The Effects of Industrial Park Development on Manufacturing Firms' Performance in Ethiopia

Desta Tesfaw

Peking University, Beijing, China

This study examines the effects of industrial parks on export earnings, employment creation, and FDI attraction in Ethiopia. Despite varying degrees of successes and failures, several countries have utilized industrial park and other forms of special economic zones as a policy instrument for fostering economic transformation. China is at the forefront of using special economic zones as a policy tool for economic transformation. Ethiopia is one of the African countries that has adopted industrial park development as a policy tool to enhance its economic transformation. However, the issue is not well researched and this study aims to contribute to fill the research gap. The analysis of the hypotheses test reveals that industrial parks in Ethiopia have statistically significant effects on export earnings, employment creation, and FDI attraction with significant levels of $p \leq 0.001$. Low labor productivity, domestic raw material supply constraints, weak forward and backward linkage, transport cost and logistic constraints, and government institutions' capacity constraints are identified as the major constraints that affect the effectiveness of industrial parks and manufacturing firms. On the other hand, the availability of a trainable labor force, raw material potential, preferential policies and incentives, the economic growth of the country, and the labor wage rise in China and other emerging countries are identified as the main five potentials and opportunities for sustained and dynamic industrial parks development. Based on the findings, three policy implications are suggested. First, formulating and implementing manufacturing labor force development and utilization policies and strategies are vital. Second, the forward-backward linkage along the value chain needs to be enhanced through proper policies. Finally, institutional capacity building through learning by doing and public-private partnership has to be strengthened.

Keywords: industrial parks, manufacturing, export earnings, employment creation, FDI, special economic zones

Introduction

Industrial parks and other special economic zones (SEZs) have been used by several countries as a policy instrument to enhance economic growth and transformation. However, the performance results are mixed with successes and failures. China, South Korea, and Malaysia from Asia, Dominican Republic and Costa Rica from Latin America, and Mauritius from Africa, are among the successful countries (Farole, 2011). In reality, the majority of successful economic zones are situated in East Asia and Latin America, while most of the unsuccessful zones are found in Africa (FIAS, 2008). In terms of applying SEZs to achieve a significant economic transformation, China is leading ahead with its best practices (Zeng, 2015).

Desta Tesfaw, National Development, Ph.D., Peking University, Institute of South-South Cooperation & Development, Beijing, China.
Correspondence concerning this article should be addressed to Desta Tesfaw, Kirkos Kifle Ketema, Woreda 09, House No 091, Addis Ababa, Ethiopia.

By setting the target of constructing at least four industrial parks, Ethiopia has initiated the development of industrial parks as a policy tool to accelerate its economic development in its first five-year growth and transformation national plan (2010/11-2015/16). Industrial Park Proclamation No.886/2015 was enacted by the parliament to determine the legal framework of the industrial park development. The Industrial Parks Development Corporation (IPDC) was also established by the Council of Ministers Regulation No. 326/2014 as a public enterprise mandated to develop and administer federal public industrial parks. According to the proclamation, the industrial park can be developed by the government, the private sector, or jointly between the government and the private sector.

As a result, Bole Lemi industrial park which is located, on the outskirts of Addis Ababa, began operation in 2014 as the first public industrial park. The second public industrial park, Hawassa Industrial Park, began operations in 2016. Currently, 11 public industrial parks namely Bole Lemi, Hawassa, Kombolcha, Mekele, Adama, Bahirdar, Deberebirhan, Kilinto, Jimma, Addis Industrial Village, and Ethio ICT Park are operating in different parts of the country (IPDC, 2022). Most of these industrial parks specialize in labor-intensive sectors mainly textile and leather industries and engage in export processing activities. It is also planned to construct agro-industrial parks in the regional states. To date, three integrated agro-industrial parks (Bure in Amhara regional state, Bulbula in Oromia regional state, and Yirgalm in Sidama regional state) have started operations.

Moreover, six foreign industrial parks are also being operational in Ethiopia (EIC, 2021). One of the Chinese overseas SEZs called Easter Industrial Park is the first pioneer park established in Ethiopia in 2010. Eastern Industrial Park is "one of the best examples of Chinese investment in manufacturing in the African continent" (Zhang, 2018, p. 23). Huajian Light Industrial City is another privately owned Chinese industrial park being operational. Modjo George Shoe industrial park (Taiwan), DBL industrial park (Bangladesh), Vogue industrial park (Hong Kong), and China Communications Construction Company (CCCC) Arerti industrial park have also begun operation.

According to Farole (2011), static benefits such as investment attraction, job creation, and export earnings can be achieved in a short period of time by using economic zones as a policy tool, whereas dynamic benefits (spillover effects to the local economy, technology transfer, and structural transformation) are achieved in a relatively longer period. From this assumption, the static outcomes of the industrial parks in Ethiopia can be scientifically measured. However, it is too early to examine the dynamic outcomes because of the relatively young age of the parks. Thus, examining the effects of industrial parks on export, employment, and FDI and assessing the binding constraints, potentials, and opportunities to achieve the expected dynamic benefits is timely and critically important to suggest possible policy implications.

Few studies have been conducted on the performance of industrial parks in Ethiopia. For instance, Feyisa and Gebremariam (2019) conducted descriptive assessments of the performance of industrial parks in Ethiopia and they found that the industrial parks are contributing to FDI and job creation. Zhang et al. (2018) also conducted a comprehensive assessment and revealed that the industrial parks have contributed to increasing government revenue and export, creating jobs, increasing export, and attracting FDI, although the parks and resident firms are experiencing multi-faceted challenges. However, the existing studies used descriptive analysis as methodology and have gaps in showing the effects of industrial parks on manufacturing firms' performance through empirical research methods. To the best of my knowledge, there is no study conducted that shows the performance of the manufacturing firms operating in the industrial parks in comparison with those operating outside the parks in Ethiopia. Thus, this study aims to contribute to filling the gaps in the existing studies by

conducting original surveys both from manufacturing firms operating inside and outside the industrial parks and by using both descriptive and empirical research methods. Accordingly, the study aims to achieve the following objectives and test the hypotheses.

Objectives of the Study

- To examine the effects of industrial parks on export earnings, employment creation, and FDI attraction.
- To assess the binding constraints, potentials, and opportunities that affect the effectiveness of industrial park development as a policy tool to foster industrialization in Ethiopia.

Hypotheses

Hypothesis (H_a) 1: Industrial parks are likely to have significant effect on export earnings.

Hypothesis (H_a) 2: Industrial parks are likely to have significant effect on employment.

Hypothesis (H_a) 3: Industrial parks are likely to have significant effect on FDI attraction.

The remaining part of the paper is organized into five sections. The first section deals with the review of related literature and the second section provides the methodology of the study. The empirical results and the discussion of the findings are presented in the third section. The binding constraint, potentials, and opportunities are discussed in the fourth section. The final section deals with the conclusion and policy implications of the study.

