organizing, assists in negotiations (negotiating collective bargaining and handling disputes), provides consultation and legal services, and campaigns for a living wage.²⁰⁸ Ethiopia's collective bargaining coverage rate was 10 percent in 2013, the only year where statistics are available.²⁰⁹ Only 28 percent of female workers are union members in the textile and garment sector as compared to 40 percent of male workers.

The Ethiopian Industry Employers' Confederation (EIEC) represents employers in Ethiopia. Its membership base is quite low, having only 1,250 members, covering some 2.4 percent of firms registered with the Private Organizations Employee's Security Agency—51,000 in 2018.²¹⁰ Partially due to this, EIEC faces considerable capacity constraints, particularly in their branch offices, which are severely understaffed and underequipped.²¹¹ In addition, there are overlaps in responsibilities with the Ethiopian Chamber of Commerce.

Despite being significant employers and drivers of export and engines for local economic growth, foreign manufacturers in IPs have no representation in Ethiopian tripartite forums. In the textile and garment sector, companies are also organized under the Ethiopian Textile and Garment Manufacturing Association (ETGAMA). In 2015, ETGAMA represented 80 member companies and, unlike EIEC, has both foreign and Ethiopian members.²¹² Foreign manufacturers in the IPs have formed additional employers' organizations with the Hawassa Industrial Park Investors Association (HIPIA) and Bole Lemi Industrial Park Investors Associations (BLIPIA) being the first to be established. HIPIA was incorporated in 2016 and issued a license by the EIC. Both ETGAMA and the IP associations are not recognized in the tripartite forums in Ethiopia but often have direct relations with EIEC, CETU or MoLS.

The Tripartite Labor Advisory Board (TLAB) is mandated in the Labor Proclamation. The board is composed of 15 members, 5 each from workers, employers, and government representatives. The TLAB promotes tripartite consultations related to occupational health and safety, work conditions, and labor legislation and provides advisory services to MoLS. In recent years, it served as a forum to discuss amendments in the labor Proclamation and also paved the way for introducing a minimum wage in Ethiopia.

The Labor Conciliation Office (LCO) at MoLS facilitates the amicable settlement of labor disputes based on the voluntary submission of the parties. The proclamation allows for the establishment of labor division courts, appellate courts, labor conciliators, and labor relations board. The latter can be established either on a permanent or ad-hoc basis in regions. It also allows MoLS to establish boards at company level if required to handle disputes. These labor boards can arbitrate replacement, renewal, negotiations, or establishment of collective bargaining agreements. Labor relations mediation are an alternative for courts whose procedures could have lengthy delays and appeals that might mean years to settle a dispute. However, workers report being discouraged from taking cases to labor court as they have witnessed the resolutions of others that have chosen to take cases, for example, unfair dismissal of cases to court (interview with Hawassa IP recruiter).

While Ethiopia does not have a formal “tripartite-plus” social dialogue mechanism, the recent opening up of previously restrictive civil society policy will allow for more participation of civil society and special interest groups. A restrictive legal and operating environment for civil society has meant that for many years, there has been minimal contributions from the civil society on labor matters. With the recent opening up of this space, there may be more opportunities for civil society groups to provide some balance to the skewed power relations between business and workers by creating general awareness on labor rights among workers and legal aid support during disputes.²¹³

207 Admasie 2021.

208 Chiwota 2019.

209 See International Labour Organization Country profiles: <https://ilostat.ilo.org/data/country-profiles/>.

210 Admasie 2021.

211 Admasie 2021.

212 Van der Pols and Nash 2015.

213 Ethiopian Labor Rights Watch has provided legal aid to 1,300 workers so far: <https://www.ethiopianlabor.org/>.

2.4. Social standards: Expectations and practice

Legislation is not necessarily the determinant of existence of poor working conditions or sound labor relations. Legislative policies and safeguards mask a deep contrast with local realities and problems that are rooted in the gaps between policy and practice. Despite Ethiopia setting the minimum age for employment at 15 years, it is estimated that half of children aged 5–9 as well as over 70 percent of those aged 10–14 are engaged in some form of child labor. Cattle, gold, and hand-woven textiles are among the most common goods that child labor in Ethiopia produces with manufacturing textiles being more prominent in urban areas.²¹⁴ Addressing decent work deficiencies in the local garment and textile manufacturing value chain will be important as Ethiopia continues to push more backward integration from manufacturers in the parks.

In Ethiopia, a number of entities have responsibility for IP operations, complicating the institutional landscape for labor management. EIC is not only the IP regulator but also the supervising agency of the Industrial Parks Development Corporation (IPDC).²¹⁵ There are some ambiguities with the legal framework that makes implementation difficult within the IPs. While the IP Proclamation provides detailed provision on IP business rights and benefits, labor and social issues seem relegated to miscellaneous provisions.²¹⁶ An example is the issuing of contracts, where the IP Proclamation states these are required to be negotiated between employer and employee “taking into account the Industrial Park’s peculiar feature,”²¹⁷ which leaves it undefined and open to interpretation. The Industrial Parks Council of Ministers Regulation of 2017 also mandates that complaints and labor disputes be resolved by giving priority to alternative dispute mechanisms.²¹⁸ Moreover, there appear to be instances of misinformation about the applicability of the Labor Proclamation within IPs.²¹⁹

The requirement for the IPs to establish a tripartite committee that is focused on maintaining industrial peace has been interpreted as a legal requirement for manufacturers to establish workers’ councils. Workers’ councils have been formed at most factories and aim to represent workers in discussions with management but often has supervisors present among its members. The selection of council members is also deemed problematic as it is often done under the supervision of the human resources department and at times directly selected by management.²²⁰ Little is known on the successes or failures of the existing workers’ council arrangement, and any of their successes may have been shadowed by the fact that they have no legal basis in Ethiopia labor law. In addition, there may be a misalignment between workers’ councils and trade unions over the effective and legally recognized workers’ representation that can negotiate adequately on the rights and interests of their constituents.²²¹

The IP Regulation requires the establishment of a tripartite committee constituted by MoI, MoLS, IP developers, operators or enterprise, and employee representatives. This committee shall ensure the respect of workers’ rights, conflict prevention through consultation and engagement, and the maintenance of “industrial peace.”²²² In practice, these IP tripartite committees do not mirror the national tripartite institutions representing government (MoLS), employers (EIEC), and employees (CETU). For such a committee to be established at the park level, decisions on the representatives for each tripartite party would need to be made, for example, parkwide employee representatives chosen by all workers.

There is a lack of understanding of the roles and responsibilities of different labor market governance institutions and a lack of clarity on the mandates of MoLS, IPDC, and EIC in the IPs. Early attempts at addressing the ambiguity in the legislation took place with the drafting of an MoU between the two institutions that delegated two functions to EIC; mediation to look after disputes amicably and delegations to issue, renew, substitute, or cancel work permits of expatriates.²²³ Unfortunately, the MoU was never officially signed due to the change in leadership of both institutions and has been tabled. EIC continues to perform the

214 US Department of Labor 2013.

215 According to Article 5 of Industrial Parks Council of Ministers Regulation 326/2014, the IPDC is responsible for the development, administration, and promotion of industrial parks as well as the outsourcing of industrial park management and lease of developed land to park developers. Further, “industrial park developers” are defined in Article 2(10) of Industrial Park Proclamation No. 886/2015 as “any profit-making public, public-private or private developer, including the Corporation [IPDC] engaged in designing, constructing or developing industrial parks in accordance with the Investment Proclamation and Investment Regulations, industrial park developer permit and industrial park developer agreement” (emphasis added).

216 Section 8 of Industrial Parks Council of Ministers Regulation No. 414/2017.

217 Article 28 (3) of Industrial Park Proclamation No. 886/2015.

218 Article 21(2) of Industrial Parks Council of Ministers Regulations No. 417/2017.

219 See <http://www.industrial-union.org/ethiopia-workers-strike-for-a-union-in-hawassa-industrial-park>.

220 ILO briefing note to the World Bank on labor practices in Ethiopia’s industrial Parks, August 2021.

221 ILO briefing note to the World Bank on labor practices in Ethiopia’s industrial Parks, August 2021.

222 Article 35 of Industrial Parks Council of Minister Regulation No 417/2017.

223 Article 2, MoU between MoLS and EIC, 2018.

TABLE 5.1. Selected Regulatory Measures on Labor Practices in IPs

Regulatory measure	Current status	Issues
Freedom of association and Workers Representation <i>Labor law is clear on freedom of association.</i>	Mixture of workers' council and trade unions as workers representatives.	Workers' councils are not recognized by Ethiopian labor law and cannot negotiate legally on behalf of workers, for example with Collective Bargaining Agreements.
Industrial Park Tripartite Committee <i>IP Proclamation states tripartite committee should be established by MoI, MoLS, IPDC, and employee representatives.</i>	Not formed.	Committee is not formed. Once it is formed, it is unclear who will be the employee representatives at park level.
Employment contract <i>The Industrial Park Proclamation states contracts should consider IP unique status.</i>	n.a.	Places language that is undefined and open to interpretation by employers.
<i>Industrial Peace Committees</i>	Established in three parks (at time of writing) and managed by EIC. Provides initial conciliation and dispute resolution for disputes and refers to labor courts.	Unclear if sufficiently linked to national labor relations boards.

Source: World Bank compilation.

function of delegation related to expatriate work permits²²⁴ but has now created labor management structures that mirrors MoLS in the parks. The overlapping and potentially conflicting mandates between EIC's Industrial Relations Directorate and the MoLS can potentially reduce the effectiveness of collective bargaining and collective dispute resolution. Table 5.1 outlines some examples of conflicting mandates and their issues.

The establishment of labor units, now called Industrial Peace Directorates, within the park management structure is a positive development. The Directorates report to EIC under the structure of the OSS in the parks. However, the role and prerogatives of these units lack clarity. There is potential for significant confusion between the conciliation and dispute resolution roles of the industrial peace units and their involvement in the negotiation of agreements between workers and employers. They are not sufficiently integrated into the national labor governance system and may lack knowledge of the technical methods, structures, and history of social dialogue and labor governance in the Ethiopian context. There may be a lack of clarity about the mandate of BoLS inspectors within the industrial peace directorate in each IP due to the lack of national agreements on roles and responsibilities between MoLS and EIC, a significant gap when compared to global best practice.

The inefficiencies and gaps in the institutional arrangements to ensure labor rights are adhered to and respected in the IPs quickly became visible. There were a series of revealing investigations into the labor conditions in the country's burgeoning garment sector and the IPs. Accusations abound about low wages, inadequate and unaffordable housing conditions,²²⁵ risks of sexual abuse, and absence of unions,²²⁶ among others. Before COVID-19, Ethiopian IPs were experiencing a wave of strikes and protests, creating challenges for park-appointed labor conciliators and a national labor inspection system with already weak capacity. A 2017 report found that these issues, compounded with the wave of political unrest in the country, impacted investors' willingness to invest in Ethiopia, causing some to divert orders and one to pull out completely.²²⁷

224 Supported by Investment Regulation 474/2020 18(d) and EIC's directive on issuance of work permits to expatriates, April 2021.

225 Yost and Shields 2017.

226 Dean 2018.

227 Yost and Shields 2017.

TABLE 5.2. Grievances and Complaints Registered in IPs in 2020/21 (Ethiopian Calendar year 2013)

Industrial Park	Number of grievances or complaints registered				Referred to court	Annual total per IP	Types of grievance
	Q1	Q2	Q3	Q4			
Hawassa IP	90	209	115	115	1	530	<ul style="list-style-type: none"> • Lack of understanding of rights and obligation. • Wage or salary increment related issues. • Cases related to high absenteeism, low performance, overtime work and working time, sick leave acceptance. • Individual disagreements, especially with immediate supervisor. • Termination without legal ground. • No gender-based violence cases registered.
Bole Lemi IP	31	83	60	322	0	496	
Kombolcha IP	6	13	4	6	8	37	
Total	127	305	179	443	9	1,063	

Source: EIC.

In addition to legislation and its enforcement, practices of businesses in IPs and their global buyers play a critical role for labor conditions—especially in countries like Ethiopia with reduced capacity for labor enforcement or inspection. This takes the form of corporate codes of conduct enforced via social audits that review working conditions in supplier facilities for compliance against the company code of conduct. However, enforcement or influence of standards via buyers with commercial leverage over suppliers is difficult as buyers often need their suppliers to achieve production targets as much as suppliers need them. Most manufacturers have linkages to global brands and the compliance structures they demand, and several manufacturers in the IPs are part of the ILO Better Work program that is funded by donors and buyers alike and operates globally.

The ILO Better Work audit has de facto supplanted the government's labor inspection regime. The program is more resourced and can leverage international expertise. It works with 47 textile and garment factories with 53,883 employees, both in and out of the IPs. The Ethiopia program published two annual synthesis reports of assessment conducted in 2019 and 2020 where 586 incidents of noncompliance were found.²²⁸ Over 75 percent of the incidents were related to occupational safety and health with 205 incidents being either addressed or in progress by the time the reports were published while still others were not within the control of factories to address them.²²⁹ Additional incidents were related to working hours and overtime, and some were related to issues of verbal abuse that require long-term investments in behavior change of individuals, which is exacerbated by the high turnover of workers and management.

IPs have both a factory-level and park-level grievance redress mechanism. The first is established within factories, generally to fulfill compliance audits for buyers but can play an important role in identifying, preventing, and remediating issues of concern on the factory floor. Factory level grievance mechanisms can support workers' ability to raise concerns and seek remedy in the workplace and enable factory management to understand and address issues before they escalate. They also provide global buyers sources of data about factory conditions in their supply chains to being confidence that the right systems are in place to prevent and address risks (see table 5.2). In reality, such a system requires workers to trust and factories to be accountable and responsive for the mechanism to function well. The Industrial Peace Directorate in the EIC has established parkwide grievance committees and guidelines in Bole Lemi, Kombolcha, and Adama and has hired a female counselor for workers. The committee sits in the OSS and has an appointed member from the regional BoLS. In 2020/2021, 1,054 complaints or grievances were resolved by this committee while 9 were referred to the local court.

²²⁸ ILO briefing note to the World Bank on labor practices in Ethiopia's industrial Parks, August 2021.

²²⁹ Examples of incidents outside the control of the factories include an occupational safety and health directive that requires appointment of officers with specific training, but this training is not available in the country. Factories cannot access fire control panels as they are administered by park management. Personal protective equipment required by law is unavailable in the local market and has to be imported.

3. Workers' Transition into Industrial Park Employment

3.1. Role of recruitment interventions

Employment services have an important role in linking job seekers and job opportunities that IPs create, but matching labor demand and supply are not sufficiently supported in Ethiopia. The concentration of large numbers of new jobs requires intentional links with public and private sector matching agencies that can fulfill the demand at the pace that the manufacturers require. In Ethiopia, employment linkages for job seekers with the thousands of jobs becoming available at the parks were not happening automatically, despite there being multiple stakeholders involved in collecting demand and supply labor market information and facilitating employment linkages. A mapping of these agencies by the Job Creation Commission (JCC) found that most labor market information collected by the numerous public sector agencies were report-driven in nature and offered limited services, few insights produced by the data collection, and inadequate capacity to provide job-matching services.²³⁰ Private sector job matching agencies in Ethiopia are mostly concentrated in Addis Ababa working with white collar job roles, and few agencies had experience with the scale of matching needed by the IPs.

In the absence of labor market linkage programs to support the matching job seekers to the roles in the IPs, donor programs filled the gap. Existing public sector job matching services found it difficult to meet the high demands for labor in the IPs quickly. First tenants into Bole Lemi IP (in 2014) and Hawassa IP (in 2017) complained about the lack of sufficient labor;²³¹ donor programs responded to enable employment linkages by leveraging existing programs facilitated by local governments. In Bole Lemi IP, the World Bank-funded Competitiveness and Job Creation Project (CJCP) provided this service, and in Hawassa IP the UK Aid-funded HIPSTER—Hawassa Industrial Park Sourcing and Training Employees in the Region. The HIPSTER program in Hawassa IP provided an end-to-end labor sourcing program by screening unemployed youth at the kebele level in 10 Southern Nations, Nationalities, and People's Region (SNNPR) zones and working with the investors associations to allocate screened and graded workers according to factories' labor demand. Similarly, in Bole Lemi, the CJCP worked with Addis Ababa government, the Oromia special zone administration, and the investors' associations to source, screen, grade, and place workers into park employment. One key difference between the two programs is that the HIPSTER program, by design, prohibited factories from sourcing directly from the labor market. Donor funding for both programs was in large part due to the potential for addressing the disproportionately high unemployment rate for young women.

Labor market linkage programs were especially needed in the larger IPs where multiple large factories were starting operation at the same time. Both Bole Lemi and Hawassa IPs had a concentration of factories that were starting operations at the same, requiring initial intakes of thousands of employees and reporting to require aggressive expansion numbers. In Bole Lemi, the CJCP had a target of 1,770 operators²³² per month while HIPSTER in Hawassa IP had a target of 3,000 workers per month.²³³ In comparison, factories in the Eastern IP were taking up their sheds at a slower pace with only a handful of them having over 500 workers. At the start of their operations, factories in Eastern worked directly with the local government administrations in Dukem and Debre Zeit to tap into the job seekers' data held in those offices.

These early models have been expanded and are currently implemented as the National Industrial Park Labor Sourcing Program in all IPs with EIC and IPDC as the lead government agencies and funded by the MasterCard Foundation.²³⁴ These programs plug the gap in labor market services that enable job linkages and transitions into employment for job seekers. They are arguably more important at the first stages of IP operations where job seekers are unaware of the employment opportunity. Once the labor market information is more widely available in the established parks such as Bole Lemi, Hawassa, and Eastern, job seekers tend to arrive, congregate at the gate, and register themselves directly with the factory or IPDC as job seekers. It will be important for the government agencies to use the learnings from the recruitment programs of current IPs to build capacity and institutionalize operations where required and proactively plan for addressing similar issues in onboarding factories and workers in new IPs or for those not covered by the national program.

230 JCC Ethiopia Labor Market Information System [Beta] created by Dalberg. <http://lmis.jobscorrelation.gov.et/>.

231 Enterprise Partners 2020.

232 IPDC Competitiveness and Job Creation Project, 2014 -current.

233 Enterprise Partners 2020.

234 Bridges Program funded by Mastercard Foundation and implemented in the following IPs: Hawassa, Adama, Debre Berhan, Dire Dawa, Bahir Dar, Mekelle, and Kombolcha.

An early model of the national labor sourcing program in Hawassa IP ran into issues of recruitment from other regions outside of SNNPR. The labor sourcing program was based on partnerships with the local government, which meant by design it was working with the data of job seekers collected at kebeles in the 10 zones of SNNPR region,²³⁵ and this meant that all workers coming into Hawassa IP employment were from this region. Factories that wanted to recruit from the nearby Oromia region were unable to do so as the program was not designed to accommodate recruitment outside of the established structures. In practice, the factories were hiring directly from all over Ethiopia for the semiskilled and managerial job levels, but factories were obliged to hire via the program at the IPDC grading center, which allowed for a single point of entry for all unskilled or operator level workers. This changed in 2018, when the Hawassa sourcing program negotiated with all stakeholders and added the ability of accepting all direct walk-ins at the IPDC grading center site (interview with Hawassa IP recruiter), allowing all Ethiopians seeking employment to do so freely in accordance with the law.²³⁶ This lesson has been adopted by the national sourcing program, and all IPs now allow for direct recruitment of walk-in job seekers.

The National Industrial Park Labor Sourcing Program aims to source individuals only above the age of 18 to prevent displacement from education.²³⁷ At the screening stage, the age of an applicant is calculated using both the job seeker's kebele identification and the 8th grade school leaving certificate to triangulate and calculate the age at the time of employment. These identifications are further verified during allocation to factory at the IP when details are entered into an electronic database of workers. Despite these checks, underage workers were sometimes employed due to forged identification.²³⁸

Recruitment interventions are helpful in situations where there are information asymmetries and where financial and social capital is required from people to migrate from rural to urban areas for work opportunities. Labor sourcing models have the capability of equalizing the migration opportunity by providing supportive measures such as transport and direct job placement that minimize the costs of seeking employment for job seekers.²³⁹ On the other hand, sourcing labor from rural areas where urban unemployment is already high might contribute to frustrations among the urban unemployed.

Despite successfully linking thousands of job seekers to the IPs, recruitment problems remain—for example, related to misinformation. Despite efforts to provide consistent information to job seekers at various points of recruitment and handouts with basic information, many workers were coming into factories reportedly being unaware of the details of their employment (such as their salary) and living conditions (interview with Hawassa IP recruiter). This was a major cause of subsequent high turnover of workers as workers often arrived to take up their work placement unprepared to settle into the city, ill-equipped to search for housing, and unprepared to purchase the basics of household items, having not carried any with them during their journey. Given the downsides of high turnovers, some IP employers engaged in providing better information to be shared with potential workers, but misinformation appears to be persistent and pervasive.

IP employment and recruitment continue to be exclusionary to young men looking for employment opportunities. The national labor sourcing program aims to attract more women than men into the unskilled operator level of employment, reinforcing the current gender imbalance. Lessons from Hawassa IP, where men and women were being sourced at the kebele level to hit targets of 20 and 80 percent respectively, show that in reality, preference was given mostly to female candidates. This led to concerns raised by village chiefs, local government, and young men speculating on more sinister motives of companies' preference for women being employed in IPs (interview with Hawassa IP recruiter).²⁴⁰ Concerns over unequal treatment of male candidates resulted in the closure of the grading center outside the Hawassa IP on a number of occasions in 2018 and 2019 when young men would question grading center workers why so few were being allocated despite being screened and in the system (interview with Hawassa IP recruiter).

235 In Hawassa, the program started with 7 zones and then expanded to all 10 zones of the then SNNPR.

236 Article 41(1) of all the regional constitutions (Article 39[1]) in the case of Afar Region) states that any Ethiopian who resides or desires to reside in any of the regional states has the right to freely engage in any economic activity and to pursue a livelihood of his choice anywhere within the regional territory.

237 Article 89 of the Labor Proclamation prohibits employment of persons under the age of 15. Those who are 15–18 years old may work if they are not in school and are prohibited from certain sectors, limited to 7 hours a day only.

238 Bridges Program 2021.

239 However, the requirement of the grade 8 completion by the sourcing programs means that women working in the IPs are likely better off than the poorest segment of the rural populations they are migrating from.