Literature Review

Definition and Concepts

Economic zones are operating worldwide in different names and forms. Despite the varieties of names and forms, different authors use the term special economic zones (SEZs) to encompass the varieties of modern economic zones. The term SEZ covers different varieties of zones, such as industrial parks, export-processing zones, free trade zones, science and innovation parks, high-tech zones, and freeports (Zeng, 2015). Even though no common and agreed definition encompasses the various forms of SEZs, different authors provided comprehensive definitions of the term. The definitions of FIAS (2008) and Farole (2011) are frequently used in the existing literature. SEZs are generally defined as "geographically delimited areas administered by a single body, offering certain incentives (generally duty-free importing and streamlined customs procedures, for instance) to businesses which physically locate within the zone" (FIAS, 2008, p. 2). According to Farole (2011) SEZs are broadly defined as "demarcated geographic areas contained within a country's national boundaries where the rules of business are different from those that prevail in the national territory." (p. 23).

Industrial Park is defined in the literature narrowly as one of the forms of SEZs mainly focused on industrial development, and also defined broadly as the term used interchangeably with SEZs. According to Zeng (2016), industrial parks are largely manufacturing-based sites that normally offer different incentives and benefits for manufacturing firms. An industrial park is an area reserved for industrial development based on principles of allocation of specialized infrastructure in selected areas to decrease costs and build the capability of a country to attract new investors (Vidova, 2010).

The Ethiopian industrial parks proclamation No.886/2015 in its article 2 (1) defines an industrial park as

> an area with a distinct boundary designated by the appropriate organ… based on a planned fulfillment of infrastructure and various services such as road, electric power, and water, one-stop-shop and have special incentive schemes…. and includes special economic zones, technology parks, export processing zones, agro-processing zone, free trade zones and the like.

The definition of the proclamation comprises the major elements of the SEZs definition provided by FIAS (2008), and Farole (2011) despite it uses the industrial park as a generic term for various zones such as special economic zones, technology parks, export processing zones, and free trade zones. SEZs and industrial parks are also used interchangeably in different literature (Azmachi, 2019). Thus, for this study industrial parks, SEZs, and economic zones are used interchangeably.

Industrial Parks as a Policy Tool: Rationale and Theoretical Justification

The rationale for using industrial parks as a policy tool is one of the hotly debated issues in the economic development literature. The debates are mainly associated with the theoretical difference in the role of government in economic development. The debates can be mainly categorized into two theoretical stands: (1) the orthodox approach, which draws on neoclassical economic theory; and (2) the heterodox approach, which draws on endogenous growth theory and the new institutional economics (Warr & Menon, 2016).

The orthodox approach to SEZs is pessimistic and doubts their role in allocative efficiency. The neoclassical approach views economic zones as a second-best option to national trade liberalization; as such, SEZs are regarded as a transitory policy instrument until the country adopts full-fledged market reforms (Warr, 1989; Aggarwal, 2017; Farole & Akinci, 2011). The early literature was pessimistic about the benefits of economic zones for economic development (Farole, 2011). Hamada discredits the benefits achieved by FDI by arguing the little relevance of the technology accompanied with FDI in the zone for the host country and the possibility to distort the host country's production structure (Aggarwal, 2017).

On the other hand, the heterodox perspective places more emphasis on dynamic impacts and views SEZs as playing a more catalytic role in fostering overall economic growth. Since the late 1980s, this method has dominated a large portion of the research on SEZs. The heterodox approach sees SEZs as having dynamic spillover effects, extending advantages beyond their enclaves through their impact on backward connections, human capital, technology, and institutional reforms (Aggarwal, 2017; Farole & Akinci, 2011).

The development of industrial parks was suggested by New Structural Economics (NSE) (promoted by Justin Lin) as one of the policy tools for overcoming the limitations encountered by emerging nations, and it has been suggested as one of the components of the framework for identifying and facilitating growth. As stated by Lin (2012),

> In developing countries with poor infrastructure and unfriendly business environment, the government can invest in industrial parks or export processing zones and make the necessary improvements to attract domestic private firms and/or foreign firms that may be willing to invest in the targeted industries. (p. 162)

Four broad policy reasons are suggested for the development of SEZs in developing countries: to support a wider economic reform strategy; to serve as "pressure valves" to alleviate growing unemployment; as experimental laboratories for the application of new policies and approaches; and to attract foreign direct investment (FIAS, 2008). Through the creation of economic zones that support economic growth and transformation, China and other countries have effectively achieved these policy goals.

According to FIAS (2008) and Farole (2011), economic zone benefits can be classified into two categories: static benefits and dynamic benefits. Static benefits of economic zones are gained in a relatively short period. Job creation, export earnings, and FDI attraction are the main static benefits expected from the economic zones. The dynamic economic benefits (expected in the longer term) of the industrial parks include spillover effects on local economy, technology transfers, and fostering economic transformation.

Empirical Literature on the Effects of Industrial Parks

The main focus of this paper is to examine the static benefits of industrial parks by taking into consideration the relatively shorter age of the parks in Ethiopia. Hence, the empirical literature on the effects of economic zones on export earnings, job creation, and FDI attraction is briefly reviewed as follows.

One of the key advantages of economic zones that is anticipated to be realized in a very short period is export earnings. Using firm-level data from Africa and Asia, Davies and Mazhikeyev (2019) assess the effect of operating in an economic zone on a firm's likelihood of exporting, export intensity, and export value. At the extensive margin, the authors find that SEZ enterprises in open economies are 25% more likely to export compared with their non-SEZ counterparts. At the intensive margin, they find that SEZs raise export value, but only in nations that impose import tariffs, where the predicted gain is 3.6%.

The export effectiveness of Science and Technology Industrial Parks (STIPs) and Economic and Technological Development Zones (ETDZs) was examined by Schminke and Van Biesebroeck (2013). The authors found that because of the increased trade and the increased number of destinations, businesses operating in an ETDZ gain substantially greater export values, and firms operating in a STIP perform better on quality indicators.

Johansen and Nilsson (1997) find mixed results regarding the impact of export processing zones on exports by exploring the experiences in Asia. The results of their study indicate that SEZs are more likely to have stronger export-generating outcomes in countries that adopt export-oriented national policies. Consequently, they concluded that the catalyst effect of foreign affiliate firms on local firms is potentially an important indirect effect of export processing zones. More specifically, their findings indicate a significant catalyst effect of the export.

The other most significant contributions expected from economic zones, especially in low-income countries, is job generation (Madani, 1999). However, there are divergent findings regarding the effects of economic zones on job creation (World Bank, 2017). In Asian countries, SEZs appear to have had a mixed record in terms of creating jobs (Amirahmadi & Wu, 1995). For instance, Lu, Wang, and Zhu (2015) examine the short-term effects of Economic Zones on the economic activity of the targeted areas using two geo-coded comprehensive waves of Chinese firm censuses by constructing a panel dataset for areas before and after the zone establishment, and they find that the employment, output, and capital of the targeted area are positively impacted by the economic zones. On the contrary, Cirera, Lakshman, and Spratt (2014) indicate that there is no evidence that EPZs generate additional employment in the regions in which they are based. The SEZs may not have a major impact on employment patterns in India (Shah, 2009).

Attracting FDI is one of the main goals of establishing economic zones in developing nations. Numerous studies have confirmed the positive effects of economic zones on FDI. Using the statistical techniques of Spearman rank correlation and Pearson correlation, Dorożyński, Świerkocki, and Urbaniak (2017) find statistically significant positive relationships between FDI inflow to SEZs and coefficients that describe the attractiveness of both collective and partial. Song et al. (2020) empirically examined the impact and mechanism of SEZs on foreign investment and found that the establishment of SEZs significantly fosters foreign entry. Moreover, Theot (2022) applied generalized methods of moments (GMM) to panel data constructed from 19 Cambodian provinces during 2015-2019 and found the number of SEZs positively affects FDI inflow. The effects of SEZs on FDI inflow among Indian states were examined by Chakraborty, Gundimeda, and Kathuria (2017)

by utilizing panel data techniques on 16 groups of states over 14 years from 2001 to 2014. The findings show the adoption of SEZ policies and the operation of SEZs in the states contributed to greater FDI inflow.

Methodology

An original firm-level survey was conducted through a structured questionnaire from the textile and leather-related manufacturing firms located both inside and outside the industrial parks in Ethiopia. The data were collected from 54 manufacturing firms i.e. 27 operating in the industrial parks and 27 operating outside the parks. The sample manufacturing firms are selected through the purposive sampling method. Three industrial parks namely Bole Lemi, Hawassa, and Eastern industrial parks which are relatively older establishments have been selected as the case study. Nine textile and leather manufacturing firms from each of the three parks have been selected as a sample. Interview has been conducted with the managers of the industrial parks and manufacturing firms and with employees of the firms.

The study uses mixed research methods (quantitative and qualitative). Inferential statistics analysis has been conducted. Hypothesis 1 (the effects of industrial parks on export) and Hypothesis 2 (the effects of industrial parks on employment) have a continuous dependent variable and categorical independent variable for each so an Independent t-test analysis is used to test the hypotheses. Hypothesis 3 (the effects of industrial parks on FDI) has a categorical dependent variable and categorical independent variable and a Chi-square test is conducted. IBM SPSS has been used as a data analysis tool.

Based on the existing theories and empirical studies, the researchable hypotheses are formulated to examine the effects of industrial parks on export earnings, employment creation, and FDI attraction in Ethiopia. Three directional hypotheses are formulated and the null hypothesis to be tested and the alternative hypothesis which is the prediction of the study are designed for each hypothesis as follows.

(1) Hypotheses 1: The Effects of Industrial Parks on Export Earnings

Null Hypothesis (H_0): The manufacturing firms operating outside the industrial parks (Outside IP) have equal or greater export performance than those operating inside the parks (Inside IP)

μ Export Outside IP ≥ μ Export Inside IP

Alternative Hypothesis (H_a): Manufacturing firms operating in the industrial parks (Inside IP) have significant effect on export performance than those operating outside the parks (Outside IP)

(2) Hypotheses 2: The Effects of Industrial Parks on Employment Creation

Null Hypothesis (H_0): The manufacturing firms operating outside the industrial parks (Outside IP) have equal or greater employment performance than those operating inside the parks (Inside IP)

μ Employment Outside IP ≥ μ Employment Inside IP

Alternative Hypothesis (H_a): Manufacturing firms operating in the industrial parks (Inside IP) have significant effect on employment performance than those operating outside the parks (Outside IP)

(3) Hypothesis 3: The Effects of Industrial Parks on FDI Attraction

Null Hypothesis (H_0): The number of manufacturing firms operating outside the industrial parks (Outside IP) owned by foreigners is equal or greater than those operating inside the parks (Inside IP)

μ Foreign ownership Outside IP ≥ μ Foreign Ownership Inside IP

Alternative Hypothesis (H_a): Manufacturing firms operating in the industrial parks are likely to be owned significantly by foreigners than those operating outside the parks

Table 1

Variables and Measurements

Hypothesis	Dependent variable	Measurement	Independent variable	Measurement
(1) The Effects of Industrial Parks on Export Earnings	Export	The percentage of export as a share of total annual sale of the firm	Industrial Parks	Location of the firms: Inside/Outside industrial parks (IP) (Inside IP: with the value 1; Outside IP: with 0 value)
(2) The Effects of Industrial Parks on Employment Creation	Employment	Number of employees of the firm	Industrial Parks	Location of the firms: Inside/Outside industrial parks (IP) (Inside IP: with the value 1; Outside IP: with 0 value)
(3) The Effects of Industrial on FDI Attraction	Dummy FDI	Foreign/domestic ownership of the firm (foreign: 1, domestic: 0)	Industrial Parks	Location of the firms: Inside/Outside industrial parks (IP) (Inside IP:- with the value 1; Outside IP: with 0 value)

Empirical Results and Discussion

As it is discussed in the literature review section, there are theoretical and empirical studies that justify the effects of industrial parks on export earnings, employment creation, and FDI attraction. The main justification to use industrial parks as a policy tool in developing countries is that since the industrial parks provide better infrastructure like electric power, water supply, sewerage system, and one-stop-shop government services, firms operating in the parks are more likely to be competitive than those operating outside the parks. Accordingly, this study has designed three possible hypotheses and has conducted the test using proper statistical tools. The results and the discussions are presented here under.

Hypothesis 1: The Effects of Industrial Parks on Export Earnings

Table 2

Group Statistics: Industrial Parks and Export

	Industrial parks	*N*	Mean	Std. deviation	Std. error mean
Export	Inside IP	27	92.96	4.128	0.794
	Outside IP	27	39.78	4.774	0.919

Table 2 shows the descriptive comparison of the sample manufacturing firms operating inside industrial parks (Inside IP) and outside of the industrial parks (Outside IP). The mean of export as a share of total annual sale of the firms Inside IP and Outside IP is 92.96 percent and 39.78 percent respectively. The standard deviation of the Inside IP group is 4.128 and Outside IP is 4.774. The descriptive analysis, therefore, roughly shows that the manufacturing firms operating in the industrial parks perform better than those operating outside the parks with the mean difference of 53.18 percent.