240 Interview with HIP recruiter.

The recruitment system is not conducive to placing people living with disabilities into employment. The job screening processes failed people living with disabilities as being unable to operate sewing machines. The majority of factories working with the ILO Better Works Programme have few (less than 10) workers with disabilities, although they say they would like to hire more. The Ethiopian Center for Disability and Development (ECDD) works with development partners such as UK Aid and ILO to address these structural barriers within the National Industrial Park Sourcing Program. ECDD has thus far sourced and screened over 1,100 youth with disabilities and have placed 43 in Bole Lemi and 70 in Hawassa, Mekelle, and Kombolcha IPs with more planned across the country (interview with ECDD). In addition, the ECDD has conducted accessibility audits to support factories in making workplace adjustments for effective integration of people with disabilities. They have also conducted accessibility audits for a number of IPDC-run parks, which make park-level recommendations for improvements, including adding signs and improving physical accessibility (such as stairs and sanitary facilities).²⁴¹ These inclusion efforts are important to support as it is estimated that 95 percent of people with disabilities are unemployed and live under the poverty line in Ethiopia.²⁴²

Regulated and formal channels of labor supply and recruitment are important to prevent the proliferation of brokers, or “delalas,” around the IPs. Licensed and unlicensed delalas in Ethiopia play an important role in placing rural migrant young women into jobs, although mostly into employment as domestic workers, in the service industry, and occasionally into sex work.²⁴³ The risk of deception or coercion increases with the usage of brokers, and these behaviors could constitute trafficking or forced labor.²⁴⁴ Therefore, there needs to be further investigation into the extent to which companies use informal networks or brokers to source workers and the resulting potentially problematic behavior. In any case, the systemic adoption and expansion of existing formal labor sourcing programs as well as formalization of any existing informal recruitment channels will be important to ensure that female workers, in particular, are not exposed to problematic informal broker networks.

3.2. Role of host communities

There is a lack of strategies to address the shortage of local housing, public transport, and adequate social services that would be required to support the influx of IP workers. Manufacturers often cited the lack of housing, sanitation, adequate transport, and supportive infrastructure as the root causes of high rates of turnover and absenteeism.²⁴⁵ Worker turnover was seen as being extremely high in the first three months of IP employment due to these difficulties; despite hoping to become financially independent, park workers struggled to cover basic expenses and sometimes relied on financial support from their families.²⁴⁶ Some factories based in Hawassa supported their workers by helping them find housing by working with local housing brokers. Others provided a salary advance to enable workers to settle in (interview with Hawassa IP recruiter).

Given the large number of migrant workers inside IPs, there is a large-scale need for supporting infrastructure, housing, and transport that is integrated with local urban planning and development. Large numbers of workers are migrants into IP vicinities—for example, 89 percent of Bole Lemi IP workers had migrated into Addis Ababa,²⁴⁷ while 80–90 percent of workers will be migrants into Hawassa and Mekelle.²⁴⁸ Housing is the biggest concern for workers; they tend to spend a large portion of their salary on accommodation,²⁴⁹ often sharing with up to three roommates for rooms they consider suboptimal with poor sanitation and access to water.²⁵⁰ In Hawassa, a number of government housing schemes, such as the Integrated Housing Development Programme, cooperative housing, and the Sidama microfinance institute scheme contributed to the housing stock. IPDC has also allowed private investment to build housing,²⁵¹ but demand far outstripped supply at the start.²⁵² The housing stock since has expanded with Hawassa workers living in shared accommodation in areas known as 01, Dato, Chefe, and Monopol where landlords have built single rooms to rent to park workers.²⁵³

241 ECDD 2019.

242 ILO 2015b.

243 Erulkar 2020.

244 Erulkar 2020.

245 Summary of proceedings at a “Building an Industrial Workforce Workshop” in June 2018.

246 Dom et al., forthcoming.

247 Ajayi et al. 2021.

248 World Bank. Housing Diagnostic Roadmap.

249 Enterprise Partners and UK Aid 2017.

250 Dom et al., forthcoming.

251 For more information see Construction Review Online, “Plans for Construction of Service Centers at Industrial Parks in Ethiopia” at <https://constructionreviewonline.com/news/ethiopia/industrial-parks-in-ethiopia/>.

252 Grant et al. 2020.

253 Dom et al., forthcoming.

Availability of quality housing is critical to support the ambitions of Ethiopia’s IPs and a challenge that is recognized by the government. Quality housing for IP workers brings improvements in labor productivity, provides safe dwelling for mostly young and female workforce, and increases compliance with international labor standards. The EIB has taken decisions that allow investors to build dormitories for their workers, and parks can provide lease-free land based on case-by-case approval of the EIB. Shints factory in Bole Lemi IP used this scheme to develop 4 buildings that accommodate over 2,000 workers, while other factories in Hawassa and Adama IPs have taken possession of the land as well as a private housing developer in Hawassa set to build accommodation for 6,500 workers. More uptake of these type of formal solutions will be important to circumvent migrant workers from renting in informal settlements that may be in remote areas and were women, in particular, would be vulnerable in informal housing arrangements, face long commutes, and need evening transport constraints.

Safety and security concerns often emerge in relation to transport issues and location of housing. A 2020 study by Grant et al., produced by the International Institute for Environmental Development’s Human Settlement Group, highlights an area of safety and security concerns that has relevance to IP workers both in Hawassa and other cities where informal housing settlements will likely develop in the absence formal housing options for park workers. Young women travel to informal settlements where limited transport option puts them at considerable risk of violence. Workers report having experienced or known others who have experienced, particularly during early or late hours, theft under threat of violence, direct threats, or sexual violence and rape.²⁵⁴ Workers tend to travel in groups to reduce security risks and generally feel they have no recourse if they are victims of any sort of crime as they report feeling that police rarely intervene to help.²⁵⁵

Host communities’ roles and relationship with workers’ integration. Donors and international buyers have also stepped in to support workers’ integration into surrounding communities with a USAID- and PVH Corporation-funded and international NGO-implemented program in Hawassa. The program, developed in partnership with investors in Hawassa, provides workers with factory employment orientation, an information packet upon arrival, and support related to settling into the community, such as information on housing and transport. The program works with host communities and provides start-up grants to businesses that are willing to work with the project to pivot their services to the needs of workers. Such programs aim to address crucial gaps in services for migrant workers with the aim to establish a community-based welcome center to provide basic health care and support to access government identification cards. At the time of writing, the project was working with a leading buyer in Ethiopia, The Children’s Place, to establish a subsidized childcare center for HIP working mothers.

3.3. Role of other factory and park-level interventions

In the absence of a large-scale, public–sector-led solution to the worker housing and transport problems, factories have responded by providing in-kind benefits. A World Bank survey conducted in 11 IPs found that 71 percent of surveyed firms provide transportation services as a benefit for their workers, with a few more firms providing transport at subsidized rates. Housing was not as widely offered, with only 6 percent providing housing free of charge and another 6 percent giving their workers a housing subsidy.²⁵⁶ Even when factories provided transportation services it did not necessarily mean that workers did not face problems. In Hawassa IP, factory buses could not always enter unpaved areas where workers lived; this was problematic particularly for the night shift as workers felt afraid to walk home due to reported incidents of robbery, hyena attacks, and even rape.²⁵⁷

In addition to adjusting to living conditions, workers generally experience a significant culture shock upon coming into the IPs. In a 2019 survey, less than one in five workers in Hawassa had previous nonfarm work experience, with over 60 percent coming directly from education and 14 percent being previously unemployed. Most came from families that practice subsistence agriculture and were the first of their family to work in a nonfarm setting. Workers from this background are ill-prepared with insufficient orientation about the nature of factory work—accentuating the misinformation issues described above. These difficulties in adjusting often lead to higher turnover in the first few months of employment. In Bole Lemi, which is linked to the larger Addis Ababa labor market, almost 50 percent of job applicants had previously held some form of wage employment and just over a quarter had previously done some form of factory work.²⁵⁸ While this data is not available for Kombolcha and Adama, anecdotal

254 Dom et al., forthcoming.

255 Dom et al., forthcoming.

256 Meyer, Krkoska, and Maaskant 2021.

257 Enterprise Partners and UK Aid 2017.

258 Ajayi et al. 2021.

evidence suggests that the experience is likely to be closer to Bole Lemi rather than Hawassa given the proximity of industry and opportunities of other types of wage employment for this labor market.

Donor-funded programs were put in place to support the transition into factory work and park employment by providing soft skills and other life skills training. In Bole Lemi, the World Bank CJCP program provided soft skills training to over 7,500 workers and 200 training-of-trainers to government partners. In Hawassa, the UK-funded HIPSTER program provided pre-employment soft skills training directly to 7,500 workers and gender and sexual and reproductive health (SRH) training to 36,00 workers after employment via the BSR HERproject. The buyer PVH worked with Care to roll out its international P.A.C.E. program that provides soft skills and empowerment training to the over 5,000 workers in its supply chain. While the need is broadly recognized, the interventions are mostly investor- or donor-specific rather than universal, and not enough is known about the efficacy of the training efforts.

A lack of general industrial orientation had entrants coming into employment relationships with unrealistic expectations. Even if the job seekers had some exposure to previous employment, conditions inside the IP could be so markedly different than workers were used to. Foreign investors and exporters tend to operate differently than domestic enterprises, and this will be reflected in the terms and conditions; hours of work tend to be longer, wage calculations a little more complex, and expectations of productivity higher, making the work environment more intense. Workers needed to be informed, ready, willing, and able to adapt to these conditions. The information provided to workers at the recruitment stage is necessarily generalized to represent IP employment generally. In reality, there were significant variations in working conditions among the different factories and parks, and workers were often unhappy to find that it was not straightforward to change their factory once allocated to it.²⁵⁹ The variation in pay between and within IPs could be significant with some parks having up to 40 percent of employers with a base pay beneath regionally adjusted poverty lines and total compensation in the better-paying factories reportedly being over Br 5,000 per month for new entrants, placing the workers in the top third of all urban households.²⁶⁰

Workers express unhappiness with wages, strict policies, and management styles but will stay for a lack of alternatives. Workers view IP employment as a stepping-stone to financial independence, personal autonomy, and continuing educational goals.²⁶¹ The empowering potential of IP employment is constrained by the workers' sense that long-term employment in IPs is undesirable due the working condition. Still, they recognize that living independently from their families, while difficult, allows them to develop a range of life skills, including increased self-confidence, communication, negotiation, and financial management. Workers often express a desire for factories to support their educational goals. Anecdotal evidence shows that some factories, in Hawassa IP for example, have made changes to their shifts to allow workers to attend school in the evening or on Saturday.

Workers' turnover continues to be a concern for manufacturers and is often cited as the disincentives for investments into training. Studies show that factories experience a significant amount of attrition in the first months of employment, with turnover reducing to low single digits once workers employed beyond one year.²⁶² While there is some provision of technical and soft skills training to bridge this transition to work, training investments to build an industrial workforce is in part about social and cultural change that goes beyond the factory fence. Agricultural workers may not find it easy to adapt quickly within one generation to the discipline of factory work.²⁶³ It is argued that East Asia's successful industrialization in its early stages might be attributable to the availability of female laborers who socialized in the conditions of wet rice agriculture and could therefore provide disciplined and timely work.²⁶⁴ Given that 80 percent of the Ethiopian workforce and the source of labor are engaged in subsistence agriculture, more intensive interventions are likely required to tap into the workforce capacity to be productive in an industrial environment.

Any weakness in the education and training system undermines the employability of job seekers and the effort to create a productive export-orientated manufacturing base. This increases the cost to the employer for recruitment, placement, and training and forces exporters to bring in more expensive expatriates to fill positions such as quality controllers, mechanics, technicians, and production engineers. The poor linkages between academia and industry and the lack of practical and soft skills that

259 Dom et al., forthcoming.

260 Currently based on the 2016 consumption data from Ethiopian Electric Utility.

261 Dom et al., forthcoming.

262 Abebe, Caria et al. 2019. *Determinants and Implications of Worker Turnover* in a Nascent Industry.

263 Thompson 1967.

264 Gareth Austin. 2015.

match industry demands among TVET graduates in Ethiopia has affected the employability of technical trained personnel from obtaining jobs at the park. In China this problem has been studied for over a decade, and yet the situation has not improved with Chen, Grant and Mourshed (2013) predicting in 2013 that China would have a shortage of 16 million vocational school graduates in 2020 and 8 million university graduates.²⁶⁵ They also noted that 61 percent of companies surveyed have attributed the shortage of skilled workers to a lack of employability skills, including soft skills. In a 2017 report by Hays, an employment recruitment company, 97 per cent of employers surveyed in China were still struggling to find the skilled workers they require.²⁶⁶

Initiatives that bridge the gap between skills required by the industry and skills acquired during vocational and university education are important. An example of such initiative is a public private partnership between buyers PVH and H&M and GIZ Ethiopia. The initiative in Hawassa, partnering with PVH, aims to improve the skills and promotability of employees at the lower and middle management level working with neighboring educational institutions to place intern students in Hawassa IP factories.²⁶⁷ In Mekelle, the technical training initiative aimed to set up a vocational training “center of excellence” at a privately held IP.²⁶⁸ These types of practical training and workers’ readiness interventions build sustainable capacity at the industry level without needing to rely on training investments made solely by investors.

Salaries are a critical aspect of IP workers’ well-being in Ethiopia. While pay is largely comparable with other sectors of the local economy, there is great variation between parks and employers. It is widely cited by workers and other stakeholders that the low pay in IPs is the primary cause of workers’ low productivity, high worker turnover, and absenteeism. In the media, comparisons were commonly made to average pay of garment sector workers in other countries, with manufacturers in the IPs often being accused of paying unlivable wages. A World Bank study looked at wages and compensation by conducting a firm-level survey covering 70 percent of firms in both public and private IPs. The survey found that the pay was comparable to the local cost of basic needs and was in line with other sectors of the local economy. The same study, however, found significant variations in pay both within and between parks. Although no IP firm paid below the local poverty line when considering the full workers’ compensation package, for the base pay alone over a one-fifth of the firms surveyed fell beneath this threshold.²⁶⁹ This highlights the importance of variable pay and in-kind benefits to total worker compensation. Information availability and proactive communication of salary and working conditions can improve workers and public perception of the employment opportunity in IPs.

There is currently no minimum wage in Ethiopia, and in labor markets where there is no official system of wage determination, employers generally refer to the prevailing wage when recruiting workers. In addition to competitive pressures and tendencies of a global “race to the bottom” in value chains like textile and garments, firms’ reactive approach to wages and benefits reflects the fact that many companies in the value chain have rudimentary personnel administrative systems and practice. Managers at the factories see wages and benefits as compliance issues rather than a human resource management tool. In fact, many of the companies do not have a strategic plan, human resource’s function, nor compensation strategy linked to the goals of the factory.²⁷⁰ They are therefore unable to react strategically to the challenges such as shortages of labor, high turnover, or sudden increases in cost of living leading to further tension within the employment relationship. These tensions are exasperated by outside influences, such as the campaign for living wages that has been spearheaded by transnational labor unions²⁷¹ and that has gained momentum. The approval of the revised labor proclamation in 2019 has paved the way for government to preparing for a minimum wage proclamation and organizing a wage board, a process that may take several years before establishing a minimum wage.

An abrupt transition for young women from living in traditional home settings to living and working in areas with more men will have potential challenges for SRH outcomes. IP workers are young, mostly between the ages of 18 and 25, unmarried, and do not have children—therefore a group in the prime of their reproductive years. Female operator-level workers especially have low levels of education and are mostly rural with minimal opportunity to have exposure to general, SRH information. Anecdotal evidence from factories, workers, and local government suggests that there have been multiple cases of unplanned

265 Chen, Grant, and Mourshed 2013.

266 Hays 2017.

267 GIZ 2019.

268 GIZ 2018.

269 Meyer, Krkoska, and Maaskant 2021.

270 Enterprise Partners and UK Aid 2017.

271 Trade unions are currently campaigning for minimum wages above US\$121 per month. See IndustriALL, “Ethiopian Textile Unions Campaign to End Poverty Wages” at <https://www.industriall-union.org/ethiopian-textile-unions-campaign-to-end-poverty-wages> (May 10, 2018, accessed March 14, 2022); IndustriALL, “ACT Initiative: A Potential Strategy for Living Wages in Ethiopia” at <https://www.industriall-union.org/act-initiative-a-potential-strategy-for-living-wages-in-ethiopia> (February 27, 2020, accessed March 14, 2022).

pregnancies among workers. Provision of SRH services at IP clinics or at the factory level can go a long way in increasing awareness, removing taboos, and providing access to family planning and prevention of sexually transmitted diseases.²⁷² It is likely that factories are hesitant to provide these services within the first aid clinics they have onsite. Park clinic-level solutions are more feasible but will require some investment and strong referral linkages to both outside health services and to factories that might be the first point of call for the worker.

4. Conclusion

Ethiopian women working in the IPs have the capacity to become powerful agents of growth and poverty reduction. The IPs offer a pathway to enter the formal economy for the first time in a country where young women are at an inherent disadvantage due to social norms and other barriers to labor market participation. Evidence from other developing countries shows that industrial employment in low-skilled manufacturing jobs can generate welfare improvements, promote gender equity, and improve the quality of life for workers. Gender inclusive growth will likely have positive impacts on future generations of Ethiopian children with working women potentially prioritizing children's education, delaying childbirth, and having fewer children.

Young female migrant workers face risks that may become barriers to their economic advancement. While all workers face occupational health hazards on the factory floor, most operators are migrants between ages 18 and 25 who are exposed to SRH challenges and are exposed to unplanned pregnancies and sexually transmitted diseases due to limited knowledge and access to services combined with increased opportunities to socialize and work with young men. Migrant female workers can also become vulnerable to gender-based violence and different forms of harassment in and out of the workplace.

Labor sourcing programs have a strong role to play in ensuring job seekers' expectations of IP employment is realistic and informative of both the opportunities and the risks. Workers experience significant change upon joining factory employment but generally underestimate or are unaware of the living and working conditions that they need to adapt to. Labor sourcing programs are important tools to counteract both negative and positive narratives about park employment, compensation structures, and working and living conditions. Recruiters can address unrealistic expectations of employment that often lead to high amounts of turnover in the first months of joining employment, but then tapers off after the first year of employment.

The lack of strong social protection services and mechanisms makes working and living conditions more difficult for workers and delays the transition toward building an industrial work force. There is an absence of social protection mechanisms such as minimum wage, health insurance, and social services such as SRH services, childcare, or psychosocial services that are particularly needed by potentially vulnerable women who constitute the majority of workers. Access to affordable standardized housing, transport, security, and other essential social services are lacking.

Workers and employers both have low awareness about rights and responsibilities in the employment contract in Ethiopian law. There is low participation and coverage of workers' representative unions and therefore minimal bargaining power. Grievance redress mechanism are either nonexistent, weak, or not trusted and utilized by workers. This is also true of factory level grievance procedures, generally mandated by buyers but lack the adequate linkage with park- or regional-level labor enforcement channels. This, coupled with the low quality and coverage of labor inspection services, increases the vulnerability of workers and is not supportive of factories that may want to invest in positive working conditions.

Several interventions to support workers and factories have been implemented by donors and buyers with Corporate Social Responsibility initiatives, but these have been fragmented and limited. Development partners and socially responsible investors and buyers have put in place several initiatives ranging from employment linkages programs, providing soft and technical skills, conducting labor and social audits, supporting workers wellness, community integration programs, and provision of services such SRH training and childcare. The government is usually not in the driver's seat to coordinate and effectively implement these initiatives to maximize investments and increase internal capacity to ensure sustainability.

272 Discussion at "Building an Industrial Workforce" workshop, June 2018.

5. Recommendations

5.1. Policy

Review the optimal arrangement for labor management in the IPs and communicate a clear mapping of the content and designation of mandates inside IPs. National-level dialogue among relevant line ministries is urgently required to negotiate and agree on the effective sharing of responsibilities. This is in line with global best practices and should include a pragmatic review of institutional capacity and capabilities, allowing the focus to shift toward the building of capacity of all relevant institutions—regulatory, worker, and employer representatives. With the increasing pace of industrial development, the need for collective dispute resolution services is guaranteed to increase and should be actively planned for. Investments in capacity building will need to mirror the clear designation of mandates.

5.2. Implementation

Develop an investment promotion strategy that attracts and assesses potential investors based on their capacity to implement socially and environmentally responsible manufacturing and sourcing in Ethiopia. In attracting foreign investment to build its manufacturing base, increase employment opportunities, and expand foreign exchange earnings, Ethiopia has an opportunity to market itself as a sustainable sourcing location that does not compromise on standards and compliance. Attracting the right investors, manufacturers, and reputation-conscious brands with a similar vision can support the joint efforts by the government and development partners and will put the country on the right path toward sustainability. Similarly, a government that shows its strong commitment to enforcement of labor and social standards will be unlikely to attract investment from companies that do not feel a similar sense of responsibility toward their workers and the community in which they operate.

Invest in the social infrastructure surrounding the IPs and develop a social protection strategy clustered around parks. IPs have a one-stop arrangements for incoming investors to help streamline administrative procedures; a similar investment in services for incoming workers would help ensure a balance between industrial, labor, and social systems that combine to ensure a socially sustainable IP. Provision of housing with adequate sanitation and cooking facilities, accessible transport and social services including affordable education, health, and recreation services are important. Filling the gaps in the local service ecosystem might require specific incentives to facilitate external investment and should be integrated with local urban planning and development efforts.

Balance the needs and interests of each stakeholder during wage-setting mechanisms. At the moment, foreign investors do not have a seat at the table and are not engaged in the standard tripartite mechanisms of the country. The recently established wage board will have a crucial role in balancing the interests of all parties, including foreign direct investments (FDIs) as well as being cognizant that the decision-making pace remains relevant to the government's needs of increased investment. Expediating the process for establishing minimum wages will provide basic protection for workers and a context-appropriate floor that will assure future investors that require it.

Engage concentrated efforts in capacity building that is required for all the institutions that have a role in labor market institutions. Investment in institutional capacity-building is needed. While donor programs have been successful in implementing labor market programs such as recruitment and employment linkages and conducting inspection services, there is a lack of institutional capacity within the government to effectively carry out these interventions and ensure the sustainability of labor market services. A short- to medium-term solution to building capacity in inspection services could be to incentivize tenant factories to be enrolled in existing programs that provide international-standard factory social compliance audits.

Enable data collection and coordination of social auditing and certification initiatives in the IPs using technology. Shared information on data related to social and environmental performance, inspection visits, audit reports, and any training that covers environmental and labor standards would increase efficiency in compliance monitoring. Systems that can automatically compare social audits, certifications, and inspection reports could generate risk profiles of investors allowing authorities to make timely intervention to prevent conflict or abuse of standards. The cost of labor enforcement can potentially be considered and included in the business model of the IPs.

Build IPs' image with external communications and engagement that is strongly integrated with employment linkages and community integration programs. Mass communication programs that inform workers about the realities of IP employment are needed to address pre-employment expectations. Community integration programs that support de-risking migration and provide support with an initial settling-in period tackle the initial stages of vulnerability, particularly for young female workers.

Harmonize training and worker capacity development efforts. A large amount of investment is going into worker training by factories, donor agencies, and public and private sector educational institutions. Increased coordination and streamlining of these efforts are needed to leverage better return on the investment as well as to enable scalability and sustainability.

Environmental Sustainability

1. Introduction

Sustainable industrialization is a critical part of development. It means ensuring growth in Ethiopia is smart and not harmful to the environment. Improved sustainability has a multitude of benefits. Not only does it promote a better image of industries and the country in general as an investment location but ensures that Ethiopia does not suffer the same negative economic consequences that other countries have gone through.

If not managed properly, industrial park (IP) programs may have negative environmental impacts, particularly regarding emissions and water use of industries like textiles and garments. Based on business-as-usual scenario, Ethiopia's greenhouse gas emissions are forecasted to increase from 150 metric tons of carbon dioxide equivalent (MtCO₂e) in 2010 to 400 MtCO₂e in 2030. While the industry only accounted for 3 percent of those emissions in 2011, it is predicted to reach 18 percent by 2030.²⁷³ The country also faces severe water shortages with nearly 31 percent of the population lacking access to water and another 28 percent having only limited access to safe water.²⁷⁴ The IP's predominant textile and footwear industries especially raise a number of sustainability concerns and put stress on the country's environment—from raw material procurement to product manufacturing and end-of-life disposal. Some key risks associated with these sectors include excessive water use, large amounts of wastewater effluent, and energy use.

Given growing pressures on the environment, the government has included environmental sustainability in several economic development policies and dedicated plans and is undertaking initiatives to mitigate climate impacts. Besides being essential for the environment and Ethiopian people, environmental sustainability has become a competitive factor as global buyers increasingly require commitments to manage environmental externalities. Environmental sustainability is therefore of paramount importance for Ethiopia's IPs, particularly the textile and footwear sectors. At the national level, the government adopted a Climate Resilient Green Economic (CRGE) plan in 2010/11 that emphasizes a more sustainable development pathway. Similarly, the second Growth and Transformation Plan (GTP-II) enshrined climate resilience and green transformation as part of its goals to improve productivity and output in the industrial sector. Ethiopia's Industrial Park Proclamation requires compliance with social and environmental obligations enforced by the national government. Recently, the government launched its Ten-Year Development Plan (2021–30) that focuses on promoting manufacturing of quality and competitive food, textile, housing, and pharmaceutical products for export and domestic markets. This plan

²⁷³ Source : <https://www.undp.org/content/dam/ethiopia/docs/EthiopiaCRGE.pdf>.

²⁷⁴ Source: The Ethiopia Water Crisis: How You Can Help | Lifewater.

signals the need for strengthening the national regulatory framework to move toward more competitive and sustainable manufacturing practices inside and outside of the IPs. In addition, the government has been undertaking an extensive reforestation program nationwide to mitigate climate impact.

This chapter focuses on water use, the management of wastewater discharge, wastewater treatment sludge, and solid waste as well as on energy as critical dimensions for the environmental sustainability of IPs in Ethiopia. Aspects related to the supply and provision of services related to water, energy, waste treatments plants and other utilities are covered earlier under the Operation and Management Chapter, and it would be important to consider the issues in both chapters to address accessibility as well as sustainability needs.

Environmental sustainability needs to be addressed across various levels and by different stakeholders to be effective. Given the interconnected nature of environmental sustainability, viable solutions require action from high-level political leadership as well as coordination among multiple public and private stakeholders. This section gives an overview of the key actors for environmental sustainability of Ethiopia's IPs: at the level of national or cross-sectoral policy and their implementation (for example, the prime minister's office or line ministries), IPs (for example, the Industrial Parks Development Corporation; IPDC), as well as the private sector. Moreover, international development organizations play an important role in providing financial and technical support. The following overview lists key players by stakeholder group, the order of which is not meant to indicate their level of importance for the sustainability agenda.

1.1. National or cross-sectoral policy and implementation arrangements

- **Environment Protection Authority (EPA)**—EPA is responsible for formulation, initiation, and coordination of strategies, policies, laws, and standards as well as procedures and upon approval, monitoring and enforcing their implementation. While the law prescribes EPA to be the key agency to pursue the environment and sustainability agenda, EPA's capacity and resource constraints limit enforcement on the ground. IPs are struggling to ensure enforcement of environmental requirements, while monitoring and auditing remains insufficient.
- **Ministry of Water and Energy (MoWE)**—MoWE is the key agency for regulating water use, release or discharge of waste, and waterworks construction permits, as well as regulating energy use and efficiency, including renewable energy. Its role becomes more significant since both energy and water are important resources for IPs' operations. The forefront sectors in IPs (textile, apparel, footwear, leather) are heavily dependent on electricity, and cheap and reliable power is a key reason for foreign direct investment (FDI) flows into the textile and leather sector in Ethiopia.
- **Ethiopian Standards Authority (ESA)**—Internationally harmonized environmental standards play a crucial role as guidelines that support companies to comply with national environmental regulations and environmental requirements from international buyers. Moreover, certification based on such standards serves as a way to assess compliance with sustainability principles. ESA therefore plays a critical role in supporting companies to achieve sustainability targets and provide business-friendly support to line ministries' enforcement of regulations. Moreover, ESA contributes to technology and knowledge transfer by providing training and technical support practices.
- **Ethiopian Investment Board (EIB)**—EIB plays a major influence for embedding sustainability as part of investment decisions in Ethiopia. Though the primary focus of the board is not on operational and implementation aspects, the policy and IP development directions set by EIB have been toward environmental and social (E&S) measures' improvements, such as hydropower generation, electric-power railways, and IPs with eco-friendly infrastructure.
- **Ethiopian Investment Commission (EIC)**—EIC also aligns with the nation's development strategy, which is a green growth strategy. While its primary focus is on investment promotion, it is also responsible for ensuring E&S standards are adhered to in the IPs as the institution mandated for IP regulation and to ensure compliance with international requirements.

1.2. Industrial parks

- **Industrial Park Development Corporation (IPDC)**—IPDC is one of the key institutions in addressing the sustainable development and management of IPs. It has a dedicated Environment and Social Safeguard Department (ESSD) established under

TABLE 6.1. Global Buyers’ Commitments to Environmental Sustainability

International buyers	Dimensions of sustainability global buyers have committed themselves to				
	Renewable energy	Water	Waste management and circularity	Climate change	Occupational health and safety
H&M	Yes	Yes	Yes	Yes	Yes
Tesco	Yes	No	No	Yes	No
GAP	Yes	Yes	Yes	Yes	Yes
PVH	Yes	Yes	Yes	Yes	Yes
Decathlon	Yes	Yes	Yes	No	Yes
Zara	Yes	Yes	No	Yes	No
Levi Strauss	Yes	Yes	No	Yes	No

Source: International Finance Corporation (IFC)/PwC 2021.

Note: This binary analysis (yes/no) does not assess the differences in levels of ambition within each sustainability dimension. Moreover, some commitments are goals for the future rather than current practices that firms adopted.

the Industrial Parks Operations Deputy Chief Executive Officer (CEO). The ESSD is responsible for planning and executing the overall environmental management programs of the IPDC and can exercise influence on safeguarding environmental and social concerns in the IPs. E&S services provided by the parks to its tenant firms are key incentives for the international brands that place great importance on sustainability while making their investment decision and sourcing from Ethiopia. Keeping these considerations in mind, IPDC is focused on providing services as well as building a reputation of maintaining a complete package of plug-n-play services, including E&S services.

1.3. Private sector

- Industrial Park tenant firms**—Private investors not only have to fulfill environmental sustainability regulations and principles but often also have the expertise to develop solutions for more environmentally friendly IPs. However, some tenant firms may also require qualified support to increase their environmental management systems, and energy and water efficiency to compete in the global market and keep their contracts with global buyers. The role of IPDC and EIC is therefore critical in helping to meet this demand. For technical assistance, tenant firms generally mobilize their in-house expertise which in the end results in materializing “low hanging fruits.” However, there could be untapped opportunities with higher potential for savings and returns.
- International buyers or brands**—International buyers or brands that source from Ethiopia have a particularly important role to play in the sustainability agenda, but the extent of their commitments varies. Manufacturing companies in buyers’ supply chains are required to meet their sustainability requirements (such as water and energy use reporting, the buyers’ codes of conduct, voluntary labelling and quality marks, meeting export market regulations, etc.). There are also examples of buyer’s making specific commitments in relation to Ethiopia, such as the PVH Corporation’s commitment to only fabric and trims from Ethiopia that utilized zero liquid discharge (ZLD) technology or investing in community-led water stewardship approaches.²⁷⁵ Whereas the extent of their commitments varies, international buyers have a significant role to create demand for sustainability-compliant products and influence the promotion of good manufacturing practices. Customers for these brands are spread across the globe but are primarily from North America and Europe as the main export markets for Ethiopian apparel and footwear. Since they must cater to demands of consumers who are becoming increasingly aware of sustainability aspects, global brands have started setting corporate commitments on sustainability and applying them to the supply chain. Table 6.1 shows key areas of sustainability that some global buyers of Ethiopia target at a corporate level.

275 Mihretu and Llobet 2017.

2. Environmental Sustainability Aspects at Ethiopia's Industrial Parks

While there are multiple dimensions to environmental sustainability of Ethiopia's IPs, this chapter focuses on water use, the management of wastewater discharge, wastewater treatment sludge, and solid waste as well as on energy as critical aspects. The subsequent sections cover each of these dimensions individually, while it is crucial to note that they are interdependent, and solutions may require action across these aspects. Given the IPs' current focus on the textile and garment sector, this chapter primarily considers water, wastewater, solid waste, and energy issues, whereas assessments of other industries like pharmaceuticals or electronics manufacturing may need to put more emphasis on greenhouse gas emissions, air quality, soil quality, land use, and biodiversity.

2.1. Water use management

Water use in Ethiopia's IPs is governed by the Water Resources Management Proclamation No. 197/2000 and the Industrial Park Regulation, but there is no targeted government policy to measure, benchmark, monitor, and improve water use efficiency in industrial establishments. International experience shows that levying water tariffs encourages industries to increase their water use efficiency. While Ethiopia has a national guideline that sets tariffs for urban water supply,²⁷⁶ it does not have similar guidelines for industrial water. The industrial park operators²⁷⁷ supervise water supply and are empowered to set charges for water consumption, as per Section 21 of Water Resources Management Regulation. Interviews with industry experts indicate that industries may not be opposed to paying water charges, provided water supply is consistent and at the desired quality.²⁷⁸

Apart from water tariffs, regular monitoring of water consumption—at the supply-end by the IP operator and at the consumption-end by the tenant firms—is key to ensure losses are reduced and water efficiency measures are implemented. Even though firm-level water metering systems for tenants are in place in all IPs in Ethiopia and are used in calculating water charges, a systematic monitoring has not been adopted at wide scale yet.²⁷⁹

Studies show that water use by textile and garment firms in Ethiopia's IPs is higher than global benchmarks. A technical working group affiliated to the European Commission had collected data from 129 textile factories in Europe to identify approximate specific energy and water consumptions per produced ton of textile product by looking into each step of processes (for example, batch dyeing, bleaching, mercerizing, de-sizing). The results provided a baseline to put together the Best Available Techniques (BAT) Reference Document for the Textiles Industry (see the BAT document's figure 6.1 for water and figure 6.2 for energy).

Although water use efficiency in IPs is below global benchmarks, the IPs perform better than textile manufacturers operating outside IPs. Global benchmarks for water use efficiency in the textile industry are around 100 cubic meters of water per ton of finished product (figure 6.1).²⁸⁰ Textile units in Ethiopia's IPs, however, show water use efficiency of about 170–180 cubic meters per ton of product, even in the flagship Hawassa IP.²⁸¹ However, IP firms perform better than other textile manufacturers outside of the IPs where water efficiency levels are estimated to be around 200–210 cubic meters per ton of product.²⁸²

The majority of the IPs use groundwater; however, while permits are required for abstraction, there are no limits on the amount of water use.²⁸³ Current water use practice suggests that permits are considered as an instrument to register water abstraction against a fee, but there is no mechanism for defining allocation and monitoring of water resources to users.²⁸⁴ Water consumption metering is present in all IPs at each IP factory level to measure the amount of water entering the premises of tenant firms. But water consumption data is only used for IP-level records, and there have not been any efforts made yet to improve water efficiency based on the data available.²⁸⁵

276 For more information, see the [National Guideline for Urban Water Utilities Tariff Setting \(MoWE, 2013\)](#).

277 The term "industrial park operator" refers to the body responsible for managing and operating an IP, which can either be under IPDC (in case of government-owned IP) or an independent body (in case of privately owned IP).

278 Information is from stakeholder consultation under the World Bank Group's Ethiopia Green Industry Advisory Project.

279 Input was provided by park management in consultations conducted to assess alignment with EIP indicators under the Ethiopia Green Industry Project.

280 Information is sourced from the 2030 Water Resources Group 2015.

281 An IFC report for the Ethiopia Green Industry Project suggested measures for the JP Textile unit located in the Hawassa IP. Note that the Hawassa IP uses ZLD technology providing a closed use system where water is recycled back through the system, reducing the water requirements of production techniques by over 90%.

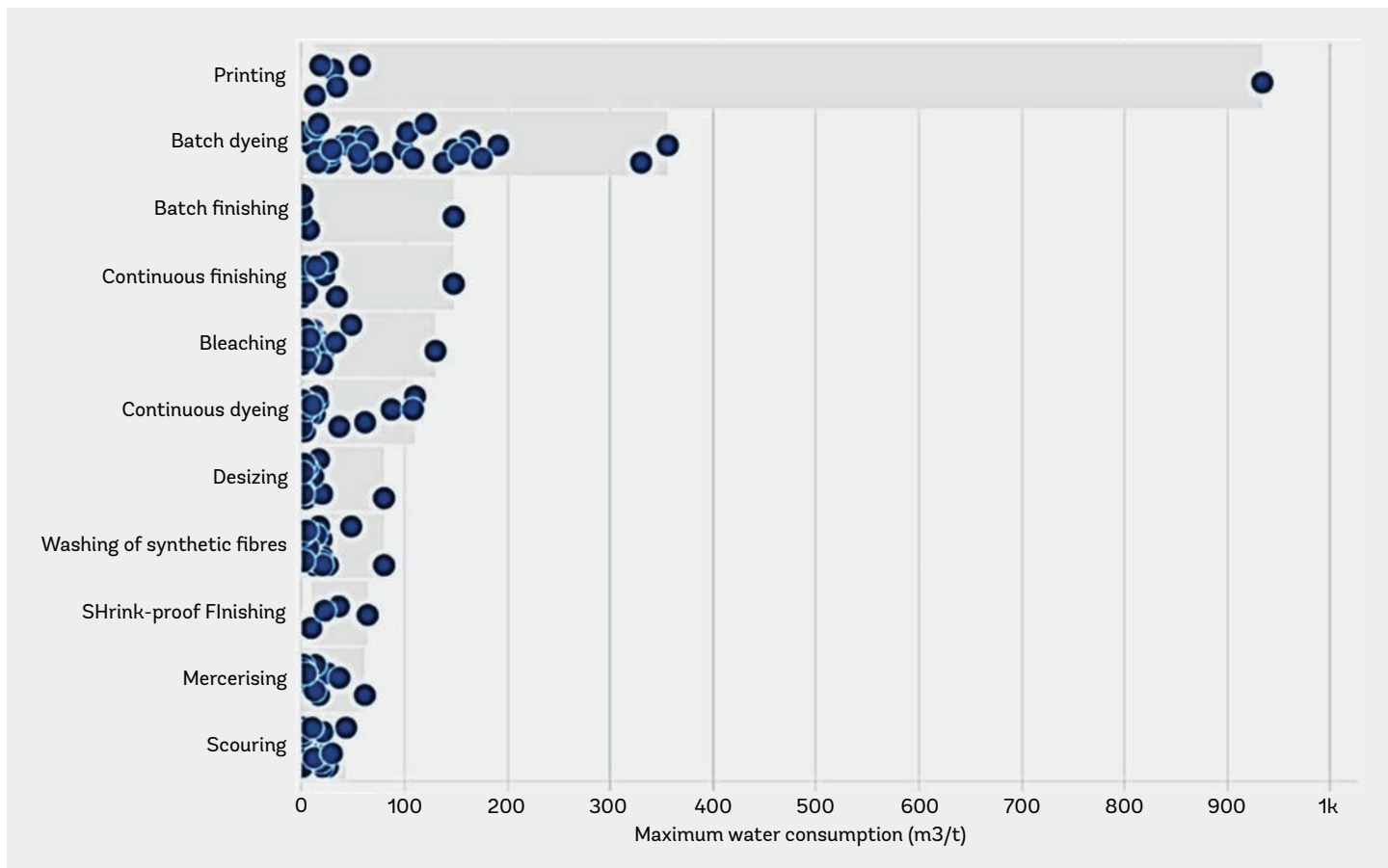
282 Figures are based on industry expert consultations.

283 This is noted at least beyond the capacity limitations of environmental treatment plants (if existent).

284 Sima and Restiani 2017.

285 Input provided by park management in consultations conducted to assess alignment with EIP indicators under Ethiopia Green Industry Project.

FIGURE 6.1. Water Consumption at Different Stages of Textile Production (international benchmark)



Source: Technical Working Group, Data collection for the review of the TXT (Textiles Industry) BREF (Best available techniques reference documents), 2019.

The absence of regulations and systems for measuring and improving water use poses the risk of depleting ground water.

Besides adverse environmental impacts, this hampers future growth prospects of industries. The government of Ethiopia has undertaken efforts to create a detailed inventory of groundwater resources available in the country. Forecasts suggest that the economic growth model devised under GTP-II will particularly spur the growth of IPs in water intensive sectors like textiles.²⁸⁶ This is expected to have significant impact on future water demand—making it imperative to set up sound mechanisms for sustainable water use and supply. Yet, there is no legal mandate on reducing depletable water sources like groundwater by utilizing an alternate water source like rainwater harvesting. Ethiopia has a mean annual rainfall of 834 millimeters with some regions like the southwestern highlands receiving even up to 2,000 millimeters.²⁸⁷ Rainwater harvesting has been utilized extensively to supplement water availability for the agriculture sector in Ethiopia²⁸⁸ and can be explored as a means of more sustainable water supply for industries as well. Currently, three IPs have rainwater harvesting facilities. In Bole Lemi only the administrative building contributes to rooftop rainwater harvesting, and water is reused; while in Kombolcha and Mekelle, water is transferred to an artificial water pond but is not being reused.²⁸⁹

There is evidence of a lack of water supply, which compels industries to buy water from private players.

This seems to be a great concern particularly in the case of Bole Lemi IP,²⁹⁰ and evidence of interaction with tenant firms in Hawassa IP also point to potable water supply as a key issue.²⁹¹ The lack of consistent water supply has been cited as one reason for shifting production to another IP (George Shoes).²⁹²

286 Source: [Growth and Transformation Plan II document – Page 138 \(UN Ethiopia website\)](#).
 287 Source: [World Bank Climate Change Knowledge Portal - Ethiopia country page](#).
 288 [Country profile – Ethiopia \(Rain Foundation\)](#).
 289 Input provided by Park management in consultations conducted to assess alignment with EIP indicators under Ethiopia Green Industry Project.
 290 Information note on Industrial parks in Ethiopia—information material generated as part of Ethiopia Green Industry Project.
 291 Field notes for consultations in Hawassa IP—information material generated as part of Ethiopia Green Industry Project.
 292 Information note on Industrial parks in Ethiopia—information material generated as part of Ethiopia Green Industry Project.

2.2. Wastewater discharge management

Even though water pollution from textile manufacturing is a major source of industrial pollution, wastewater treatment is not mandatory, but firms must adhere to water discharge norms as per environmental regulations. Water pollution from textile effluents in Ethiopia is one of the largest sources of industrial soil and water pollution. Many textile and garment factories outside of the industrial parks in Ethiopia are not equipped with suitable effluent treatment plants, and they discharge effluents directly to surrounding soil and river bodies. Multiple studies of effluent quality around textile and garment factories in Ethiopia have indicated higher levels of physiochemical and bacteriological pollutants than is permissible as per limits set by the Environment Protection Authority. Absence of regular supervision and enforcement of the wastewater discharge standards is considered an important reason for firms bypassing regulatory requirements.²⁹³

While all operational IPs have wastewater treatment plants (WWTPs), they are not fully operational in some of the IPs and wastewater treatment fees exist only in three IPs. A wastewater treatment fee is levied in Bole Lemi I based on the meter reading installed at the outflow of each factory; in Hawassa, both by installed meter and number of factory workers for municipal waste; and in Kombolcha based on the water consumption as per reading of the meters installed at the tenant firm.²⁹⁴ There are meters installed at the receiving chamber collected from all tenant firms to measure the exact flow of wastewater transported to the WWTPs. In Hawassa, a ZLD facility operates on a closed-loop system where all industrial wastewater is treated and recycled for use within the park. However, water treatment fees for tenants of US\$0.80 per cubic meter are among the lowest in the world and inadequate for the facility to be financially viable.²⁹⁵ As per a study by the Water Resources Group, IP authorities would need to charge US\$1.50 per cubic meter for wastewater treatment and sell treated wastewater at US\$0.37 cubic meters to make the plant financially viable.²⁹⁶ Except for HIP, IPs rarely use treated wastewater for any use, indicating a potential role for the government to encourage a more widespread adoption of wastewater reuse.