Table 3

Independent Sample Test: Industrial Parks and Export

		Levene's test for equality of variances		*t*-test for equality of means						
		F	Sig.	*t*	df	Significance	Mean difference	Std. error difference	95% confidence interval df	
						One-sided *p*			Lower	Upper
Export	Equal variances assumed	0.279	0.599	43.788	52	< 0.001	53.185	1.215	50.748	55.62
	Equal variances not assumed			43.788	50.936	< 0.001	53.185	1.215	50.747	55.624

Table 3 provides the SPSS output of the independent *t*-test on the effects of industrial parks on export earnings. One of the assumptions of independent sample test analysis is the homogeneity of the variance. The assumption states that the population variance for each group of the independent variable is the same. Levene's test shows the *F*-test is 0.279 with a significance (*p*) level of 0.599. There are two ways of Levene's test. The first one is to use the upper row if the *F*-test significance value is greater than 0.05. The second is to use the lower row if the significant value is less than 0.05. In our case, we use the upper row to proceed because Levene's test didn't reject the null hypothesis of equal variances between the two groups (Inside IP and Outside IP) of the *F*-test.

Thus, the test in the upper row shows that the value of *t* is 43.788 and the degree of freedom (df) is 52. The *t*-test for equality of means shows the mean difference between the two groups (Inside IP and Outside IP) is 53.185% of export performance. The significance (*p*) level for *t*-statistics is < 0.001 (in a One-Sided or unidirectional hypothesis). As a result, the null hypothesis which assumed equal means of the two groups of the independent variable (Inside IP and Outside IP) is rejected.

In conclusion, the mean test scores were higher in the manufacturing firms operating in industrial parks (Inside IP) ($N = 27$, $M = 92.96$, $SD = 4.128$) than in firms operating outside the industrial parks (Outside IP) ($N = 27$, $M = 39.78$, $SD = 4.774$). Levene's test didn't reject the null hypothesis of equal variances between the two groups ($F = 0.279$, p 0.559), and the upper row (equal variance assumed) of the independent samples *t*-test is used. The result of the analysis confirmed that the mean difference of Inside IP and Outside IP (53.185) was statistically significant, $t (52) = 43.788$, $p = < 0.001$(one-tailed *p*).

Hypothesis 2: The Effects of Industrial Park on Employment Creation

Table 4

Group Statistics: Industrial Parks and Employment

	Industrial parks	*N*	Mean	Std. deviation	Std. error mean
Employment	Inside IP	27	757.56	162.611	31.294
	Outside IP	27	287.93	95.221	18.325

Table 4 illustrates the group statistics on the employment creation performance of manufacturing firms operating inside industrial parks (Inside IP) and outside of the industrial parks (Outside IP). The mean of Inside IP and Outside IP is 757.56 percent and 283.93 percent respectively. The standard deviation of the Inside IP group is 162.611 and Outside IP is 95.221. The result roughly shows that the manufacturing firms operating in the industrial parks perform better than those operating outside the parks.

Table 5

Independent Sample Test: Industrial Parks and Employment

		Levene's test for equality of variances		*t*-test for equality of means						95% confidence interval of the difference	
		F	Sig.	*t*	df	Significance	Mean difference	Std. error difference	Lower	Upper
						One-sided *p*			Lower	Upper
Employment	Equal variances assumed	8.860	0.004	12.950	52	< 0.001	469.63	36.265	396.858	542.40
	Equal variances not assumed			12.950	41.955	< 0.001	469.63	36.265	396.441	542.81

Table 5 provides the SPSS output of the independent *t*-test on the effects of industrial parks on employment creation. One of the assumptions of independent sample test analysis is the homogeneity of the variance. The assumption states that the population variance for each group of the independent variable is the same. Levene's test result shows the *F*-test is 8.860 with a significance (*p*) level of 0.004. In this case, we can't use the upper row (Equal variances assumed) to proceed with the analyses since Levene's test didn't reject the null hypothesis of equal variances between the two groups (Inside IP and Outside IP) of the *F*-test.

The test in the bottom row shows that the value of *t* is 12.950 and the degree of freedom (df) is 41.955. The *t*-test for equality of means shows the mean difference between the two groups (Inside IP and Outside IP) is 469.630. The significance (*p*) level for *t*-statistics is < 0.001 (in a One-Sided or unidirectional hypothesis). As a result, the null hypothesis which assumed equal means of the two groups of the independent variable (Inside IP and Outside IP) is rejected by using equal variances not assumed analysis option.

In conclusion, the mean test scores were higher in the manufacturing firms operating in industrial parks (Inside IP) ($N = 27$, $M = 92.96$, SD = 4.128) than in firms operating outside the industrial parks (Outside IP) ($N = 27$, $M = 39.78$, SD = 4.774). Since Levene's test rejected the null hypothesis of equal variances between the two groups ($F = 8.860$, p 0.004) and the bottom row (equal variance not assumed) of the independent samples *t*-test is used. The *t*-test for equality of means results confirmed that the means difference of Inside IP and Outside IP (469.630) was statistically significant, $t(41.955) = 12.95$, $p \leq 0.001$ (One-Tailed *p*).

Hypotheses 3: The Effects of Industrial Parks on FDI Attraction

Table 6

Crosstabulation for Industrial Parks and FDI

			Industrial parks		Total
			Outside IP	Inside IP	
FDI	Domestic	Count	15	1	16
		Expected Count	8.0	8.0	16.0
	Foreign	Count	12	26	38
		Expected Count	19.0	19.0	38.0
Total		Count	27	27	54
		Expected Count	27.0	27.0	54.0

As it is presented in Table 6, the total number of manufacturing firms (*N*) of the sample is 54 (27 firms Outside IP and 27 firms Inside IP). The 26 (96%) firms and 1 firm (4%) Inside IP are owned by foreigners respectively. Among the 27 of firms Outside IP, 15 firms (55.5%) are domestic owned and 12 firms (44.5%) are owned by foreigners.

Table 7 depicts that Pearson Chi-Square statistic, $\chi^2 = 17.408$, and $p < 0.001$ in one-sided; i.e., the null hypothesis: there is no difference on foreign ownership between the manufacturing firms operating in industrial parks (Inside IP) and outside the parks (Outside IP).

The result shows that industrial parks have significant effect in FDI attraction with significant level ($p < 0.001$). As the crosstabulation output shows 96 percent of the surveyed manufacturing firms located inside the industrial parks are owned by foreigners, and only 4 percent of the manufacturing firms are owned by foreigners (Table 6).

Table 7

Chi-Square Tests for Industrial Parks and FDI

	Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)	Point probability
Pearson Chi-square	17.408[a]	1	< .001	< 0.001	< 0.001	
Continuity correction[b]	15.010	1	< 0.001			
Likelihood ratio	19.981	1	< 0.001	< 0.001	< 0.001	
Fisher's exact test				< 0.001	< 0.001	
Linear-by-linear association	17.086[c]	1	< 0.001	< 0.001	< 0.001	0.000
N of valid cases	54					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.00.

b. Computed only for a 2×2 table.

c. The standardized statistic is 4.133.

Binding Constraints, Potentials, and Opportunities Analysis

The second objective of this study is to assess the binding constraints, potentials, and opportunities that affect industrial park development in Ethiopia. The data were gathered through questionnaires and interviews with the management and employees of manufacturing firms and industrial parks to understand the performance, the binding constraints, and the potentials, and opportunities that determine the effectiveness of industrial parks development as a policy tool in fostering industrialization. The results and discussions are briefly presented as follows.

Overview of Industrial Parks Performance

The managers of the manufacturing firms operating in the industrial parks were asked to rank the performance of the industrial parks with the selected variables in five points of the linker scale. Figure 1 shows the mean of the 10 variables in descending order which ranges from 3.44 (the highest) to 2.23 (the least). Feasibility of the park's location, efficiency, and effectiveness of parks' management, environment protection, and cooperation between the parks and the firm's management is ranked top. Whereas, availability of the employees' residence services (ranked below average with 2.23 mean) and the linkage with the local economy are the least ranked factors by the respondents. Sufficient infrastructure facilities, one-stop-shop services, suitable shed facilities, and reasonable shed rental prices are ranked at the medium level. The average mean result of the 10 variables is 3.07 and it indicates that the overall performance of the parks is 70 percent.
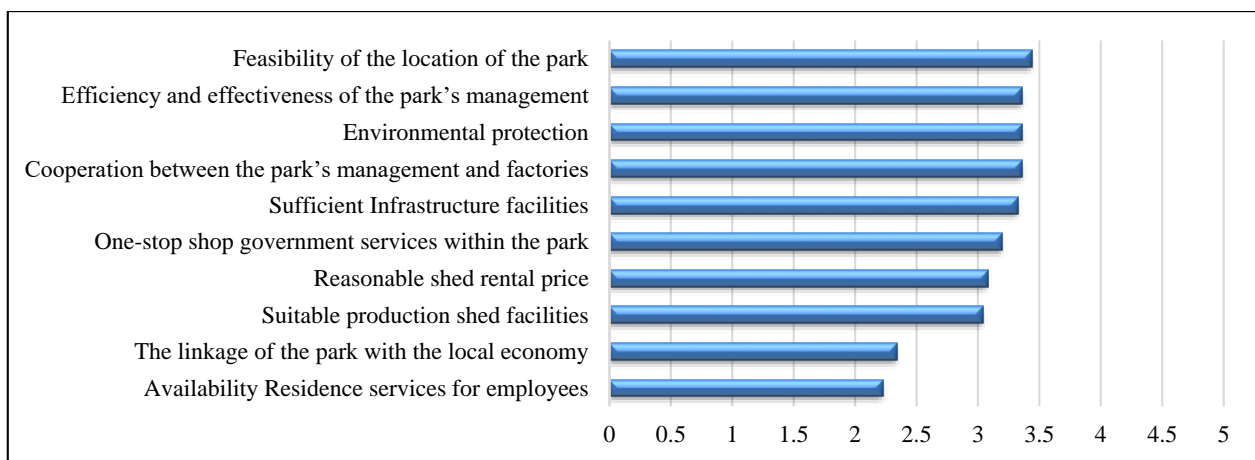

Figure 1. Industrial parks performance. Source: own survey.

Binding Constraints

The rationale behind the establishment of industrial parks is to overcome the infrastructure and business environment constraints that hinder industrialization in developing countries. The Ethiopian government's industrial parks development policy initiative is in line with this rationale. As it is presented in section three of this study, the policy initiative has registered positive and significant static outcomes in foreign export earning, employment creation, and FDI attraction. However, the industrial park development has not yet registered the expected dynamic outcomes such as spillover effects on the local economy and fostering structural transformation from low-productivity sectors to high-productivity sectors. The contribution of the manufacturing industry to the GDP of the country is less than 4.6 percent in the year 2021 (World Bank, 2022). Thus, understanding the binding constraints that affect negatively the effectiveness of the manufacturing firms operating parks is vital to suggest the possible policy implications.

The surveyed manufacturing firms (operating in the industrial parks) were asked to select the major constraints that affect their performance. As it is shown in Figure 2, low labor productivity, raw material supply constraints, weak forward and backward linkage, transport cost and logistic constraints, and government institutions' capacity constraints are ranked as the five major binding constraints that affect the effectiveness of the manufacturing firms.
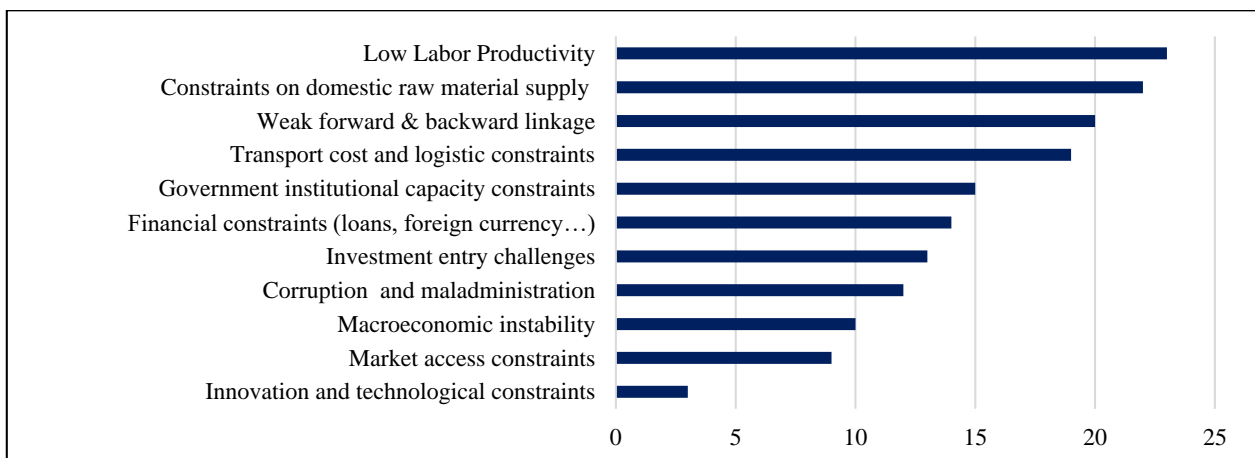

Figure 2. Major constraints. Source: own survey.

Each of the five major constraints are briefly discussed as follows based on the survey, the interview conducted with different respondents, and the secondary sources.

Low labor productivity. Labor productivity is one of the necessary factors that determine the effectiveness of manufacturing firms. Although Ethiopia is a labor-endowed country, low labor productivity is one of the economic development challenges. The manufacturing firms operating in the industrial parks were requested to rank the factors that affect their human resource performance. As it is shown in Table 8, employee turnover, unavailability of skilled labor, and weak industrial working culture are ranked as the three main constraints that affect the effectiveness of the manufacturing firms' labor productivity. Turnover of employees, in particular, got the lowest ranking with 1.88 mean value. The interviewee of the study has also confirmed that employee turnover has become a critical challenge.

From the employees' side, the interviewees complained about the low salary and benefits paid by the manufacturing firms. The unavailability of employees' resident service in the industrial parks makes the problem worsen. They also complain about the tight working conditions of the factories.