2.3. Wastewater treatment sludge management

Despite substantial environmental concerns, industrial sludge from WWTPs is currently underregulated (for example, not classified differently from sewage sludge). Treatment sludge cannot be disposed at landfills as it often contains highly toxic materials and has a high calorific value. In Ethiopia, there is a lack of guidance on safe and environmentally sound disposal and reuse of sludge. Every year, Ethiopia discharges about 30,000 tons of partially dried sludge into the environment without proper waste management.²⁹⁷ Moreover, there is a necessity to install storage facilities for treatment sludge. Hawassa IP is storing nearly 4,000 tons of sludge and new facilities are being built and end use approaches, such as alternative fuel in the cement sector and energy generation at Reppie Waste-to-Energy plant, are explored. Bole Lemi IP continues to pack and store approximately 1.6 tons of sludge every month.²⁹⁸

Selection of the appropriate route of reuse or disposal is, among other factors, dependent on the chemical composition of sludge, which in turn is dependent on the type of processes generating it. Sludge composition can change between firms operating from a particular sector (like textiles) due to differences in production processes arising from differences in the output products. Given the sectoral expanse of tenant firms in IPs in Ethiopia and their subsequent product variations, there can be significant difference in sludge composition and an end-of-life solution.

2.4. Solid waste management

There is no uniform practice in the IPs for segregating solid waste at the source, making it difficult to gain from its recycling. As per current practice, mixed solid waste is collected and handed over to private sector waste vendors for segregation and value generation; and refused material is dumped to municipal landfill areas. There are small-scale initiatives in Ethiopia to drive circular

293 Sima and Restiani 2017.

294 In BLIP, wastewater treatment fee collected based on the reading from flow meter installed at waste outflow line. In HIP, STP reading will be taken from central flow meter and this distributed based on number of workers in each IP.

295 Information comes from data retrieved from IPDC.

296 See "Ethiopia Looks for Ways to Make Zero-Liquid Discharge Ambitions Cost-Effective" in *Global Water Intelligence Magazine*, [Global Water Intelligence Magazine: Article \(2030 Water Resources Group – World Bank Group\)](#).

297 See "Characterization and Recycling of Textile Sludge for Energy-Efficient Brick Production in Ethiopia" in *Environmental Science and Pollution Research*, [Characterization and recycling of textile sludge for energy-efficient brick production in Ethiopia | SpringerLink](#).

298 Information comes from field notes for consultations in Hawassa and Bole Lemi IPs; information material generated as part of Ethiopia Green Industry Project.

economy for textile sector. For example, the company ETUR Textile was established in Addis Ababa in 2010 to recycle the textile scraps from industries. The factory manufactures regenerated fibers, open-end yarns, and circular knitted fabrics. ETUR is recycling about 6,000 tons of fabric remnants and about 1,000 tons of cotton spinning leftovers every year—production leftovers that otherwise would have polluted the environment. Each year the company saves about 30 million cubic meters of water and 300,000 kilowatts of electricity. However, park management is not sufficiently familiar about where and how to handle solid waste in the best way. Moreover, there is lack of facilities for segregation of solid waste at the source. It is estimated on average 207 cubic meters of solid waste is generated every month in Hawassa IP alone.²⁹⁹ However, there is no information available on the waste components and their relative share. Developing and implementing an effective waste management system will require monitoring and reporting of the waste types, amounts, and characterization.

2.5. Energy management

Ethiopia has a high share of renewable energy with electricity prices among the lowest across Africa (a key part of the government’s investment promotion efforts), but tariffs are set to rise in coming years. As per announcement of MoWE in July 2020, electricity prices for industrial users will be increase by up to three times from current levels. The unit price for end users recently increased from around Br 0.4508 per kilowatt-hour (US\$0.016 per kilowatt-hour) to around BR 0.7807 per kilowatt-hour (US\$0.027 per kilowatt-hour) for those with a monthly consumption of up to 200 kilowatts per hour. The corresponding price for units of electricity over the 500 kilowatts per hour threshold for a single month is Br 1.1410 per kilowatt hour (US\$0.04 per kilowatt-hour). It is important that electricity levels strike a balance between affordability and reflect the quality of electricity supply (such as reliability) while giving incentives to increase energy efficiency.

IP authorities operate energy intensive common infrastructure like effluent treatment plants (ETP) and street lighting, which provides scope for improving energy consumption performance. However, there is no mandate for implementing parkwide energy management systems or an energy management strategy to ensure sustainable energy consumption for service infrastructure. Implementing a comprehensive parkwide energy management system will have positive impact on energy use for utilities.

Based on the studies conducted for sample tenant firms in IPs under the Ethiopia Green Industry Project (an advisory project), it has been observed that current energy consumption levels are generally 10 to 15 percent higher than international good practices³⁰⁰ and nearly 20 to 30 percent higher than best practices (see figure 6.2). This indicates that there is significant scope to improve energy efficiency of tenant firms. Monitoring the energy utilization of tenant companies shall be conducive for a transition into energy efficient industries. As a next step, to facilitate implementation of energy efficiency measures in future, a process-wise energy baseline needs to be established through an institutionalized energy monitoring and reporting mechanism.

3. Conclusion and Recommendations

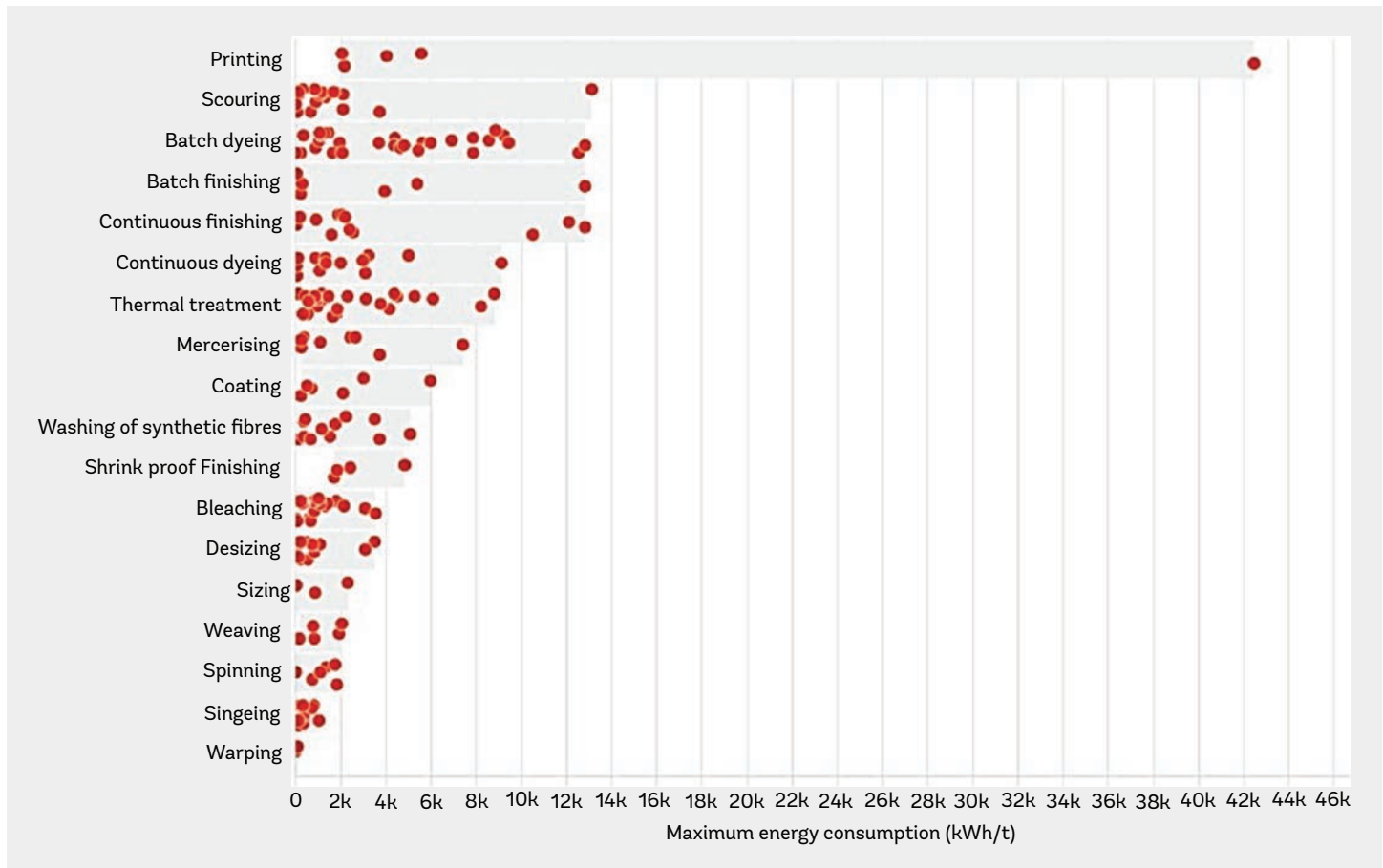
The industrial development path paved by the IPs has potentially large implications for Ethiopia’s environment, people, and its economy. Failure to protect the environment has profound negative impacts on long-term economic development and human welfare, including the right to life, adequate food, water, and housing. The acceleration of industrial development calls for a range of policy responses —updating environmental regulations as well as increasing measurement and enforcement. Moreover, the government can play a crucial role in supporting the private sector in developing and sharing innovative solutions (like promoting best practices and providing incentives) and easing compliance with regulations (such as reducing red tape through automated reporting and providing technical guidelines). Regional environmental authorities take up a critical role in Ethiopia’s environmental management. However, these often lack the required sectoral experts, monitoring and evaluation capacity as well as environmental baseline data.

While the IPs may be a focus of environmental challenges connected to Ethiopia’s industrialization, they also present an opportunity to introduce new policy tools that can be rolled out at the national level. Lagging environmental regulations and insufficient enforcement capacities of regulators pose a challenge to effectively protecting Ethiopia’s environment. In line with the policy objectives of the IP program, the IPs can be used by the government of Ethiopia to trial new approaches based on international

299 Input provided by IP authority under Ethiopia Green Industry Project.

300 In this context, international good practices refer to operating at utmost productivity while avoiding, or if not possible then minimizing or reducing, risks and impacts to acceptable levels by adopting resource efficiency and improvement technologies and operations.

FIGURE 6.2. Energy Consumption of the Different Processes Carried Out at the Plants (international benchmark)



Source: TWG, Data collection for the review of the TXT BREF, 2019.

good practices and expand the capacities of relevant authorities in a defined geographical area. This may catalyze better regulation and enforcement nationwide and put Ethiopia on a more sustainable economic pathway. For example, this may support efforts from the EPA and MoWE to introduce national level energy and water efficiency commitments and provide incentives to businesses to invest in energy/water efficiency measures.

(a) Overarching

- Encourage long-term investments in sustainable IPs in partnership with responsible investors to increase Ethiopia’s competitiveness:** International or multinational companies seeking new production locations will consider the possible advantages of sustainably developed IPs. Most of today’s “green” investments pay off economically over the medium and long term (for example, rainwater harvesting, sludge valorization, or textile waste recovery). Sustainability strategies create synergies between production, distribution, and utilization of resources and help reduce costs. Moreover, better compliance with environmental, health, and safety legislation; improved efficiency; greater operational resilience; and the ability to attract and retain new tenants surpass the invested time and resources into sustainable IPs. Furthermore, in the current environment of climate change and concerns over environment, social, and governance compliance, sustainable development of industrial parks and strategies toward green industrialization are positive brands and competitive advantages to attract quality investors. For investments by both private firms (in machinery with higher energy efficiency, for example) and the government to pay off, a long-term planning horizon and policy predictability is essential. It is therefore advised that Ethiopian policy makers establish longer-term partnerships with committed investors and develop IPs based on investors’ needs and in line with sustainability principles. This

also ensures adequate capacity utilization of facilities (like ZLD facilities) that makes their use more economical (see chapter 3, Planning and Development).

- **Use IP incentives to encourage environmentally sustainable (green) investments:** EIC is giving investors various fiscal and nonfiscal incentives like tax exemptions to attract and retain investments. However, these are not yet used to encourage or attract more environmentally sustainable investments that reduce initial costs of investments in energy efficiency, renewable energy, water efficiency, and so on. Financial incentives can be provided for new technologies that are not widely available in the local market. As uptake of the technologies increase and market demand gradually increase, the cost of technology reduces due to economies of scale. Accordingly, financial incentives can be gradually phased out. The government of Ethiopia may consider smart incentives to investors or park developers and operators implementing green technologies for industrial operations. It may also provide subsidies as market-based instruments, especially green bonds in which developers of a green project attract financing from market in the form of bonds that bear interest rates. Examples of such instruments are present in the United States for the federal government Qualified Energy Conservation Bonds and Clean Renewable Energy Bonds. Issuers of such bonds can generate financing from markets for energy efficiency and renewable energy projects and can receive cash rebates from the government to subsidize their net interest payments.³⁰¹ Such incentives could be an important step in addition to higher environmental regulations and their enforcement.

Going forward, the government should consider systematically adopting practices that promote resource efficiency, recycling, and eco-industrial park development. While IPDC's mission statement states that its mission is to develop eco-industrial parks, in practice there is little investment and attention given to adopt practices that promote green/sustainable industrial practices. Beyond resource efficiency and minimizing wastage in a fast-warming climate, it is important for Ethiopia to position the country as a sustainable investment destination as a competitive edge to attract reputation-conscious and responsible investors with long-term plans. Furthermore, recycling and reuse practices create opportunities for small and medium enterprises, enhance the economic spillover of the IPs, and create more jobs for local communities.

(b) Water use

- **Enhance monitoring of water consumption and conduct periodic audits of water efficiency:** A first step toward improving water efficiency in industrial parks is to frequently collect disaggregated data on water consumption and consumption efficiency. This should be complemented with periodic water audits to verify monitoring (biannually for example), measure progress, and identify opportunities for increasing water efficiency. Such reporting requirements may be voluntary initially and become mandatory later. Moreover, IPDC (in conjunction with EPA and MoWE) may consider developing (a) service utility-level (that is, centralized water infrastructure) benchmarks for water supply and distribution systems that IP operators need to follow and, (b) process-level (that is, water consumption per ton of yarn produced) water efficiency benchmarks to be followed by the tenant firms. Such benchmarks should be periodically updated. At a later stage, the IP regulatory agency (EIC) may impose fines on firms that underperform or fail to report required data.
- **Introduce a transparent and well-adjusted water pricing framework:** To account for the actual costs of water use and its impact, IPDC, in coordination with MoWE, may consider developing a framework for setting water tariffs for tenant firms in different IPs or locations. The rate of the tariff should be published and updated annually by IPDC in consultation with MoWE.
- **Encourage rainwater harvesting and water storage infrastructure in IPs:** To reduce the depletion of ground water, IPDC may consider incentivizing building rainwater harvesting facilities, possibly by giving discounts on other services or even mandating the facilities. If groundwater is adequately priced, firms may have an incentive to invest in rainwater harvesting themselves. New IPs could already account for rainwater harvesting systems at a planning stage.
- **Introduce a water trading scheme as a market-based solution for improving water efficiency:** At a reasonably advanced level, a pilot trading scheme can be undertaken, and if it is found successful, it can be scaled up at national level.

301 "Tax incentives for issuers and investors," Climate Bonds Initiative website.

(c) Wastewater

- **Promote the use of treated wastewater:** Treated wastewater can be used for various purposes, including sanitation (toilets, washing and cleaning of sheds and the like) and landscaping. EIC may consider making the use of treated wastewater mandatory under the Industrial Park Directive. In order to strengthen oversight, IP authorities need to monitor wastewater discharge practices of tenant firms and report back to EPA. EPA and the IP authority should take appropriate actions (such as penalties, revoking of licenses) in case of violations as per stipulations given in the Prevention of Industrial Pollution Regulation.

(d) Sludge management

- **Define mandatory requirements for sludge management:** EPA together with IP authorities should design a sludge management guideline and include corresponding provisions in the Industrial Park Regulation. EIC shall provide oversight and inform any violation of guidelines by the consolidated information derived from IP authorities to EPA. To improve enforcement, EPA may be empowered to conduct periodic and unannounced audits of sludge management. See possible solutions in box. 6.1.

BOX 6.1:

Possible Solutions for Short- and Medium-Term Sludge Management at Hawassa IP

Hawassa IP's zero-liquid discharge (ZLD) facility allows 90 percent of wastewater to be recycled and put back for the use of tenants. The treatment process produces chemical and biological sludge waste as well as various salts. The system encompasses an effluent treatment plant (ETP) and a sewage treatment plant (STP). ETP treats industrial wastewater at an 8,000 cubic meters per day capacity; the STP treats domestic wastewater at a 3,000 cubic meters per day capacity.

The existing sludge handling process for chemical and biological sludge generated in the ETP and STP is to thicken it with a gravity thickener and dewater it with a centrifuge, resulting in a dry solid content of 17–23 percent. Both plants currently generate around 1.6 tons of sludge per day. When they reach their design capacity, this amount is projected to rise to 3.0–3.5 tons per day. But there is no permanent storage area for dewatered sludge, and no sludge has been disposed of since the treatment plant was commissioned. Furthermore, the temporary storage area is overflowing with sludge, which has recently been dewatered and manually loaded into sacks and transported to shipping containers.

The solar sludge drying unit is an optimal solution for the sludge drying and controlled disposal. It consists of electro-mechanical equipment and a greenhouse as a coverage. The system can be operated fully automated via measurement instruments that are installed inside and outside of the greenhouse. The capacity of solar drying unit is 10 ton per day, and it has capability to dry sludge from 20 percent to 90 percent solid content. The dimension of greenhouse is 12-meters wide and 166-meter long (the length of a sludge bed is 150 meters). This unit also requires a transfer system for dewatered sludge (such as via a conveyor) and dried sludge (via dump trucks). The system requires less space than conventional open bed solar drying systems. A major mass reduction is achieved after the greenhouse solar drying process. For example, if sludge with a 20 percent dry solid content is dried to 80 percent, the total mass is reduced by 75 percent. This lowers the cost of transportation as well as the cost of final disposal, such as landfilling.

The Ethiopia Green Industry Project supported by the International Finance Corporation (IFC) has studied three scenarios to manage the dried sludge (1) dewatered or greenhouse solar dried sludge to be transferred to a permanent storage area in Tula via trucks (payback period about 12 years); (2) half of the dried sludge to be transferred to Tula and the remaining half to be used in Tabor Ceramic as clay-like material for production (payback period about 11 years); and (3) dewatered or greenhouse solar dried sludge to be transferred to Reppie Waste-to-Energy Plant in Addis Ababa where it will be incinerated for energy recovery (payback period about 10 years).

Source: Interim report, Ethiopia Green Industry Advisory Project, IFC. 2019 - Current.

(e) Solid waste

- **Encourage segregation of solid waste at its source by tenant firms:** To enhance the recyclability of solid waste, it is crucial to encourage segregation of waste at the source by the tenant firms based on a common waste classification system (textiles and fabric, inorganic or organic waste, packaging, etc.). To enable a better tracking mechanism, each tenant firm may maintain a catalogue of the amount and type of waste generated and share it with IP authorities. This enables IP authorities and operators to identify recyclers within and outside of the IPs and channel the segregated waste for recycling. The rest of the waste that needs to be disposed through the existing third-party agencies involved in handling solid waste can be handled by the IP operator. In addition to solving the solid waste management challenge, this provides business opportunities for local firms and creates jobs for local communities.

(f) Energy

- **Develop IP-level energy efficiency plans and systematically monitor and manage energy consumption (see box. 6.2):** IPs should develop energy efficiency plans, including the setting of energy efficiency targets. The achievement of such plans needs to be systematically monitored. A supporting tool may be certification as per internationally established energy management standards or their national equivalents, including ISO 5001 for Energy Management Systems, ISO 14000 for Environmental Management Systems as well as green building design as per Leadership in Energy and Environmental Design (LEED) or EDGE. EIC, as IP regulator, may be in the position to monitor the status of certification of individual IPs in coordination with ESA.
- **Measure and encourage firm level energy efficiency efforts:** It would be beneficial if tenant firms would report monthly on their energy consumption to IP authorities. This can be complemented by bi-annual energy audits to be conducted by tenant firms to identify opportunities for improving their energy efficiency. Similar to water use reporting, this may be voluntary at first. In addition, it would be beneficial to identify best practices of firms' energy efficiency improvements and share them with other firms. The government should consider putting in place smart incentives for investors that successfully implement energy efficiency measures and conduct regular audits, for instance by providing "expedited" access to services, longer payment period for rent payments, and publicizing and publicly rewarding such actions, and so on.

BOX 6.2:

Overview of Proposed Interventions from a Recent Green Competitiveness Analysis of the Textile and Footwear Sector in Ethiopia

In 2020, the International Finance Corporation (IFC) of the World Bank Group conducted a green competitiveness analysis of Ethiopia's textile and footwear sector. The analysis shortlisted six key parameters based on the sector's sustainability challenges and oriented toward commitments of global brands and buyers: water management (includes water consumption, wastewater treatment, and water use efficiency), energy efficiency management (includes energy consumption, renewable energy, and energy use efficiency), greenhouse gas emissions and air emission management, waste management (includes waste management, sludge management, and toxic and hazardous waste management), and occupational health and safety. These six parameters were assessed across the value chain and for units in the IPs and evaluated in stakeholder consultations. Lastly, a cost diagnostic assessment has been undertaken to understand the cost implications of proposed interventions. A selection of findings is listed below.

- **Establish ambient air monitoring systems:** This intervention proposes installing devices in industrial parks to measure outside air pollution. Such data are essential to identify hotspots of air pollution, help enforcement of regulations, and inform measures to improve air quality.

BOX 6.2:

Overview of Proposed Interventions from a Recent Green Competitiveness Analysis of the Textile and Footwear Sector in Ethiopia (Continued)

- **Establish central plastic waste recycling units:** IP firms store chemicals and other inputs for manufacturing made from high-density polyethylene (HDPE) plastic that are not consistently recycled. It is proposed to set up a HDPE Plastic Recycling Unit that comprises HDPE plastic container washers and granular plastic pelletization machines. As a basic assumption, the proposed unit will have a capacity of processing 800 kilograms per hour of plastics and result in production of 500–700 tons of plastic pellets monthly. Such pellets can be sold at market prices of approximately US\$1 to US\$1.5 per kilogram, promoting recycling of plastic waste across industrial parks.
- **Establish central reverse osmosis (RO) plants:** An RO plant can promote saving water by filtering used process water from boilers and supplying filtered drinking water. It is assumed that the IPs would require medium-level RO plants (those with three membranes) with a capacity of filtering 2,000–3,000 liter per hour. RO plants can replace conventional processes like chemical treatment with smaller and more efficient equipment.
- **Establish central textile recycling units:** Textile recycling units can reduce approximately 5 percent of total waste by reutilizing fabric waste. The required machinery includes a textile waste recycler and fabric bleaching and dyeing unit. The costs for a medium-scale plant with a capacity of 1,000 kilograms per hour range between US\$70,000 and US\$100,000.
- **Install central voltage stabilization units:** This is a critical intervention in Ethiopia to resolve the issue of voltage fluctuation as experienced by various manufacturing units in the IPs. Based on current hourly loads and power factors, it is assumed that 8,000 kilovolt-amps voltage stabilizer units would be required (in Hawassa IP, for example), which costs around US\$150,000. Such units promote energy efficiency through the constant supply of stable voltage for the firms and reduce malfunctions of machinery.
- **Enforce waste disposal compliance requirements on individual manufacturing units:** This intervention is aimed at prevention of accumulation of waste at the respective facility. The waste disposal fees are associated with total amount of waste generated. IPs can align with authorized vendors for promoting responsible disposal mechanism. This intervention can be further strengthened wherein at IPs, for sludge generated, the same can also be disposed of post-drying at secured landfills. This intervention will help IPs level a waste disposal plan for respective waste category.
- **Install continuous emissions monitoring systems (CEMS):** A continuous emissions monitoring system not only provides credible and accurate pollution measurement to the operator but also enables taking mitigation measures on time and helps process optimization by providing real-time data. Such an intervention needs to be undertaken at individual firm level and involves installation of emission monitors near the source (such as near stacks). CEMS provide real-time information on flow of gases and pollutant levels. The cost associated with installation of CEMS is approximately US\$15,000.
- **Undertake risk assessment studies and implementation of management systems at firm levels:** It is proposed that firms undertake assessments such as occupational health and safety risk assessments, energy efficiency assessments, industrial symbiosis feasibility assessments, as well as environmental and social management systems. It is assumed that each year approximately US\$10,000 would need to be proportioned by the firms to contract experts and set up their management systems.

(continues)

BOX 6.2:

Overview of Proposed Interventions from a Recent Green Competitiveness Analysis of the Textile and Footwear Sector in Ethiopia (Continued)

- **Install and commission a solar power plant of 2-megawatt capacity:** An important aspect that differentiates Ethiopia from its other peers is their abundance of a renewable source of energy (hydro energy). The intervention aims to promote the constant supply of electricity while contributing to sustainable energy generation. During power outages, IP firms resort to using diesel generators, which are often highly polluting.
- **Install of zero liquid discharge (ZLD) plants with 4,000 cubic meters daily capacity:** This intervention is critical for the water intensive textile and footwear sectors. ZLD plants ensure the reuse, recycling, and recovery of water from the manufacturing process and minimizes the use of municipal or natural water resources. However, as the costs for ZLD plants are high it is important that such facilities are shared across firms. Costs are estimated at 1.95 percent of per unit product costs (based on a US\$3 t-shirt).

Source: Adapted from IFC/PwC 2021.

7 Financial Sustainability

1. Introduction

This chapter presents key findings from the historical and predictive financial analysis of the nine publicly owned industrial parks (IPs) that were operational by December 2020.³⁰² The main objective of this analysis is to assess the existing financial model of developing and operating publicly owned industrial parks and estimate whether the current approach is financially sustainable in the future. The analysis uses six years of financial and non-financial data from IPDC for the period from 2015/16 to 2020/21, and projections are made per historical trends.

Financing for Ethiopia's IP program was provided by issuing a sovereign bond, the support of international institutions (such as the European Investment Bank and World Bank) as well as private investors. Different from more traditional ways of financing special economic zones in developing countries, Ethiopia raised a large share of its financing by issuing a US\$1 billion Eurobond at annual interest rate of 6.625% on international capital markets.³⁰³ Of the Eurobond proceeds, US\$750 million was allocated to the Industrial Parks Development Corporation (IPDC) to finance the construction of IPs in Hawassa (US\$250 million), Mekelle (US\$90 million), Kombolcha (US\$90 million), Adama (US\$135 million), Dire Dawa (US\$140 million), and Debre Berhan (US\$45 million) (see figure 7.1).³⁰⁴ Bole Lemi I was financed directly from the government treasury with an approximate cost of US\$130 million.

The proceeds are transferred gradually to finance the construction of the IPs and are considered capital contributions of the government and interest expenses are paid by the Ministry of Finance. So far, the government has made 14 series semi-annual interest payments totaling US\$463.75 million on the Eurobond, of which US\$347.81 million is attributed to the IPs. By the end of the loan period, 2024, the total interest payment attributable to the IPs would reach US\$496.87 million. This is an opportunity cost for the government. Although analyzing the true cost of the IP program that would account for the full cost of the IPs, including the opportunity cost of financing, would be more useful for future decision-making, it is too early to conduct a robust cost-benefit analysis of the IP program within the scope of this review. However, a lack of such analysis of the full cost of public investment broadly indicates a weakness in public investment management in terms of efficient resource allocation, appropriate accounting, and analyzing opportunity cost of investment decisions.

Over the past six years, IPDC's operating revenue has grown progressively from Br 24 million (US\$1.1 million) in 2016 to Br 881 million (US\$20 million) in 2021. The corporation had positive

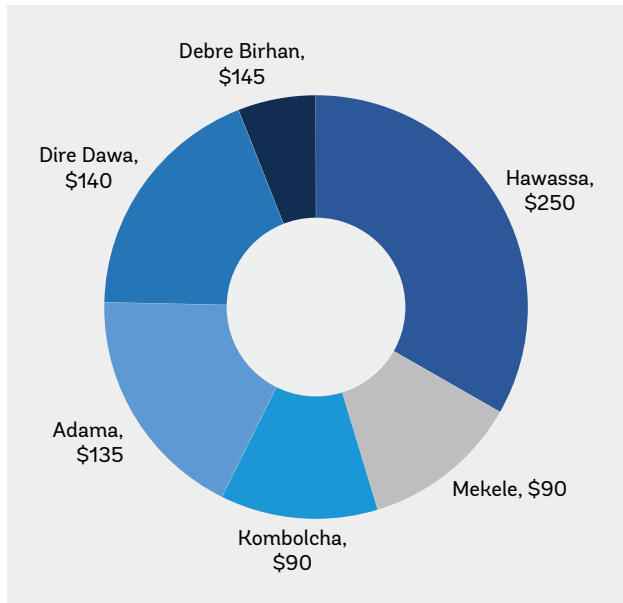
302 The parks covered in this analysis are Bole Lemi I, Hawassa, Kombolcha, Mekelle, Adama, Dire Dawa, Debre Berhan, Bahir Dar, and Jimma.

303 UNCTAD 2021, p. 102.

304 The remaining US\$250 million from the Eurobond sale were used for other purposes not directly linked to the IP program.

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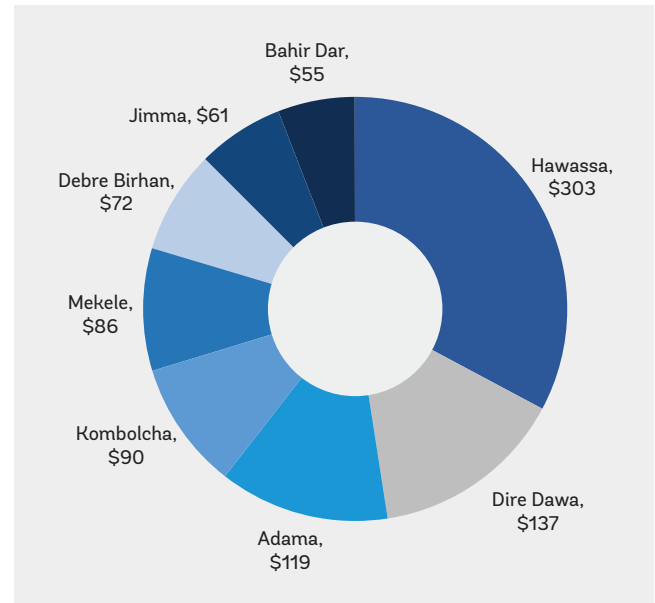
FIGURE 7.1.
Eurobond Finance Allocation of Publicly Owned Industrial Parks (in US\$, million)



Source: Ministry of Finance.

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FIGURE 7.2.
Construction Costs of Publicly Owned Industrial Parks (in US\$, million)



Source: IPDC.

EBITDA (Earnings Before Interest Tax Depreciation and Amortization) in each of the past six years. However, EBIT (Earnings Before Interest and Tax) is negative mainly due to substantial annual depreciation expenses apportioned.

The total cost of construction³⁰⁵ for the nine publicly owned IPs was a bit higher than Br 24 billion (about US\$1 billion at historical exchange rates) with Hawassa accounting for more than a one-third of this (see figure 7.2). Except for Bole Lemi I, IPDC followed a design-and-build contract for the development of the parks. The construction costs of the parks ranged from Br 7 billion (US\$303 million) for Hawassa to Br 1.5 billion for Bahir Dar (US\$55 million). As construction contracts are denominated in US dollars, except for Bole Lemi I, inflation and depreciation of the birr against the US dollar have a substantial impact on the overall costs of construction. For this reason, more recently constructed parks are more expensive in birr.

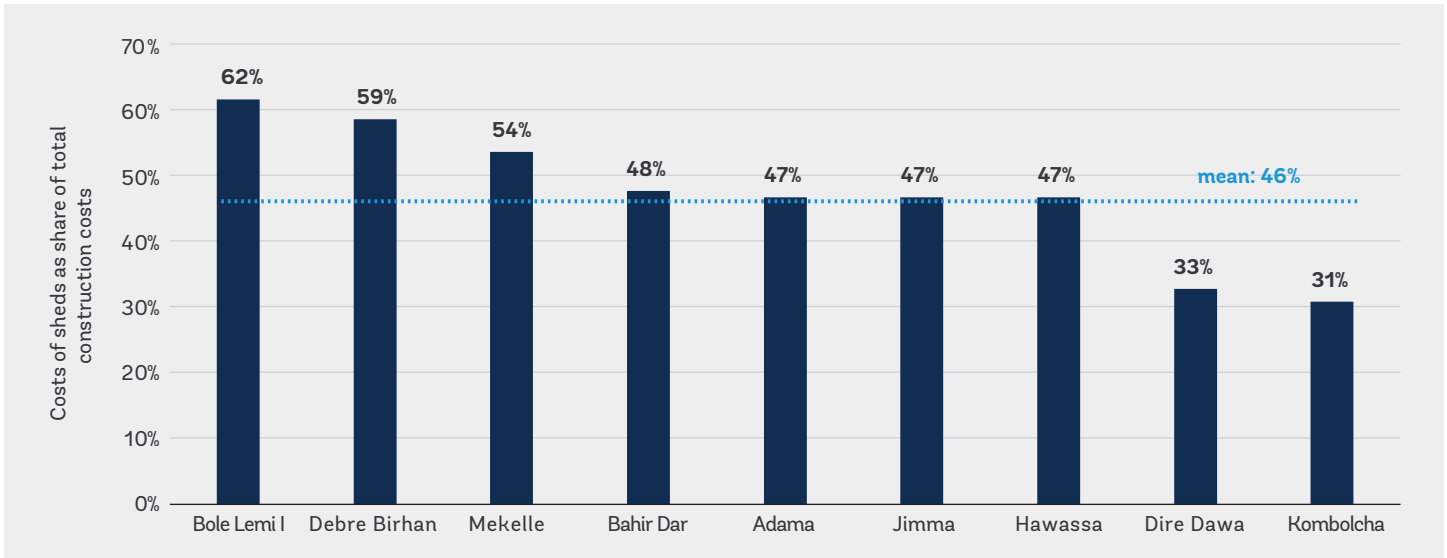
The building of factory sheds accounts for almost half of construction costs. On average, 46 percent of construction costs are used for constructing factory sheds—ranging from 62 percent in Bole Lemi I to 31 percent in Kombolcha (See figure 7.3). Construction of roads and civil work assumes 18 percent of the cost. Offices, residential buildings, and commercial buildings take 3 percent, 4 percent, and 1 percent of the cost respectively (See figure 7.4).

Per square meter, construction of factory sheds is far cheaper than construction of common facilities. Average costs for construction of one square meter of shed space are Br 11,600 (US\$235) whereas residential and commercial buildings cost almost twice as much (approximately Br 21,000 per square meter) and office space costs 2.5 times of sheds (Br 29,300 per square meter). These differences are due to building design differences and the quality of construction materials used. Factory sheds are only partially finalized to leave room for customization to the resident firms (for example, floors are not partitioned), and cheaper building materials—like corrugated iron sheets—are used, while common facility buildings are fully built with partitioned floors to accommodate office spaces for multiple tenants.

³⁰⁵ Investment costs only include outlays made for facilities inside the park plus electricity connection costs from the substation to the IPs. Roads connecting the IPs to the highways are constructed by the government and not part of IPDC's cost. Same is true for land compensation fees; it is the government's responsibility to clear up the land and pay compensation before handing it over to IPDC.

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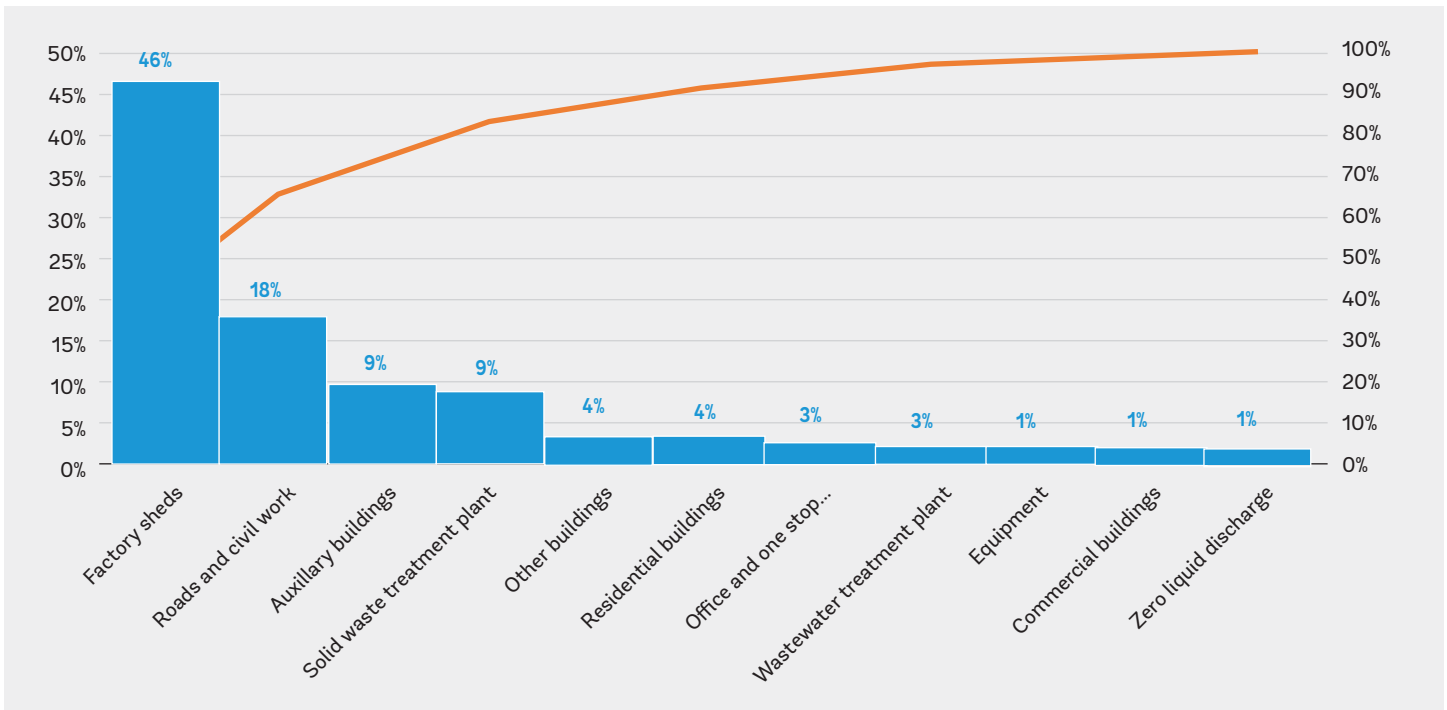
FIGURE 7.3. Costs of Factory Sheds as Share of Total Construction Costs



Source: IPDC.

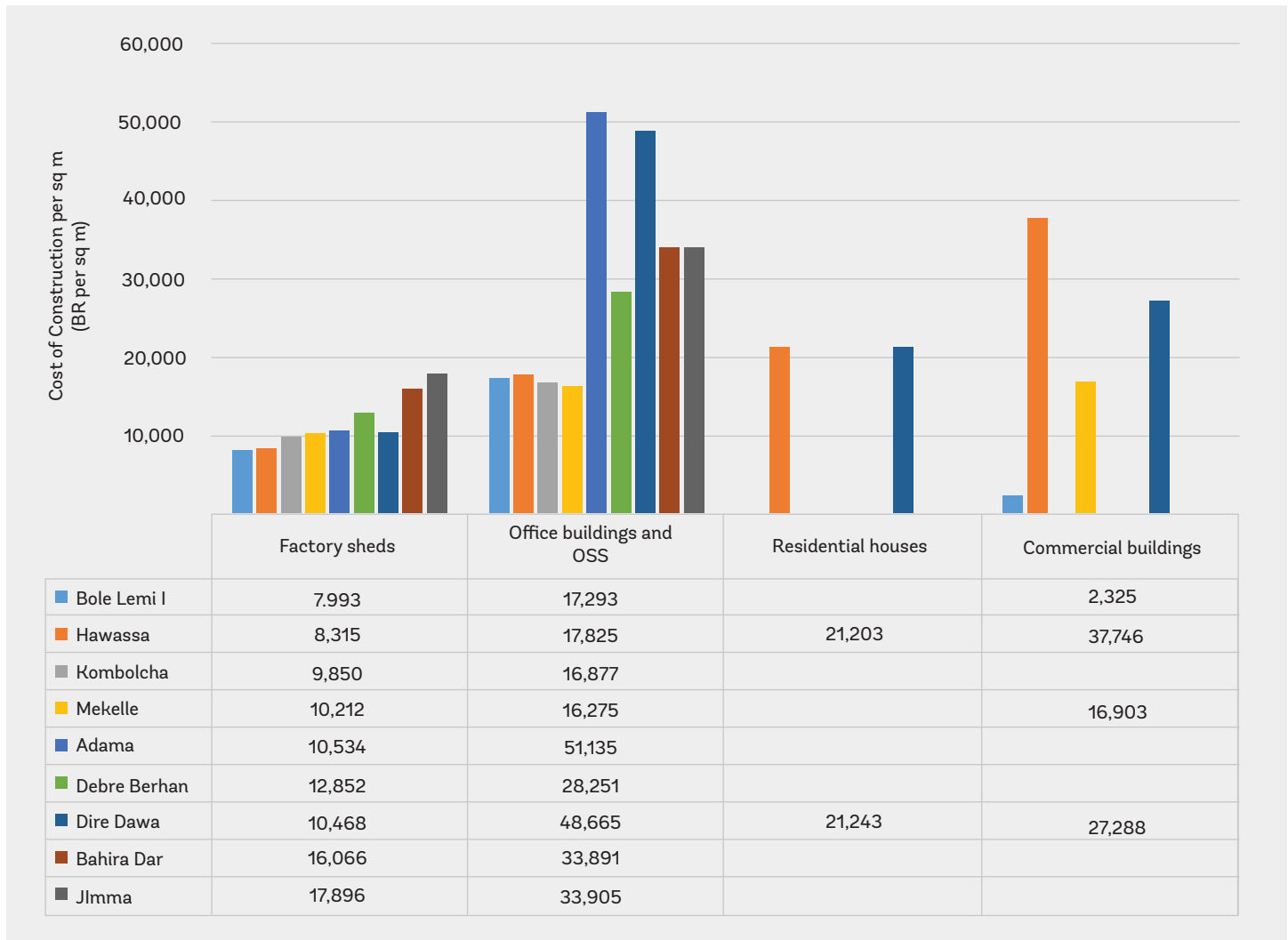
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FIGURE 7.4. Proportional Costs of Facilities



Source: IPDC.

FIGURE 7.5. Construction Costs of Different Building Types in Publicly Owned Industrial Parks (in Br per square meter)



Source: IPDC.

Note: OSS = one-stop shop.

The construction costs for sheds and commercial, office, and residential buildings vary substantially by IP (see figure 7.5). Among the publicly owned IPs, Bole Lemi I has the lowest construction costs for factory sheds at Br 8,000 per square meter (equivalent to US\$428 at historical exchange rate) whereas they are highest in Jimma at Br 18,000 per square meter (equivalent to US\$775). Residential buildings, which are only available on site in Hawassa and Dire Dawa, are constructed at average cost of Br 21,200 per square meter (US\$826). Costs of office and one-stop shop (OSS) buildings at Adama and Dire Dawa are significantly higher with respective costs of Br 51,000 (US\$1,874) and Br 48,700 (US\$1,683) per sqm. This is almost twice the costs of similar facilities in Bole Lemi I. Hawassa's commercial buildings have the highest cost at Br 37,700 per square meter (US\$1,632). Again, quality of construction materials used, building design, and time of construction affected these differences substantially.