Table 8

Constraints That Affect the Effectiveness of Human Resource of Manufacturing Firms

Variables	Mean
Availability of trainable labor in the market	3.27
Availability of on-job training	2.9
Employees and management relationships	2.75
Labor law	2.42
The employees ethics	2.35
Employees industrial working culture	2.22
Availability of skilled labor in the market	2.12
Employees turnover	1.88

Source: own survey.

Raw material supply constraints. Regardless of such huge potential, the supply of domestic raw materials for textile and leather industries has continued to be a critical problem. Table 9 demonstrates that the proportion of the domestic and imported inputs/raw materials used by the surveyed manufacturing firms operating inside and outside the industrial parks. The imported raw materials of the manufacturing firms operating in the industrial parks and outside the industrial parks constitute 92 percent and 54 percent respectively. This clearly shows that the textile and leather industries' raw material potential of the country has not yet been unlocked.

Table 9

Proportion of Domestic and Imported Raw Materials

	Location of the firm	*N*	Mean
Imported proportion of factory's raw material/input supply	Inside IP	27	91.65
	Outside IP	27	53.65

Source: own survey.

The surveyed manufacturing firms were also asked to identify the major reasons for using imported inputs. Shortage of domestic raw material supply, poor quality of domestic inputs/raw materials, and unavailability of locally produced raw materials are the three major reasons that forced them to use imported raw materials (Figure 3).
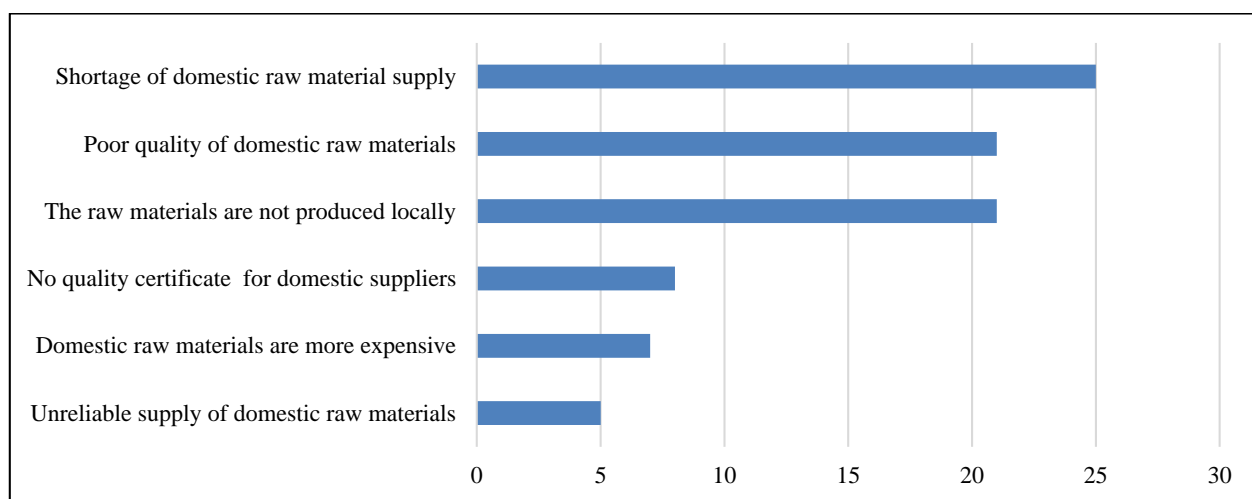

Figure 3. Reasons for using imported raw materials. Source: own survey.

Weak forward and backward linkage. The survey result on the performance of the industrial parks indicates the weak linkage of industrial parks with the local economy as the second weakest performance (Figure 1). The surveyed manufacturing firms have also asked to evaluate the strength of forward and backward linkage in the value chain of the textile or leather industries in Ethiopia. As it is indicated in Table 10, 76 percent of them ranked as the linkage is weak and very weak, and only 23.9 percent ranked as the linkage is strong and very strong.

Table 10

Strength of Forward and Backward Linkage in the Value Chain

Forward and backward linkage		Frequency	Percent	Valid percent
Valid	Very strong	1	1.9	2.2
	Strong	10	18.5	21.7
	Weak	26	48.1	56.5
	Very weak	9	16.7	19.6
	Total	46	85.2	100.0
Missing	System	8	14.8	
Total		54	100.0	

Source: own survey.

Transport cost and logistic constraints. Transport cost and logistic constraints are the binding constraints that affect the performance of manufacturing firms. Ethiopia is a landlocked country, and transport costs from and to the ports and inefficient port logistic services are among the challenges that affect the import and export. The competitiveness of the manufacturing firms is affected because of the high transaction costs to import raw materials and inputs necessary for their production and to export their products to the destination countries. The managers of the manufacturing firms and industrial parks who are interviewed stated that the poor quality of road transport, insufficient and inefficient railway transport, and inefficient logistic system need to be improved to foster industrialization in Ethiopia.

Different studies identified the transport and logistic constraints that affect the import and export trade of the country. For instance, Zhang et al. (2018) identified the constraint as:

> Ethiopia's trade logistics constraints include inefficient trade finance and bank processes, long shipping times, high shipping costs, inefficient port operations, high freight transport cost, unregulated service under monopolistic practices; inadequate logistics service capacity, poor coordination, and lengthy customs and inland dry port clearance. (p. 52)

Government institutions capacity constraints. The institutional capacity of government institutions responsible for the regulation and service provisions is vital to enhance industrialization. Different government institutions are involved in the regulatory and service provision of the manufacturing industry. Ethiopian Investment Commission (EIC) is responsible for the investment entry registration and license and is the regulatory body of industrial park development. Industrial Parks Development Corporation (IPDC) is mandated to develop and manage federal public industrial parks. The customs and revenue authorities administer customs duties, taxes, and incentives. Different public agencies provide services such as electricity, telecommunication, and water.