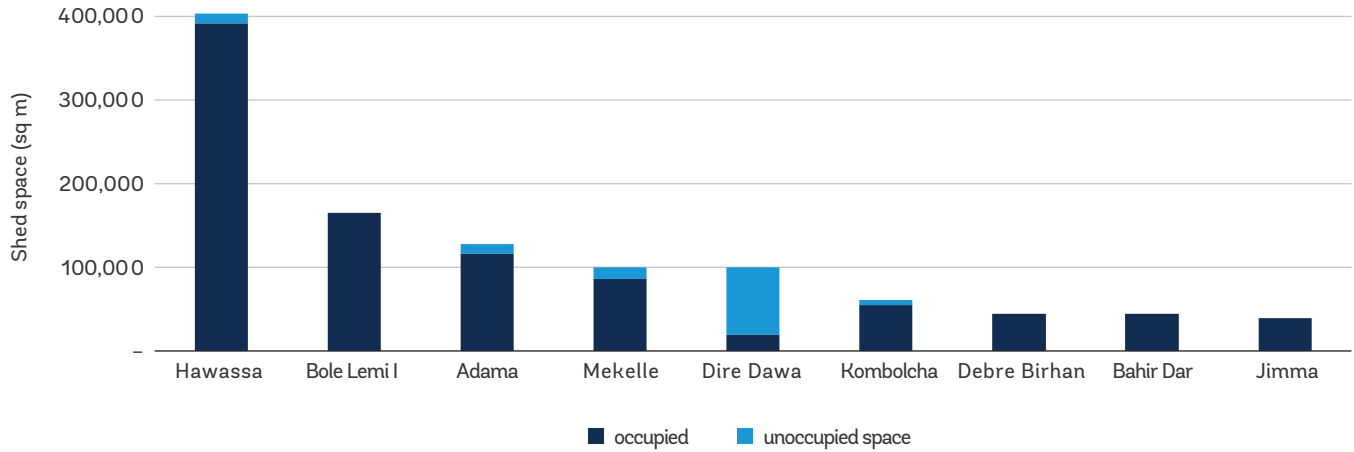
2. Performance Analysis

2.1. Facility utilization

The nine IPs offer a combined factory shed space of almost 1.1 million square meters (110 hectares; ha), of which 89 percent is occupied as of July 2021 (see figures 7.6 and 7.7). Bole Lemi I, Debre Berhan, Jimma, and Bahir Dar have attained full occupancy of shed space while Dire Dawa has the lowest occupancy rate at 20 percent. Looking at the pace at which the IPs

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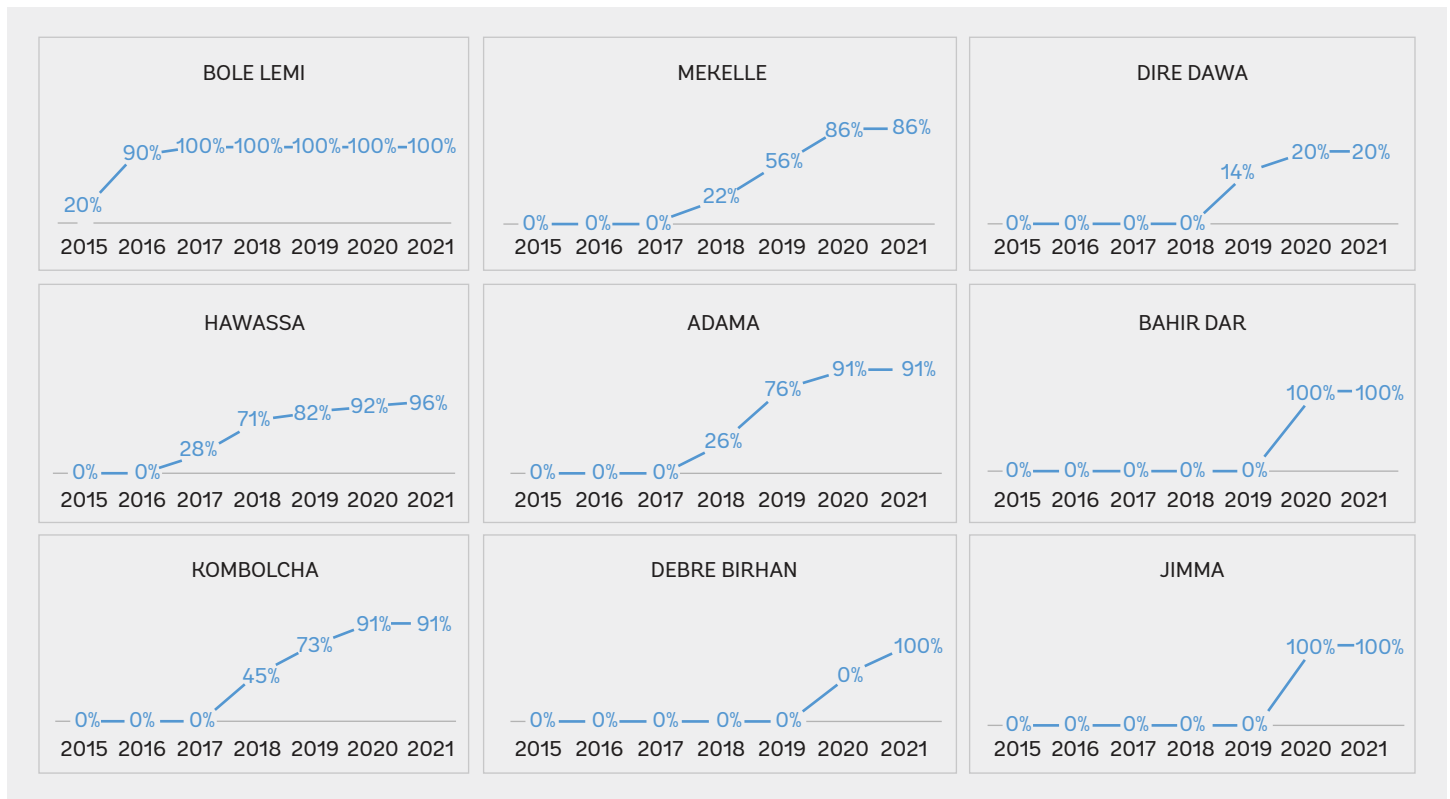
FIGURE 7.6. Factory Shed Occupancy by Industrial Park (in square meters)



Source: IPDC.

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FIGURE 7.7. Occupancy Rates of Publicly Owned Industrial Parks Over Time (share of rented shed space)



Source: IPDC.

have become occupied, the earlier generation of parks—Bole Lemi I, Hawassa, Kombolcha, and Mekelle—tended to take longer to attain maximum occupancy, while the more recently operationalized parks achieved full occupancy in their first or second year of operation (note, however, that most of this early occupancy happened before COVID-19 and the outbreak of conflict in northern Ethiopia). The initial slower pace of occupancy is mainly due to a lack of market demand assessments and sequencing of IP development based on a solid pipeline of investors, which also led to inadequate infrastructure provision (see chapter 3, Planning and Development).

However, occupancy rates are low for commercial buildings (9 percent) and offices (14 percent), while residential buildings in Hawassa are almost entirely rented out but empty in Dire Dawa:

- **Office space:** Of the combined 8,143 square meters of office space across the nine IPs only 14 percent are rented out as of July 2021. The offices are occupied mainly by banks and logistics service providers. In Mekelle, no office space has been rented out yet, and in Dire Dawa and Kombolcha only 4 and 9 percent of office spaces are rented out, respectively. The low occupancy is partly due to higher rental fees IPDC charges for common facility buildings driven by their higher cost of construction. Moreover, many investors use the factory spaces for storage and offices, thereby reducing the economic returns that could be derived from productive factory space.
 - Likewise, about 14,600 square meters of combined capacity have been created in the nine IPs for operation and management and OSS service providers such as the Ethiopian Investment Commission (EIC), Ministry of Labor and Skills (MoLS), and Ministry of Revenue. In line with the IP Proclamation, OSS service providers obtain space free of rent, but occupancy is still very low at 20 percent. Some of the parks such as Hawassa, Kombolcha, and Debre Berhan even started renting the spaces for commercial users such as logistics.
- **Residential buildings:** Hawassa and Dire Dawa have a combined capacity of 38,700 square meters, but none of Dire Dawa's spaces are rented out yet, while 94 percent of Hawassa's are rented out, mostly to expatriates and management staff.³⁰⁶ None of the other publicly owned IPs have residential buildings on site.
- **Commercial buildings:** Across the four IPs that have commercial buildings, there is a combined capacity of 14,500 square meters. As of July 2021, only 1,312 square meters (9 percent) are rented out—306 square meters in Bole Lemi I and 1,006 square meters in Hawassa— while they are unoccupied in Dire Dawa and Mekelle.

2.2. Revenues

Over the last six years (up to July 2021), IPDC has generated revenues of Br 2 billion (US\$57 million) from nine publicly owned IPs, predominantly from shed rental fees (Table 7.1). IPDC generated its first revenues when Bole Lemi I became operational in 2015. Since then, revenues have grown steadily from Br 24 million (US\$1.1 million) in 2015/16 to Br 872 million (US\$20 million) in 2020/21. The increase was mainly driven by opening new IPs and launching new revenue sources on top of exchange rate gains from US dollar to birr translation of rental fees. Rental fees are set and paid in US dollars, but IPDC accounted for them in birr using spot rate at the date payments are collected.

The revenues stem predominantly from fees from renting factory sheds (85 percent), followed by residential buildings (6 percent), and park management fees (4 percent) (figure 7.8). The rates are set by the IPDC board for a group of industry parks (see table 7.2) and adjusted upward every three to five years (differing by park). Bole Lemi I charges the lowest rate, but Adama, Debre Berhan, and Dire Dawa have a higher rate compared to the rest of the parks in the loop.

Given Hawassa's large factory shed capacity and age, the IP generated 59 percent of IPDC's revenues (compared to around one-third of construction costs). Hawassa provided 37 percent of factory sheds, 20 percent of the OSS facilities, 60 percent of the residential, as well as 26 percent of the commercial building spaces (figure 7.9).³⁰⁷

³⁰⁶ This also partially reflects occupancy levels in the parks.

³⁰⁷ This clustering of capacities of the Hawassa IP also triggers higher revenues from other revenue sources (examples include sales of water, effluent [factory] treatment plant service fees, sewage treatment plant service fees, and park management service fees).

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TABLE 7.1. Revenues from Publicly Owned Industrial Parks, by Source (in US\$, millions)

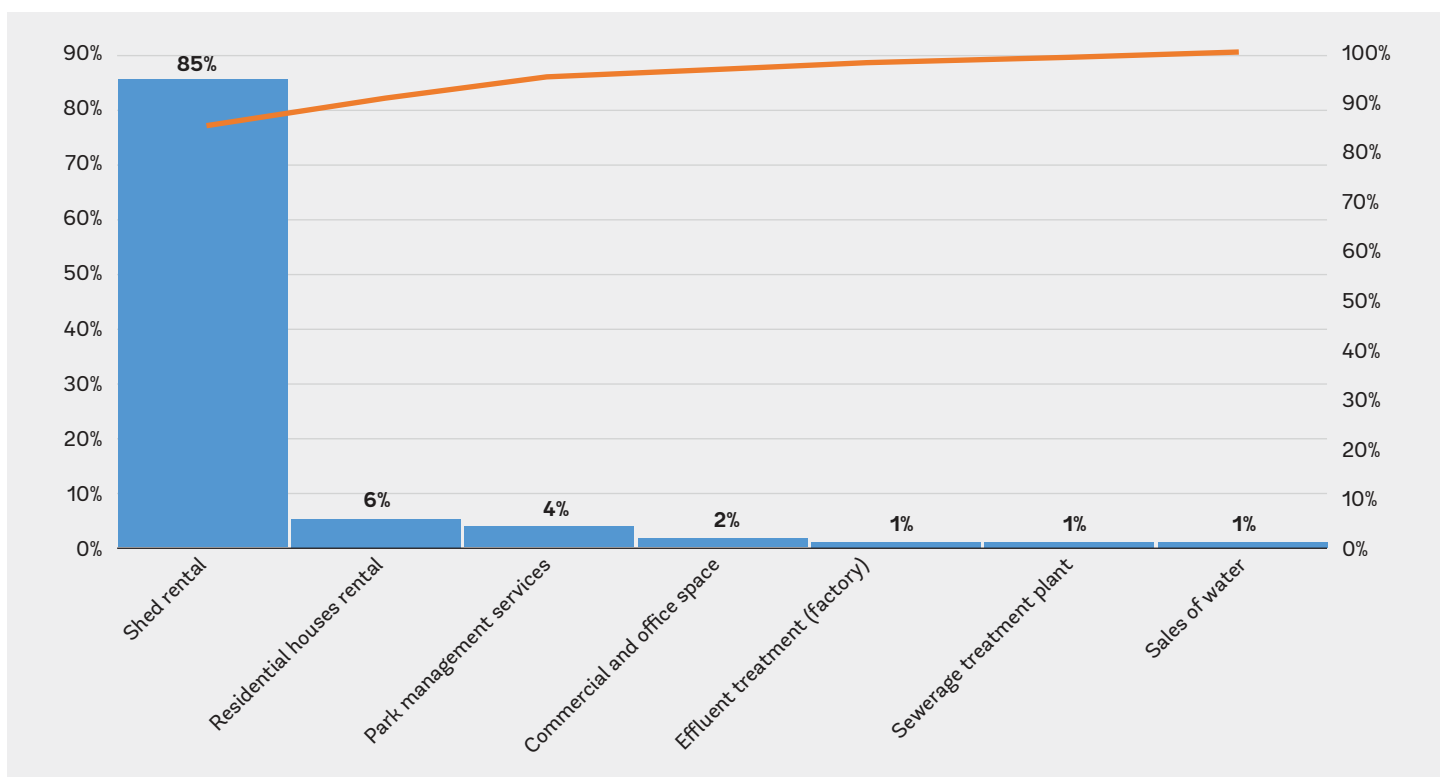
Revenue Source	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Shed rental	1.1	1.8	4.8	10.1	13.6	17.1
Residential houses rental	—	—	0.3	0.8	1.0	1.0
Commercial and office buildings rental	—	0.0	0.1	0.2	0.3	0.4
Sales of water	—	—	—	0.1	0.2	0.3
Effluent (factory) treatment plant service fees	—	—	0.1	0.1	0.3	0.2
Sewerage treatment plant service fees	—	—	—	—	0.6	0.0
Park management service fees	—	—	0.4	0.3	0.8	0.9
Total	1.1	1.8	5.7	11.6	16.8	20.0

If all the available factory shed spaces and the office, residential, and commercial buildings were fully rented out, IPDC would generate an additional Br 35 million (US\$687,000) monthly revenues (see table 7.3). Because of its low utilization rate, Dire Dawa accounts for about 63 percent of the possible additional revenue. Dire Dawa’s idle factory sheds forfeit approximately US\$221,000 every month on top of untapped income from its residential buildings (US\$136,700), office spaces (US\$37,300), and commercial spaces (US\$34,500).

The 86.92 hectares of serviced land in Kombolcha (6.06 hectares), Dire Dawa (47 hectares), Debre Berhan (13 hectares), Bahir Dar (13.76 hectares), and Adama (7 hectares) also have good revenue potential, but IPDC hasn’t started generating revenue yet.

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FIGURE 7.8. Revenues Contribution, by Source



Source: IPDC.

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TABLE 7.2. Approved Factory Shed Rental Fees

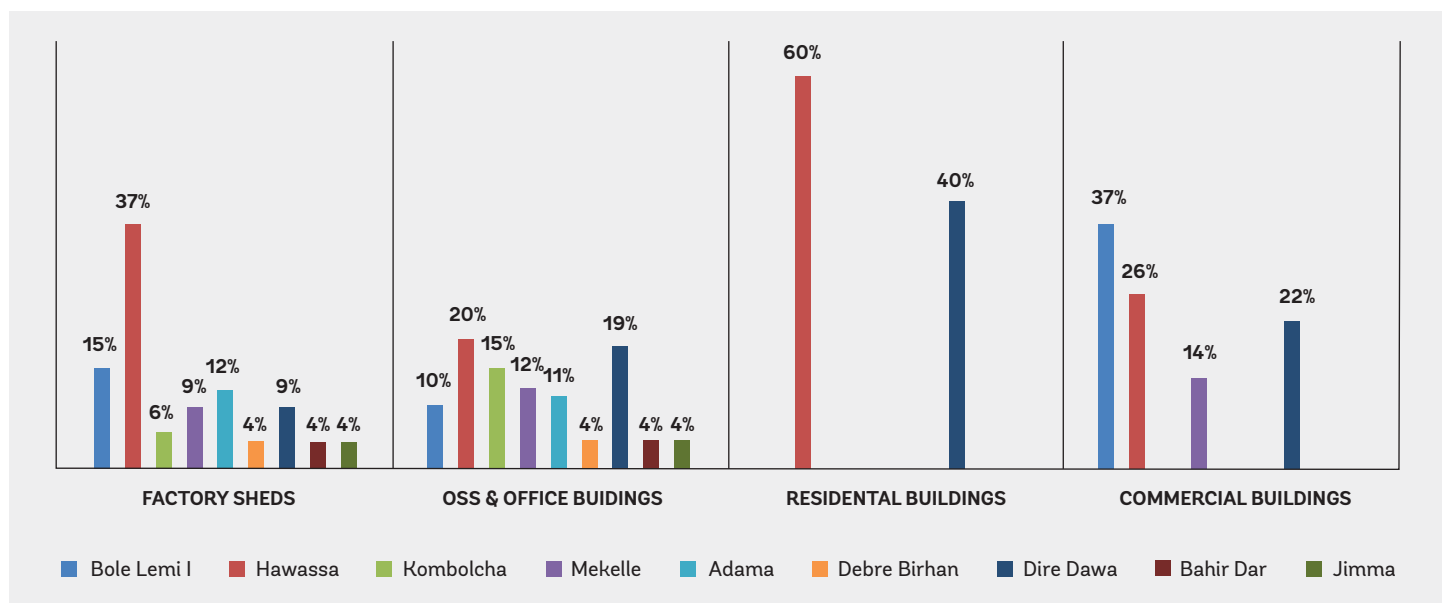
Groups of industrial parks	Factory shed rental rates per sqm
<i>Bole Lemi I</i>	US\$1 for the first five years US\$1.25 for the next five years ^a
<i>Hawassa, Kombolcha, Mekelle, Jimma, and Bahir Dar</i>	US\$2 for the first four years US\$2.5 for year 5, 6, and 7 US\$2.75 for year 8, 9, and 10 US\$3 for year 11 and thereafter
<i>Adama, Dire Dawa, and Debre Berhan</i>	US\$2.75 for the first four years US\$3 for year 5, 6, and 7 US\$3.5 for year 8, 9, and 10 US\$4 for year 11 and thereafter

Source: IPDC.

a. In shed number 5 with 11,000 sqm size, the rental price is US\$1.25 for 10 years.

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FIGURE 7.9. Rentable Space Contribution of the Publicly Owned Industrial Parks (in percent)



Source: IPDC.

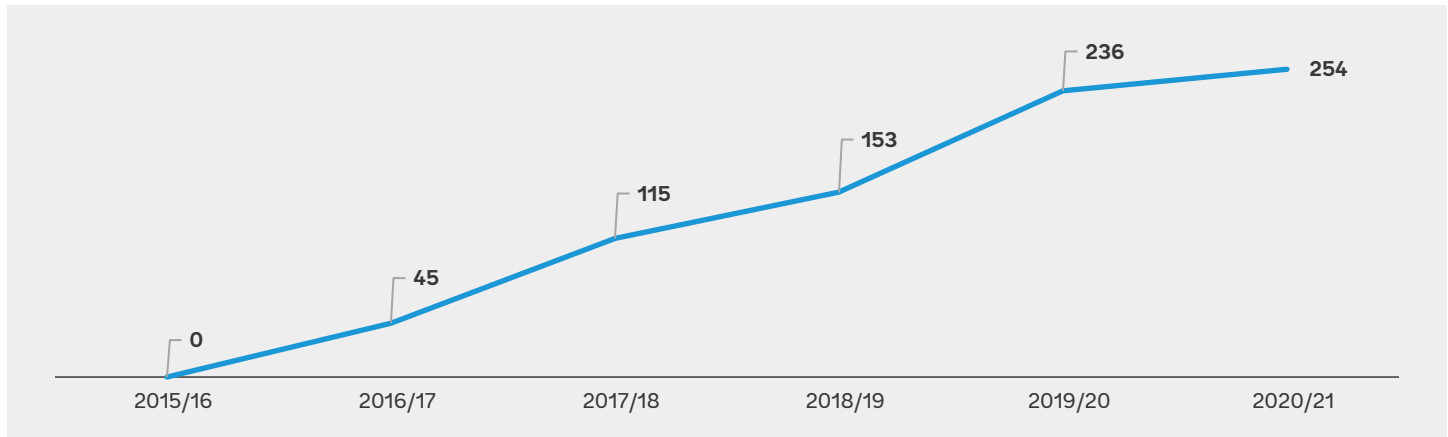
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TABLE 7.3. IPDC's Revenue Potential at Full Capacity

Description	Available Space (sqm)	Occupied (sqm)	Monthly Revenue (US\$)		
			Full capacity	Current occupancy rate	Unused capacity
Factory Sheds	1,083,178	960,739	2,325,231	2,004,546	320,685
Office and OSS	8,143	1,126	131,268	15,753	115,515
Residential Buildings	38,737	21,475	312,012	163,328	148,683
Commercial Buildings	14,465	1,312	113,807	11,857	101,950
Total			2,882,318	2,195,485	686,832

Source: World Bank staff computation based on IPDC's data.

Note: sqm = square meters

FIGURE 7.10. Operating Expenses, Excluding Industrial Development Costs (in BR, million)

Source: IPDC.

2.3. Operating expenses

Between 2015/16 and 2020/21, IPDC incurred total operating expenses of Br 802 million (US\$24 million), of which the most recent year accounted for Br 254 million (US\$5.8 million). Operating expenses are the day-to-day costs for park operation, excluding park development costs. These costs are borne by IPDC and are not passed on to the tenant companies as the firms are charged fees accordingly. In 2020/21, the major cost factors were personnel (30 percent of total), electric utilities (18 percent), and zero-liquid discharge (ZLD) operation costs (15 percent). As an example, the cost to operate the Hawassa ZLD is \$3.40 per cubic meter but investors are charged only \$0.80 per cubic meter. In line with the opening of new IPs, operating expenses increased over time, reaching BR 254 in 2020/21 (see figure 7.10). Given their relative size, Hawassa (59 percent) and Bole Lemi I (21 percent) accounted for the largest share of the expenses. However, the cost structure in Hawassa is slightly different as 60 percent of the expenses stem from electric utility and its ZLD) facility. While investors settle their own electric bills for the factories, IPDC paid substantial electricity bills due to the high electric consumption of Hawassa's ZLD facility.

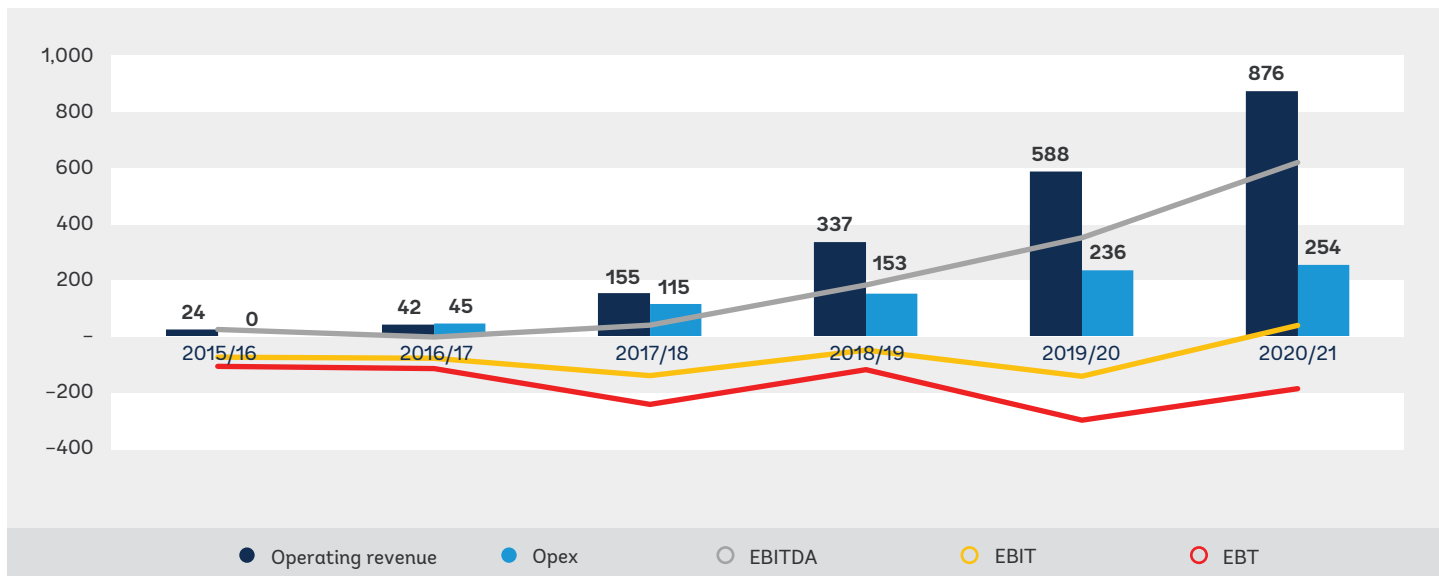
2.4. Profitability

While it is not the goal of the IP program to make a profit, they should be able to support themselves to be financially sustainable in the long run. The nine IPs generated enough revenue to cover their operating expenses and maintained a positive EBITDA throughout the operational years. The surplus of revenues over operating expenses (OPEX) has increased progressively over the years (see figure 7.11). However, considerable depreciation expenses for park development have dragged revenues down, resulting in negative EBIT. Over the years EBIT has been improving and was marginally above break-even in 2020/21. Meanwhile, if Eurobond interest expenses are accounted for, the loss (earnings before taxes, EBT) is much higher.

2.5. Financial reporting and performance

Based on its mandate, IPDC makes various expenses for IPs and monitors their economic and financial performance, but expenses are not systematically allocated to the respective IPs. IPDC is responsible for the development of IPs and supports them to achieve their economic objectives. In 2018, IPDC switched from preparing financial statements based on General Accepted Accounting Principles (GAAP) to International Financial Reporting Standards (IFRS).³⁰⁸ As of July 2021, IPDC has accounted expenses of Br 297 million (US\$9.7 million), which are reported as part of the head office running expenses. Good accounting practice would recommend that IPDC's expenses incurred in this course of action should be reflected in the parks' books of records or be allocated to the parks in a systematic way to capture the "full" cost at the park level. The IPDC has not set up a mechanism to allocate the expenses between the parks. Head office expenses incurred during construction of the IPs were not capitalized as part of construction cost but directly expensed when incurred and accounted in head office's books of account. Moreover,

308 The financial statements are audited by independent external auditors.

FIGURE 7.11. Profitability of Publicly Owned Industrial Parks (in Br, million)

Source: World Bank staff computation based on IPDC's data.

Note: EBIT = earnings before interest and tax; EBITDA = earnings before interest tax depreciation and amortization; EBT = earnings before tax; Opex = operating expense; rev = revenue.

while the Ministry of Finance (MoF) makes semi-annual interest payments on the Eurobond (annual interest of 6.6 percent), IPDC's books of accounts do not reflect this. This has negatively affected proper measurement of the parks' financial returns and performance since the full costs of the industrial park development program are not well captured or reflected as part of the cost of construction.

Since 2017, IPDC has incurred foreign exchange losses of Br 327 million (US\$7.5 million) due to an agreement to pay back a share of withheld fees to contractors in US dollars while the birr has been losing value (see figures 7.12 and 7.13). IPDC withheld 5 percent of the contract value when construction of IPs was completed and approved. The balances are payable when agreed quality control conditions are met and contractors qualify for payment. IPDC made the agreement that part of the retention balances (usually 35 percent) is to be paid in US dollars. This does not increase the cost of the parks in dollar terms, but due to the constant devaluation of the birr, this settlement has become increasingly expensive and has driven up foreign exchange losses for IPDC. By July 2021, these foreign exchange losses amounted to Br 327 million (US\$7.5 million). However, these losses are absorbed by the head office and not allocated to the IPs (see Table 7.4 for foreign exchange losses by IPs). Given overall construction costs of the parks were about Br 24 billion, the foreign exchange losses are less than 2 percent but equivalent to acquiring additional finance of US\$7.5 million.

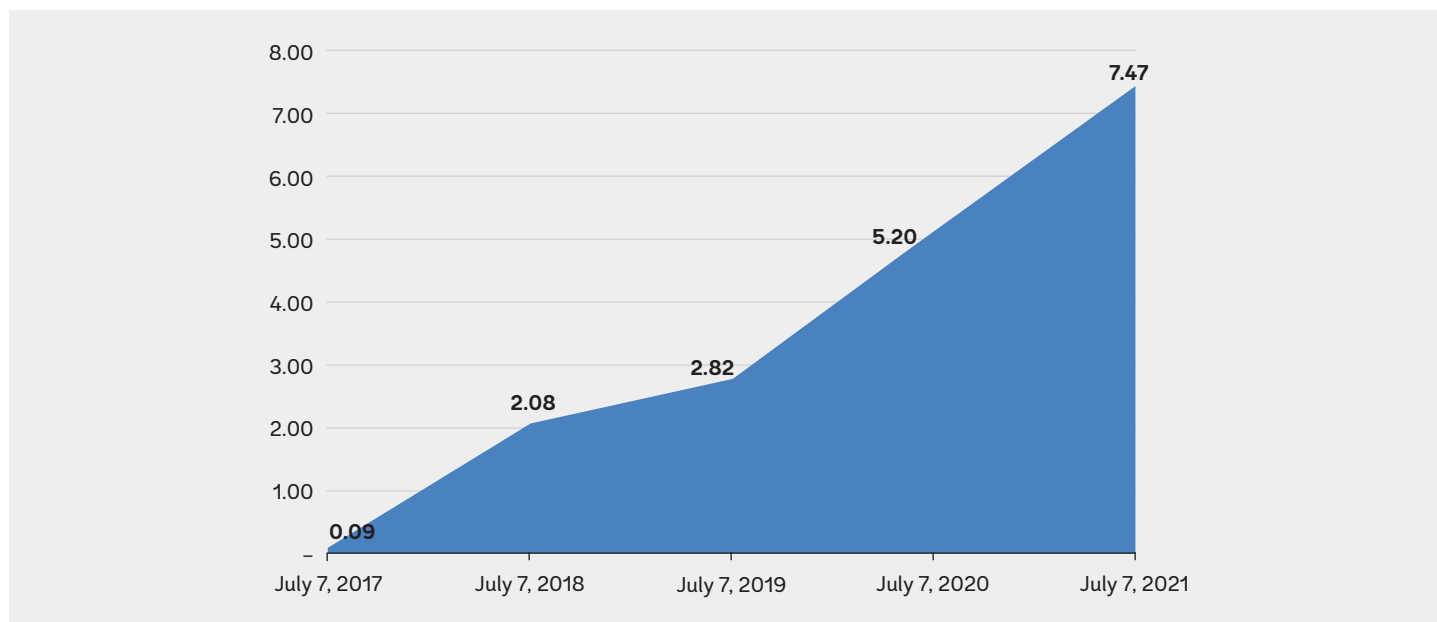
3. Financial Projections and Analysis

This section makes a financial projection and analysis based on historical IPDC records and occupancy levels considering five key assumptions and developing three different scenarios. This analysis builds on a financial model that runs for a 30-year period from when the IPs became operational and makes five key assumptions.³⁰⁹ First, average occupancy trends are assumed to last until the respective IPs are fully occupied. Second, it is assumed that there is a natural turnover of 5 percent of investors who exit the sheds and hand them back to IPDC. Third, based on current market trends, the exchange rate of birr against US dollar declines at an annual rate of 23 percent over the entire project period. Fourth, a standard 30 percent profit tax is assumed, but profit income tax exemption privileges given to IP developers in and around Addis Ababa (10 years) and outside Addis Ababa (15 years) are considered. Fifth, because bank rates do not reflect the actual costs of finance in Ethiopia and are highly controlled by the Central Bank, discount rates are calculated for each park separately to reflect the actual cost of capital. They account for factors such as park operationalization date, inflation rates, risk-free rate of return, equity portfolio return, and country and sector risks.

³⁰⁹ Because of the ongoing conflict in Ethiopia, several IPs have shut their operations. However, this projection considers that the IPs remained open and takes data from the time before their conflict-related closure.

> > >

FIGURE 7.12. Foreign Exchange Cumulative Losses, in US\$, million



Source: World Bank staff computation based on IPDC's data.

> > >

FIGURE 7.13. Scenario 1—Year at Which Industrial Parks Earn a Profit

Name of the IP	Year of opening	First profit year			Number of years to earn profit from IP operationalization year		
		Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3
Bole Lemi I	2014	2021	2021	2021	7.0	7.0	7.0
Hawassa	2017	2021	2022	2025	4.0	5.0	8.0
Mekelle	2017	2021	2022	2026	4.0	5.0	9.0
Adama	2018	2021	2021	2026	3.0	3.0	8.0
Kombolcha	2017	2022	2023	2026	5.0	6.0	9.0
Debre Berhan	2019	2022	2022	2026	3.0	3.0	7.0
Bahir Dar	2019	2023	2024	2024	4.0	5.0	5.0
Jimma	2019	2023	2024	2024	4.0	5.0	5.0
Dire Dawa	2019	2025	2025	2026	6.0	6.0	7.0

Source: World Bank staff projections based on the past revenue trends of the IPs.

TABLE 7.4. Foreign Exchange Cumulative Losses by Industrial Park, in US\$, million

	July 7, 2017	July 7, 2018	July 7, 2019	July 7, 2020	July 7, 2021
Hawassa	0.06	0.73	0.98	1.72	2.42
Mekele	0.02	0.21	0.28	0.48	0.67
Kombolcha	0.02	0.20	0.27	0.47	0.66
Debre Berhan				0.22	0.43
Jimma		0.14	0.19	0.34	0.48
Bahir Dar		0.12	0.17	0.30	0.43
Adama		0.32	0.44	0.79	1.12
Dire Dawa		0.36	0.49	0.89	1.26
Total	0.09	2.08	2.82	5.20	7.47

Source: IPDC data.

IPDC's return of investments is analyzed using two common performance measurement metrics: internal rate of return (IRR) and return on investment (ROI). ROI indicates total growth, start to finish, of an investment, while IRR identifies the annual growth rate. The two metrics do not consider the time value of money.

To assess the sensitivity of the financial results the following scenarios are developed:

Scenario 1: Only the parks' operating expenses are considered, that is, no allocation of head office expenses, foreign exchange losses, or interest expenses are allocated.

Scenario 2: Head office expenses are allocated to the parks proportionate to the revenue they generate. Foreign exchange losses incurred are allocated to the parks in proportion to the Eurobond proceeds they received.

Scenario 3: Head office expenses, foreign exchange losses, and Eurobond interest expenses are fully allocated to the parks. Eurobond proceeds are used for construction of six industry parks. Bole Lemi I, Jimma, and Bahir Dar are the three IPs that are not financed by Eurobond. Hence, interest expenses are billed to the remaining six parks in proportion to the proceeds they received.

3.1. Projected Profitability

Profitability of the parks—revenue minus operating expenses and depreciation—is examined in figure 7.13 under the three different scenarios that have been outlined. Together with ROI and net present value (NPV), the IRR is a common metric to evaluate the performance of investments over time (either ex-post or ex-ante). IRR is the expected compound annual rate of return that will be earned on a project or investment.

Scenario 1: No head office expenses, no foreign exchange loss, and no interest expenses are allocated.

The consolidated IRR stands at 16 percent. Bole Lemi I, Hawassa, Mekelle, and Adama IP are already earning profits and Kombolcha and Debre Berhan are projected to start earning profits during the current year (2021/22). Under Scenario 1, Bahir Dar and Jimma are expected to earn a profit in 2022/23 and Dire Dawa in 2024/25 (see figure 48). Debre Berhan and Adama have the shortest path to start earning profit in their third year of operation, but Bole Lemi I takes the longest pathway reaching this milestone in its seventh year of operation. This is mainly due to the exceptionally low rental rates of the park compared to other parks.

Scenario 2: Head office and foreign exchange loss are allocated but not interest expenses.

The consolidated IRR stands at 15 percent. Allocation of head office and foreign exchange losses pushes the first profit year by one additional year for Hawassa, Mekelle, Kombolcha, Bahir Dar, and Jimma. But results of Bole Lemi I, Adama, Debre Berhan, and Dire Dawa remain unchanged.

Scenario 3: Head office expenses, foreign exchange loss, and interest expenses are charged to IPs.

If IPDC takes over the Eurobond interest expenses, the consolidated IRR stands at 14 percent, and it affects the profitability of the five parks that are financed through the bond proceeds significantly and pushes the first profit year (compared to Scenario 2) further by an additional 5 years for Adama, 4 years for Mekelle and Debre Berhan, and 3 years for Hawassa and Kombolcha. Compared to the base scenario (Scenario 1), the highest impact rests on Adama and Mekelle (additional 5 years each) followed by Hawassa, Kombolcha, and Debre Berhan, which would wait an additional 4 years to earn their first profit.

The Scenario 3 impact is very low on Bahir Dar, Jimma, and Dire Dawa parks mainly due to their recent operationalization year where they are allocated with relatively lower foreign exchange loss and interest expenses. Likewise, Bahir Dar and Jimma registered full occupancy by their first year of operation, which makes them able to absorb the shock very well. Bole Lemi I is the only park unaffected by change of variables in Scenario 2 and 3. Its construction cost is fully financed by the government's own source, and it takes nothing from the Eurobond proceeds. Hence neither foreign exchange loss nor interest rate allocation affects its financial results in the three scenarios.

As outlined above, the parks' IRR is affected by the allocation of head office expenses, foreign exchange losses, and interest expenses. If these three cost categories are allocated to the IPs, Adama and Mekelle lose the most (5 percentage points) and Dire Dawa the least (0.02 percentage points). Dire Dawa has the lowest IRR, because of its low occupancy rates (table 7.5).

3.2. Return on Investment

The ROI measures the amount of return on a particular investment relative to the investment's cost, which also considers capital costs such as interest and depreciation due to capital expenditures. As highlighted above, IRR is the expected compound annual rate of return that will be earned on a project or investment.

The parks' ROI is affected by the allocation of the head office, foreign exchange loss, and interest expenses. When these factors are considered, the ROI for Debre Berhan is reduced the most (1.3 percentage points) and Dire Dawa the least (0.1 percentage point) (table 7.6).

3.3. Payback period

None of the IPs are able to pay back their investment within the model period of 30 years. This is mainly due to the following:

- Low rental fees compared to the size of capital expenditures/investments made
- Low occupancy rates (especially for office space, residential units, and commercial facilities)

> > >

TABLE 7.5. Industrial Parks' Internal Rate of Return Comparison

Industrial Park	Internal rate of return		
	Scenario 1 (%)	Scenario 2 (%)	Scenario 3 (%)
Bole Lemi I	14.0	13.2	13.2
Hawassa	21.4	19.8	17.2
Kombolcha	18.8	17.0	13.7
Mekelle	22.0	20.4	17.0
Adama	22.3	20.6	17.0
Debre Berhan	17.7	15.7	14.2
Dire Dawa	2.7	2.7	2.7
Bahir Dar	19.5	18.0	18.0
Jimma	17.6	16.9	16.9

Source: World Bank staff projection based on the past revenue trends of the IPs.

TABLE 7.6. Industrial Parks' Return on Investment Comparison

Industrial Park	Return on investment		
	Scenario 1 (%)	Scenario 2 (%)	Scenario 3 (%)
Bole Lemi I	10.3	9.8	9.8
Hawassa	14.7	13.9	13.8
Kombolcha	13.5	12.4	12.3
Mekelle	15.0	14.2	14.1
Adama	15.1	14.3	14.2
Debre Berhan	12.7	11.5	11.4
Dire Dawa	13.8	13.8	13.7
Bahir Dar	15.4	14.5	14.5
Jimma	13.6	13.1	13.1

Source: World Bank staff projection based on the past revenue trends of the IPs.

- Impact of head office costs and attribution of foreign exchange losses
- Increasing cost of capital

Computation of ROI and IRR is based on actual cash flow and doesn't take time value of money into account whereas the payback period uses discounted cash flow (discounted at higher cost of capital computed for each of the parks and ranging between 21 percent to 34 percent).

However, it is important to note that the IPs are economic policy instruments and not established solely for commercial purpose. The performance of the IPs should also be assessed by the economic returns on the government's investment (for example, through the numbers of jobs created), which is considered in the economic appraisal under chapter 1.

4. Conclusion and Recommendations

Given their broader economic goals, industrial parks' direct revenue generation has not been the main performance yardstick, but, nonetheless, earnings before interest and taxes (EBIT) show progress toward financial sustainability. Ethiopia's nine publicly owned industrial parks covered under this study were constructed for approximately Ethiopian Birr (Br) 24 billion (US\$1 billion at historical exchange rates), ranging from Br 7 billion (US\$303 million) for Hawassa to Br 1.5 billion (US\$55 million) for Bahir Dar and Jimma. Factory sheds accounted for about half of the construction costs. Since operations began in 2015/16, IPDC has incurred total operating expenses for day-to-day park operations of Br 802 million (US\$24 million at historical rates). Over the same period, IPDC generated revenues of Br 2 billion (US\$57 million at historical rates) from operations of the publicly owned industrial parks, predominantly from shed rental fees (85 percent). These parks generated enough revenue to cover their operating expenses and maintained positive earnings before interest, tax, depreciation, and amortization (EBITDA) throughout the operational years. Considerable depreciation expenses for park development have dragged down profits, resulting in a negative EBIT.

However, the current accounting practices may not reveal the true costs of the industrial parks, and (depending on how calculated) the profitability of the industrial parks may take longer to achieve, reflecting more broadly weak public investment management by the government. IPDC's head office expenses incurred during construction have not been systematically allocated to the industrial parks. Also, interest payments on the Eurobonds (secured by the government from international markets and used to finance the development of several industrial parks) are currently made by the Ministry of Finance. So far, the government has made total interest payments of US\$348 million directly attributed to the IP development program, but the entire cost of the parks, including the financing costs, are not reflected in IPDC's financial metrics. This negatively affects proper measurement of the industrial parks' financial performance. Scenario analysis shows that the decision of how to allocate head office expenses, Eurobond interest payments, and foreign exchange losses substantially influences the year at which each industrial park may become profitable (ranging from mid-2022 to mid-2026).

There are some opportunities within the existing IPs to increase IPDC's financial performance further. Projections show that IPDC's annual revenues could be increased by Br 35 million (US\$687,000) if all the available factory shed spaces and the office, commercial, and residential real estate within the IPs are fully rented out.

Key recommendations to ensure the financial viability of the IPs are put forward here:

- A financial model for each IP should be developed and a scenario analysis for each IP should be done to analyze opportunities and variables for generating more income without compromising the competitiveness of the IPs or their policy objectives.
- IPDC should develop a practical approach to maximize its revenue from other facilities as well as commercial and office space, sale of water, and lease of service lands. Proper attention should also be given to promoting IPs, especially those that have a very low occupancy rate, for them to be fully occupied in the shortest possible time. Dire Dawa should get the prime focus, following up other IPs in the pipeline that have not been included within the scope of this study (such as Semera, Bole Lemi II, Kilinto, and so on). However, the success of the investment promotion efforts and retention of existing investors is dependent on fulfillment of the necessary facilities and services by the government.
- Likewise, IPDC should consider adopting alternative business models that can help maximize its revenue further. It can design varieties of training and certification programs that focus on transfers of skill and technology to the local business enterprises located outside of the industrial parks on a fee basis. In addition, IPDC can adopt similar approaches used by other industrial parks globally in terms of revenue generation mechanisms, such as expanding private sector-led services (skills training, child-care, commercial services, charging fees on non-core or additional services to investors, etc.). This could not only be another source of revenue for IPDC but also one of the options to build local capacity and opportunities that will facilitate linkages with the domestic economy.
- Rental fees are fixed and uniform across the IPs. For example, Jimma has the most expensive shed, but rental fees are lower than those of Adama, Dire Dawa, and Debre Berhan. Hence, the government should consider revising the rental rates where possible taking levels of demand, construction cost, or years of construction (birr devaluation) into account. But revising rental fees cannot answer all issues raised unless aided by other crucial factors such as equipping the IPs with proper infrastructures and services.
- To properly measure the financial performance of the corporation, the government should ensure that all costs, including financing costs, are well captured and reflected in measuring the financial performance of the industrial parks. IPDC should also establish a proper accounting system that can capture all relevant financial data of the corporation and enable the allocation of head office expenses, including foreign exchange losses, to the industrial parks in a systematic way. This will enable the true accounting cost of the development of IPs and their operational expenses.