The managers of the manufacturing firms were asked to rank the efficiency and effectiveness of services provided by public institutions. As is seen in Figure 4, foreign currency, bank loans, telecommunication, water, and electricity services are ranked low with a below 2.5 mean value out of 5. On the other hand, investment

license/renewal, trade license, import and export permit, and customs clearance ranked above 2.5 mean value. The average of all services is 2.48 mean value which is nearly 50% performance. The investment license and renewal service got the highest rank with 3.13 mean value, while the foreign currency service got the lowest rank with 1.84 mean value
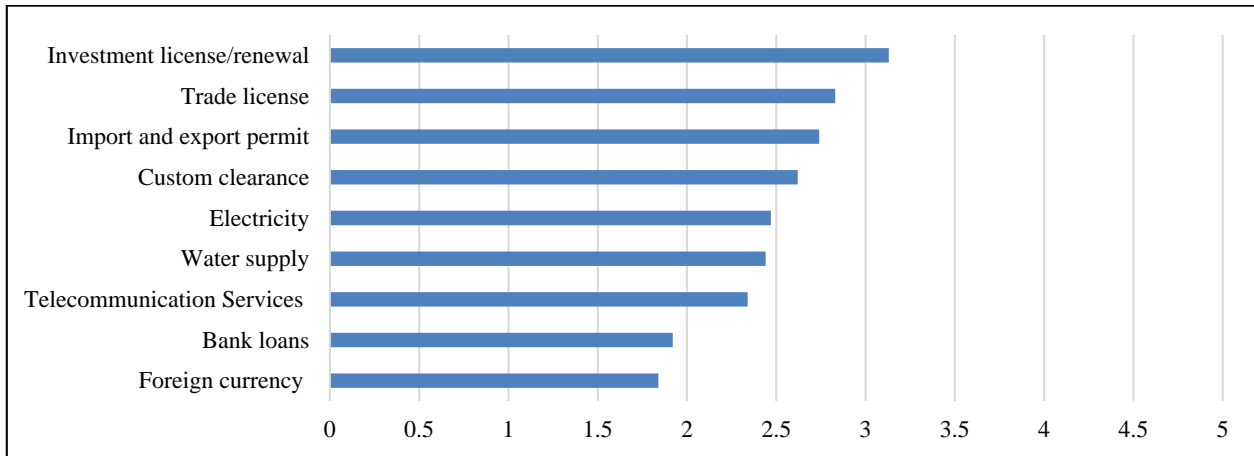

Figure 4. Efficiency and effectiveness public institution services. Source: own survey.

The interviewees appreciated the efforts of the government to improve the investment climate. However, they explained their concerns about the institutional capacity constraints of the government institutions in formulating business-friendly policies and in providing prompt services. They complained about awareness, commitment, and problem-solving capacity gaps among government officials and employees. In addition, consultation and cooperation between the government institutions and the private sector are not guided by clear policies and strategies.

Potentials and Opportunities

Most of the constraints discussed in the previous section are directly or indirectly linked with implementation aspects and institutional capacities in utilizing and upgrading the factor endowments that the country possesses. In this section, the major opportunities for the effectiveness of the industrial parks development to enhance the industrialization process of the country are briefly discussed.
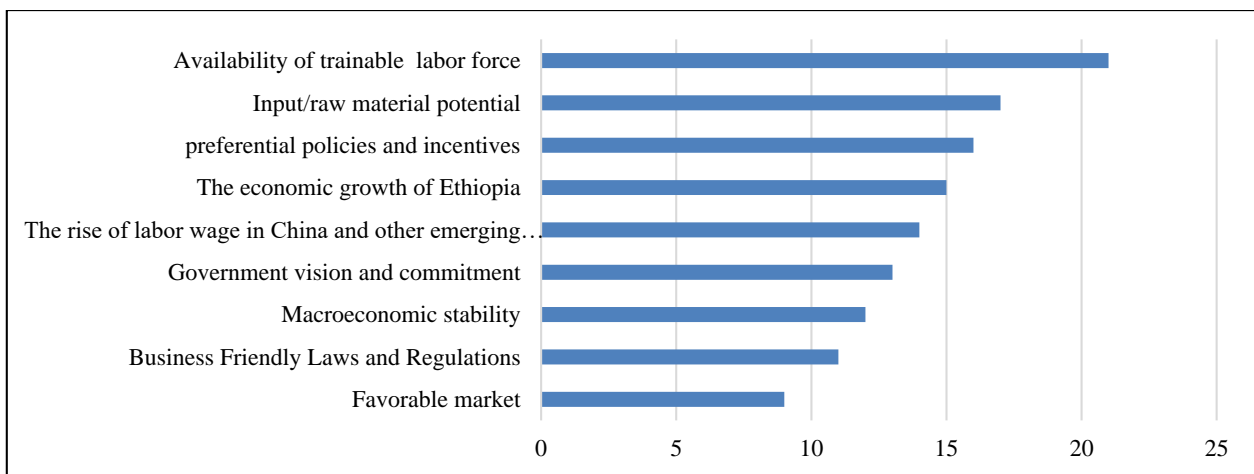

Figure 5. Potentials and opportunities. Source: own survey.

The surveyed manufacturing firms were asked to select the major opportunities to foster industrialization in Ethiopia. As Figure 5 depicts, the availability of trainable and low-wage labor, domestic raw material potential, preferential policies, and investment incentives, the economic growth of the country, and labor-wage rise in China and other emerging countries are ranked as the top five major opportunities in fostering industrialization in Ethiopia. Each of the identified five major opportunities is briefly discussed here under.

Availability of trainable and low wage labor force. Ethiopia is the second most populous country in Africa next to Nigeria and 12th among the countries in the world and the total population is estimated at 114,963,588 in 2020 (United Nations Population Division, 2022). As the World Bank (2022) data show 40 percent and 56 percent of the total population is in the age categories of 0-14 years and 15-64 years respectively. Only 3 percent of the total population is 65 years and above. According to the Ethiopian Ministry of Education, 26.6 million students are enrolled from pre-primary to secondary levels in the year 2022. This shows that Ethiopia has a young and trainable labor force potential.

Concerning the share of employment in economic sectors, agriculture constitutes 63.5%, service constitutes 30.2%, and industry constitutes 6.3% in the year 2021 (ILO, 2022). Most of the labor force of the country is engaged in low labor productivity sectors mainly in agriculture and service. The employment share of industry in general and the manufacturing sector in particular is very low. Labor wage is also currently low in Ethiopia when it is compared to other countries. On the other hand, unemployment has become a challenge in the country. According to the Ethiopian Central Statistics Agency survey, the rate of urban unemployment in Ethiopia increased to 19% in 2018 (Tesfaw, 2021).

In general, unlocking the labor potential of the country through robust government policies based on comparative advantage is paramount important, enhancing labor-intensive manufacturing sectors such as textile, leather, and agro-processing. According to Tesfaw (2021), labor-intensive focused industrial policy is a feasible pathway at the current stage of the country, both a means and as an end for Ethiopia. He emphasized the country has to utilize its labor potential to sustain its rapid economic growth and transform its economy and the economy has to generate sufficient jobs for the highly growing labor force.

Raw material potential. According to the Ethiopian Investment Commission (2022), Ethiopia is an incredible hub for investment because of its vast land, favorable climate, and water potential. 74.3 million hectares of the total land coverage of 111.5 million hectares are suitable for agriculture. The country is suitable among others for sugarcane, horticulture, floriculture, forestry, fiber crops, and animal husbandry. 18 major agroecological zones have been identified in the country, and over 3 million hectares of land have been made available for investment.

Ethiopia has a huge potential for raw materials for the textile, leather, and, agro-processing industries. The country has a huge land potential suitable for the production of cotton. The land area suitable for cotton cultivation in Ethiopia is estimated at 3 million hectares, and less than 3 percent of the potential is presently under cotton cultivation. Ethiopia also has a huge raw material potential for leather manufacturing industries. The country is the first in Africa in livestock population. Above all, the country has the potential of quality sheep skin suitable for gloves, shoe uppers, and other leather products, and goat skins with high tensile strength (Tesfaw, 2021).