Appendix A – Summary of Areas of Reform and Detailed Recommendations

Chapter 1 – The Economic Impact of Ethiopia’s Industrial Parks

Protecting the achievements to date and getting to scale

- Because the IP program is at a critical juncture currently facing multiple shocks, it is of utmost importance that the government takes high-level leadership of the program to provide strategic guidance and a problem-solving platform that brings together all key stakeholders. Priority should be given to ensure Ethiopia does not lose the gains made so far and that the negative impacts from the suspension of AGOA, conflict, and COVID-19 are proactively managed to make sure the IPs continue to grow and generate the intended policy outcomes.
- Recognizing the challenges created by the loss of AGOA duty-free access to the US market, an urgent review of the pain points for existing investors and buyers (e.g., foreign exchange, banking charges, investor services, utilities, etc.) should be conducted with a view to fast-track improvements to the investment climate and OSS service delivery. More detailed recommendations to minimize the impact of the suspension of AGOA are found in the Executive Summary.
- To renew momentum in attracting and enabling additional investment into the existing parks, a twin track approach is recommended:
 - Recognizing the significant scope for new investment to come from businesses already present in Ethiopia, there is a need to improve aftercare and deepening of OSS service delivery, as well as addressing infrastructure and utility deficiencies.
 - An investment promotion drive that specifically targets not just manufacturers of finished products but also buyers and Tier 2 suppliers (fabric mills, trim suppliers, etc.) that have the ability to “crowd in” additional investment.
- Any additional capital expenditures should prioritize fixing outstanding infrastructure gaps in existing parks. These issues vary park to park but include housing, drinking, and industrial-grade water, ensuring capacity and smooth operations of effluent treatment plants, drainage systems, health clinics, fire stations, etc. (see chapter 4, Operation and Management). These investments will be critical to improving productivity and getting to scale (for example, enabling double shifts).

- There is considerable heterogeneity in the performance of IP investors in terms of productivity and compliance with social and environmental practices. In order to support the scaling up of job creation, productivity, and exports, it is important to understand why. There would likely be high returns to further research to help target policies that support firms to catchup with the parks' better performers.
- Collaborative approaches to skills upgrading will also be key to enhanced productivity and preparing workers for new, higher value-added sectors beyond garments and textiles. Park-specific industry partnerships between universities and TVET colleges that focus on modernizing curriculums, internships, and on-the-job training may offer learnings that can be taken to scale.

Jobs and remuneration

- Recognizing the sector-specific feature of the global garment industry—including the reputation-conscious global brands that dominate sourcing in Ethiopia—ongoing government reforms to introduce a minimum wage should ensure that IP workers are covered under any eventual approach.
- Explore opportunities to raise incomes further through living wage approaches linked to Collective Bargaining Agreements, such as ACT in the garment sector for which many Ethiopia focused buyers are already signatories.
- Improving the provision of urban and workplace services such as housing, childcare, and transportation will support improved worker satisfaction, retention, and productivity.
- Improving labor market efficiencies—for instance via educational campaigns to improve information for potential workers about the realities of urban and working life, the ability of workers to select individual employers, etc.
- Investments in better preparing rural migrants before departing and on arrival, such as access to improved information on factory work and city life, in addition to provision of welcome packs and orientation activities to help settle during the initial three-month window when turnover is especially high.
- A structured approach to improving workplace inspections, which might for instance include incentivizing IP firms' participation in the International Labour Organization Better Work program.
- A very common complaint of both employers and workers was the challenges of managing employment with continued education. Creative approaches to how these can be done in parallel would likely yield significant mutual benefits.

Deepening supply chain linkages and local spillovers

- Prioritizing provision of the infrastructure and utilities needs of Tier 2 manufacturing facilities, such as fabric mills and dye houses to develop the value chain. See chapter 4, Industrial Parks Operation and Management on specific gaps in utility provision and chapter 6, Environmental Sustainability, on the environmental safeguards needed around these power and water intensive investments.
- A review of regulatory, banking, and foreign exchange obstacles to deepen vertical supply chain linkages from the IPs. This should include issues such as the availability of foreign currency, banking charges, and options for deepening regional integration to achieve economies of scale.
- Acceleration of efforts to link cotton and other agricultural inputs to the demand created in the IPs. This could include options for upgrading cotton seed varieties in use in Ethiopia, land availability, and utilizing the opportunity created by a modern spinning mill in Dire Dawa.
- Strengthened domestic linkages will not happen automatically and will require targeted efforts spanning policy, improving the business environment (e.g., input financing), strengthening firm-level capabilities (such as in meeting international buyer standards), and addressing information asymmetries (e.g., matchmaking events). To this end, the adoption of the National linkages policy and its immediate operationalization will be critical steps forward in facilitating domestic linkages.
- While punitive policies attempting to enforce technology transfer may be counterproductive, it would be helpful to explore policies that incentivize collaborative approaches (such as joint ventures and other forms of local-foreign investor partnerships) to support the technological upgrading of Ethiopian businesses.

- Institutionalizing the policies and learnings around linking local suppliers to IP and other GVC investors could be supported through the establishment of a Local Content Unit (or similar) in an appropriate government agency. This unit could address information gaps of IP investors and domestic businesses, support matchmaking activities, and provide capacity building on standards and other requirements to prospective local suppliers.

Chapter 2 – Legal and Governance Framework

Strategic objectives and framework

- While the legal framework for IPs provides a good basis for the IP program, the legal framework can be enhanced further by being more flexible on export requirements and sectoral focus, incentivizing sustainable investments and strengthening due diligence requirements (such as transport study, feasibility analysis, etc.).
- There is a need to further clarify and align institutional mandates and responsibilities, including between federal and regional agencies, that will enable effective investor services, as well as effective utilization of capacity and resources, including with the legal and institutional framework for IAIPs. As stated earlier, high-level strategic leadership and coordination would also be important to ensure alignment among institutions, strengthen investor services, and ensure consistency of regulatory and administrative requirements.
- For effective implementation of the IP program and to formulate strategies to maximize value from the existing investments, IPDC needs to have an approved corporate strategy and EIC should have an IP-specific strategy to implement its IP regulator responsibilities.

Operations and institutional design

- There are few Standard Operating Procedures Manuals developed or in use in the IPDC's and the EIC's various IP functional areas of intervention, and few MoUs with other outside public ministries, departments, and agencies.
- IPDC will also need a dedicated qualified team for strategic planning that will analyze options, private sector participation, and financial and business models for the IPs, and provide high-level strategic input to the management.

Human resources

- IPDC and EIC are understaffed relative to their functions and goals, resulting in a high workload. The “big picture” IPDC vision and goals are not widely known among staff, who rather tend to focus on the day-to-day operational details of their directorates. IPDC should also adopt a business-driven organization and hire relevant professional staff to ensure its business sustainability.
- There is insufficient delegation of decision-making or empowerment of line-level IPDC officers, which is further exacerbated by lack of clear descriptions of job functions within IPDC.
- Investment in Human Resource Development is inadequate at the IPDC, EIC, and RIPDCs alike.
- The IPDC does not have a strong multidisciplinary Contracts Management Team for outsourced IP design, construction, and operational servicing functions.

One-stop shop

- Even though there is OSS at the IP level, additional services such as the provision of onsite notarial, legal, or accounting services to investors are needed.

IT and information management systems

- There are no information technology units in the IPs, and full customer relations management systems are not in use.

Chapter 3 – Planning and Development

Integrated development approach

- To maximize the benefits of the IPs to the local economy and create agglomeration of economies, the development of IPs (both public and private) should be integrated within the development plan for the cities and areas where they will be located.
- Integrated planning and development will help manage the provision of basic services, water and power, basic infrastructure to serve the IP investors and workers—such as transport and housing, shortage of labor supply. It can also help align IP development with public investments such as roads, railway, etc., including leveraging shared resources with IAIPs where they exist in close proximity to the IPs.

Demand assessments

- Establish requirements to systematically conduct demand assessments for IP planning and development, considering investment interest or demand, reasonable distances from labor and distribution markets, or supply chains as well as proof of favorable transport economics, financial feasibility, or socioeconomically positive project returns.
- Better sequencing of development with investment would help in developing the IPs in line with sector-specific needs that avoid inefficiencies such as changing infrastructure design and technology during or after development.

Feasibility studies

- Development of IPs based on a robust feasibility study that entails location-specific assessments, demand analyses (see above), environmental and social risk assessments, financial viability, and market studies, and minimize politically driven decisions that compromise the viability of IPs.

Long-term strategy

- A longer-term strategy of the IPs can provide better use of assets and longer-term returns on investments. The IPs will require a long time to return on the investments made. Planning and designing the IPs in a more flexible and adaptable manner will provide more favorable options for the government in the future to adapt the IP infrastructure to emerging and next-generation industries. It also provides the opportunity to have resilient and green infrastructures that are more resource efficient.

Infrastructure development processes

- The government has used a procurement approach with limited tendering for the construction of the IPs, except for Bole Lemi I. While there may be advantages to scale, open competition provides more competitive bids for the client, not only financially but also technically as firms/contractors price their bid strategically with the aim of building a reputation and winning more awards and contracts. It would also help minimize risks of cross-subsidizing cost where contractors may compensate or overbill for losses as well as variations at one site to the contract of another site, especially where capacity for supervision and contract management is weak.

Chapter 4 – Operation and Management

- **Even though earlier experiences have been mixed, there are advantages to the government involving the private sector more in operation and management of industrial parks.** IPDC as the primary developer and operator of IPs in Ethiopia has gained experience applying various industrial park operation and management models: from managing all aspects of an IP to contracting the entire IP management to a contractor. IPDC's experiences with the pilot engagement of the private sector for operation and management of Hawassa IP or the contract for the ZLD merit a deeper assessment. However, emerging lessons indicate the need to apply detailed feasibility studies and competitive selection procedures to attract firms that are experienced in operations and management. At the same time, IPDC needs to ensure transfer of knowledge and skills from the private sector

to its staff to enable adequate supervision. Passing on some of the responsibilities for operation and management of industrial parks (either through outsourcing, PPPs, or so on) enables the government to focus on provision of adequate infrastructure for the IPs and investor services.

- **The OSS in each IP needs to have clear workflow procedures and clear communication among service providers and be automated to provide services end to end at the IPs.** In addition, depending on the specific needs of each IP, EIC shall ensure provision of all listed OSS services at IP level (in line with IP regulation number 417/2017 Article 15).
- **A proactive approach for aftercare services supported by a functioning CRM and well-coordinated KAM system between IPDC and EIC, engagement of other institutions and regional governments is important to identify and address problems faced by investors.**
- **IP services currently are more focused on the provision of aftercare services at the entry and establishment stage and provide limited aftercare services after operationalization.** The government may consider introducing an investors' development program to maximize the economic contribution of existing investors in the form of reinvestment and supply chain integration with local producers.
- **Integration of IP promotion and facilitation strategy and efforts of the two institutions (EIC & IPDC) is important for better attraction of investors. EIC and IPDC should strengthen their investment promotion strategy by adopting a more proactive and targeted approach to attract credible investors to IPs.**
- **Waste treatment plants' operation and maintenance capacity shall be built within IPDC, and regular auditing shall be conducted to ensure companies are discharging based on the agreed parameter threshold.**
- **IPDC shall have DRM strategies for each IP that identify and prioritize risks, indicate and implement prevention methods, and provide control and rehabilitation activities.**
- **Maintenance workshop, spare parts and well-trained crew shall be arranged based on a well-designed strategy. Service level agreement shall be signed with EEU and Ethio-telecom for smooth operation and maintenance of power and telecom services and enhancing IPDC capacity.** IPDC needs to ensure that contractors prepare as-built drawings, maintenance, and operation manuals. Contractors also need to provide proper training to IPDC staff to facilitate a smooth transition between contractors and IPDC operations and management teams. In addition, contracts signed by IPDC should ensure that the contractors deliver spare parts that have long shelf time to fulfill maintenance and repair needs.

Chapter 5 – Labor Practices and Social Inclusion

Policy

Reviewing the optimal arrangement for labor management in the IPs and a clear mapping of the content and designation of mandates inside IPs needs to be communicated. National level dialogue among relevant line ministries is urgently required to negotiate and agree on the effective sharing of responsibilities. This is in line with global best practice and should include a pragmatic review of institutional capacity and capabilities, allowing the focus to shift toward the building of capacity of all relevant institutions—regulatory, workers, and employer representatives. With the increasing pace of industrial development, the need for collective dispute resolution services is guaranteed to increase and should be actively planned for. Investments in capacity building will need to mirror the clear designation of mandates that are developed among transparent and realistic negotiations on the feasibility of implementing national dialogue structures at each individual investor level.

Implementation

- Develop an investment promotion strategy that attracts and assesses potential investors based on their capacity to implement socially and environmentally responsible manufacturing and sourcing in Ethiopia.
- Invest in the social infrastructure surrounding the IPs and develop a social protection strategy clustered around parks. Wage setting mechanisms are most effective when they manage to reconcile the needs and interests of each stakeholder. At the moment, foreign investors do not have a seat at the table and are not engaged in the standard tripartite mechanisms of the country.

- Concentrated efforts of capacity building are required for all the institutions that have a role in labor markets. Investment in institutional capacity building is needed. Donor programs have been successful in implementing labor market programs such as recruitment and employment linkages and conducting inspection services. A short- to medium-term solution to building capacity of inspection services could be to incentivize tenant factories to be enrolled in programs such as ILO Better Works that provide international standard factory social compliance audits.
- Technology enabled data collection and coordination of social auditing and certifications need to be initiated in the IPs. Information should be shared on all data related to social and environmental performance, inspection visits, audit reports, and any training that covers environmental and labor standards. Invest in an IT system that automatically compares social audits, certifications, and inspection reports and generates risk profiles of investors allowing authorities to make timely intervention to prevent conflict or abuse of standards. The cost of labor enforcement can potentially be considered and included in the business model of the IPs.
- Park image building is required with external communications and engagement that is strongly integrated with employment linkages and community integration programs. Mass communication programs that inform workers about the realities of IP employment is needed to address pre-employment expectations. Community integration programs that support de-risking migration and provide close support for the initial settling-in period tackles the initial stages of vulnerability, particularly for young female workers.
- Harmonize training and worker capacity development efforts. Large amounts of investment are going into worker training by factories, donor agencies, and public and private sector educational institutions. Increased coordination and streamlining of these efforts is needed to leverage better return on the investment as well as enable effectiveness, scalability, and sustainability.

Chapter 6 – Environmental Sustainability

Overarching

- **Encourage long-term investments in sustainable IPs in partnership with responsible investors to increase Ethiopia’s competitiveness.** International or multinational companies seeking new production locations will consider the possible advantages of sustainably developed IPs. Most of today’s “green” investments pay off economically over the medium and long term (for example, rainwater harvesting, sludge valorization or textile waste recovery). For investments by private firms (such as in machinery with higher energy efficiency) and by the government to pay off, a long-term planning horizon and policy predictability is essential. It is therefore advised that Ethiopian policy makers establish longer-term partnerships with committed investors and develop IPs based on investors’ needs and in line with sustainability principles. This also ensures adequate capacity utilization of facilities, for example, zero liquid discharge facilities, which makes their use more economical.
- **Use IP incentives to encourage environmentally sustainable (“green”) investments:** EIC is giving investors various fiscal and nonfiscal incentives like tax exemptions to attract and retain investments. However, these are not yet used to encourage or attract more environmentally sustainable investments—for example, to reduce initial costs of investments in energy efficiency, renewable energy, or water efficiency.
- **The government should consider systematically adopting practices that promote resource efficiency, recycling, and eco-industrial park development.** While IPDC’s mission statement refers to the intention to develop eco-industrial parks, in practice there is little investment and attention given to adopting practices that promote green/sustainable industrial practices. Beyond resource efficiency and minimizing wastage in a fast-warming climate, it is important for Ethiopia to position the country as a sustainable investment destination as a competitive edge to attract reputation-conscious and responsible investors with long-term plans. Furthermore, recycling and reuse practices create opportunities for small and medium enterprises and enhance the economic spillover of the IPs and create more jobs for local communities.

Water use

- **Enhance monitoring of water consumption and conduct periodic audits of water efficiency:** A first step toward improving water efficiency in industrial parks is to frequently collect disaggregated data on water consumption and consumption efficiency. At a later stage, the IP authority may impose fines on firms that underperform or fail to report required data.

- **Introduce a transparent and well-adjusted water pricing framework:** To account for the actual costs of water use and its impact, IPDC, in coordination with the Ministry of Water and Energy (MoWE), may consider developing a framework for setting water tariffs for tenant firms in different IPs/locations. The rate of the tariff should be published and updated annually by IPDC in consultation with MoWE.
- **Encourage rainwater harvesting and water storage infrastructure in IPs:** To reduce the depletion of ground water, IPDC may consider incentivizing the building of rainwater harvesting facilities, possibly by giving discounts on other services or even mandating them. If groundwater is adequately priced, firms may have an incentive to invest in rainwater harvesting themselves. New IPs could already account for rainwater harvesting systems at a planning stage.
- **Introduce a water trading scheme as a market-based solution for improving water efficiency:** At a reasonably advanced level, a pilot trading scheme can be undertaken, and if it is found successful, this can be scaled up at national level.

Wastewater

- **Promote the use of treated wastewater:** Treated wastewater can be used for various purposes, including sanitation (such as toilets, washing, and cleaning of sheds) and landscaping. EIC may consider incentivizing the use of treated wastewater under the Industrial Park Directive. In order to strengthen oversight, IP authorities need to monitor wastewater discharge practices of tenant firms and report back to the EPA. Then the EPA and the IP authority should take appropriate actions in case of violations (for example, penalties, revoking of licenses) as per stipulations given in the Prevention of Industrial Pollution Regulation.

Sludge management

- **Define mandatory requirements for sludge management:** EPA together with IP authorities should design a sludge management guideline and include corresponding provisions in the Industrial Park Regulation. EIC shall provide oversight and inform any violation of guidelines by the consolidated information derived from IP authorities to EPA. To improve enforcement, EPA may be empowered to conduct periodic and unannounced audits of sludge management.

Solid waste

- **Encourage segregation of solid waste at source by tenant firms:** To enhance the recyclability of solid waste, it is crucial to encourage segregation of waste at source by the tenant firms based on a common waste classification system (such as textiles and fabric, inorganic or organic waste, packaging, etc.). To enable a better tracking mechanism, each tenant firm may maintain a catalogue of the amount and type of waste generated and share it with IP authorities. This enables IP authorities and operators to identify recyclers within and outside of the IPs and channel the segregated waste for recycling. The rest of the waste that needs to be disposed through the existing third-party agencies involved in handling solid waste can be handled by the IP operator/ IPDC.

Energy

- **Develop IP-level energy efficiency plans and systematically monitor and manage energy consumption:** IPs should develop energy efficiency plans, including the setting of energy efficiency targets. The achievement of such plans needs to be systematically monitored. A supporting tool may be certification as per internationally established energy management standards or their national equivalents, including ISO 5001 for Energy Management Systems, ISO 14000 for Environmental Management Systems as well as green building design as per Leadership in Energy and Environmental Design (LEED) or EDGE. EIC, as IP regulator, may be in the position to monitor the status of certification of individual IPs in coordination with ESA.
- **Measure and encourage firm-level energy efficiency efforts:** It would be beneficial if tenant firms would report monthly on their energy consumption to IP authorities. This can be complemented by bi-annual energy audits to be conducted by tenant firms to identify opportunities for improving their energy efficiency. Similar to water use reporting, this may be voluntary at first. In addition, it would be beneficial to identify best practices of firms' energy efficiency improvements and share them with other firms. The government should consider putting in place smart incentives for investors that successfully implement energy efficiency measures and conduct regular audits, for instance by providing "expedited" access to services, longer payment period for rent payments, publicizing and publicly rewarding such actions, etc.

Chapter 7 – Financial Sustainability

- To ensure the financial sustainability of IPs, the starting point will be to develop a financial model for each IP. The IP's Financial sustainability should be assessed well ahead of approval of the IP development plan.
- IPDC should work to maximize its revenue from other facilities, e.g., commercial and office space, sale of water, and lease of serviced lands. Proper attention shall also be given to promoting IPs, especially those registered a very low occupancy rate, for them to be fully occupied in the shortest possible time. Dire Dawa should get the prime focus, along with other IPs in the pipeline such as Semera, Bole Lemi II, and Kilinto IPs. However, the success of the investment promotion and retention efforts would be dependent on the fulfillment of the necessary facilities and services by the government.
- Likewise, IPDC should consider adopting alternative business models that can help maximize its revenue further. It can design varieties of training and certification programs that focus on transfers of skill and technology to the local business enterprises located outside of the IPs on a fee basis. IPDC can also learn from other IPs globally in terms of revenue generation schemes. This could be another source of revenue for IPDC but also can be one of the options to build local capacity to meet the standard required by investors and create opportunities to facilitate linkages with the domestic economy.
- Rental fees are fixed and uniform across the IPs. For example, Jimma has the most expensive shed, but rental fees are lower than those of Adama, Dire Dawa, and Debre Berhan. Hence, the government should consider revising the rental rates where possible, taking construction cost and years of construction (birr devaluation) into account. But revising rental fees cannot answer all issues raised unless aided by other crucial factors such as equipping the IPs with proper infrastructures and services.
- To properly measure the financial performance of the corporation, the government should ensure that all costs, including financing costs, are well captured and reflected in measuring the financial performance of the industrial parks. IPDC should also establish a proper accounting system that can capture all relevant financial data of the corporation and enable the allocation of head office expenses, including foreign exchange losses, to the industrial parks in a systematic way. This will enable the true accounting cost of the development of IPs and their operational expenses. More broadly, public investment management should be strengthened to proactively determine full cost of capital investment and opportunity cost of investment trade-offs.

Notes: a. This should include consideration on which investors have focused on higher value-added products based in Ethiopia processes and functions that further add to skills transfer and foreign exchange earnings (for example, factors that might influence more investors to switch to free on-board models).
b. See for instance <https://www.giz.de/en/worldwide/80287.html>.
c. See, for instance, <https://actonlivingwages.com>.
d. Dercon, Lippolis, and Peel 2020.

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