Preferential policies and incentives. The Ethiopian government offers different investment incentive packages, particularly for priority sectors. Textile and apparel industries, leather and leather product industries, and agro-processing industries are among the priority sectors. The recently adopted Council of Ministers Investment Incentive Regulation No. 517/2022 provides the types and the administrative procedures of

investment incentives. Income tax exemption, export incentives, custom duty exemptions, loss carry forward, and remittance of capital are among the incentives provided for investors. Income tax exemption is provided for up to nine years determined based on the types of the investment sector and the location of the investment project. Duty Draw-Back, Vouchers, Bonded Factory, Manufacturing Warehouse, and Export Credit Guarantee schemes are among the export incentives provided in the regulation. Capital goods and construction materials as well as spare parts (whose value is not greater than 15% of the imported capital goods' total value) are exempted from customs duty payment. Franco Valuta import of raw materials is allowed to enterprises engaged in export processing. If an investor incurs a loss during the income tax exemption period, he/she is allowed to carry the loss forward for half of the income tax exemption period after the period expires. In addition, the government guarantees the remittance of profit, dividends, principal, and interest payments on external loans, and the provision of land at competitive lease prices is offered.

Special facilities and incentives are offered to the industrial parks. Income tax exemption of 10-15 years and 8-10 years is offered for the industrial park developer and the enterprise located in the industrial park respectively. One-Stop Government Services such as processing & issuance of investment permits, issuance of business licenses and work permits, issuance of tax identification numbers, issuance of customs duty exemptions, and customs clearance and banking services are provided within the industrial parks. Dedicated power sub-station, waste treatment facilities, commercial buildings, health stations, and fire brigades are among the facilities in the industrial parks. Ethiopian products have duty-free, quota-free access to a wide market, including major markets such as the USA, and the EU (EIC, 2022). Ethiopia is a member of the Common Market for Eastern and Southern Africa (COMESA), with 19 member countries and over 400 million people. Ethiopia is the beneficiary of the African Growth and Opportunities Act (AGOA) and Generalized System of Preference (GSP) of the United States Government initiatives despite the US government's termination of Ethiopia from AGOA in January 2022. The country is also one of the beneficiaries of the Everything But Arms (EBA) program of the European Union.

The economic growth and structural transformation trend. As it is shown in Figure 6 Ethiopia has registered rapid economic growth since 2004. An average of 9.8 percent of GDP annual growth has been achieved from 1991-2021. The achieved economic growth has been accompanied by achievements that improve the livelihood of the people to some extent. The number of people living below the national poverty line declined from 47 percent in 1995 to 22 percent in 2016 (NPCE, 2018). Remarkable achievements have also been registered in providing access to education and health services and public infrastructure investments such as electric power, road, and railways.

The third phase of filling the reservoir of the Grand Ethiopian Renaissance Dam (GERD) is completed and the two turbines, out of a total of 13 start generations of electricity in 2022. GERD is the largest in Africa and is expected to generate 6,000 MW of electricity. The total installed power capacity of the country is 5273.77 MW and 90.7 percent of it is generated from hydro-power (Ethiopian Electric Power, 2022). The country has also the cheapest electricity price rate in Africa and the world. The telecommunication service is significantly expanded and improved. The road networks are also expanded in connecting national and regional markets. The newly built Addis-Djibouti electric-powered railway makes access to Port Djibouti much easier. Ethiopia Airlines, Africa's world-class and Star Alliance member, the network covers more than 90 international destinations in the five continents of Africa, Asia, Europe South, and North America (EIC, 2022).

Ethiopia became one of the top FDI destinations in Africa. Particularly, the FDI inflow from China has grown significantly. Ethiopia is the second top performer in FDI inflows among the Least Developed Countries

next to Mozambique and followed by Cambodia, Bangladesh, and Senegal in 2021 (UNICTAD, 2022). The FDI flows to Ethiopia reached $4.3 billion and Chinese investments tripled in 2022. Ethiopia is considered the central hub for China's Belt and Road Initiative.
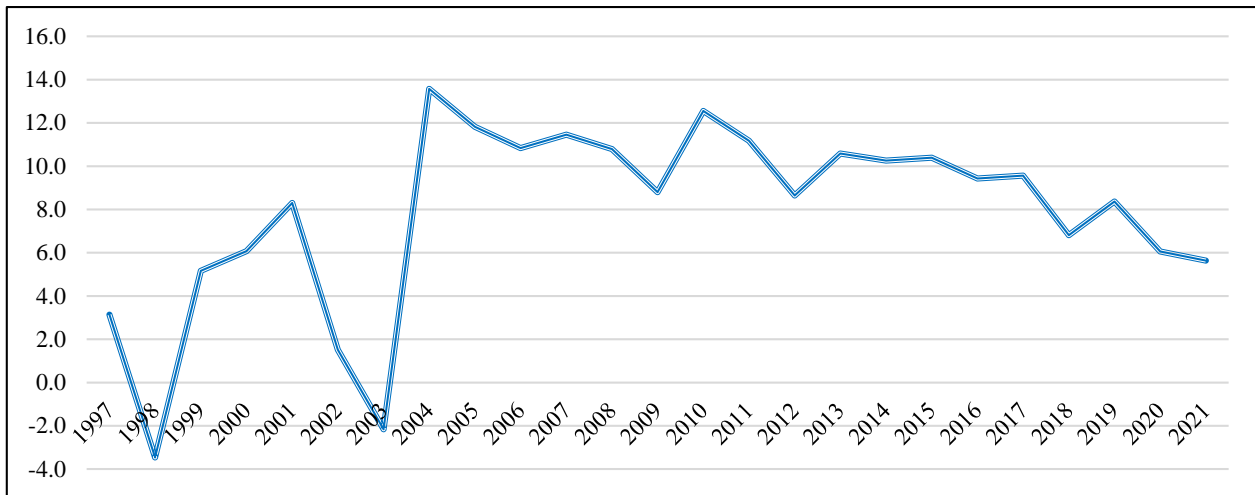

Figure 6. Percent of annual GDP growth of Ethiopia (1997-20021). Source: World Development Indicators (World Bank, 2022).

The past economic growth of the country has been mainly achieved through the leading role of the agriculture sector followed by the service sector. Figure 7 shows the contribution of agriculture (including forestry and fishing), service, industry (including construction) and manufacturing to GDP from 1997-2021. The agriculture sector has contributed 40.7 percent of an annual average value added to GDP from 1997-2021. The service sector industry (including construction) value added to GDP is an annual average of 38 percent and 14.6 percent respectively (in the same period). However, the contribution of the manufacturing sector was very low with the average of 5 percent annual average.
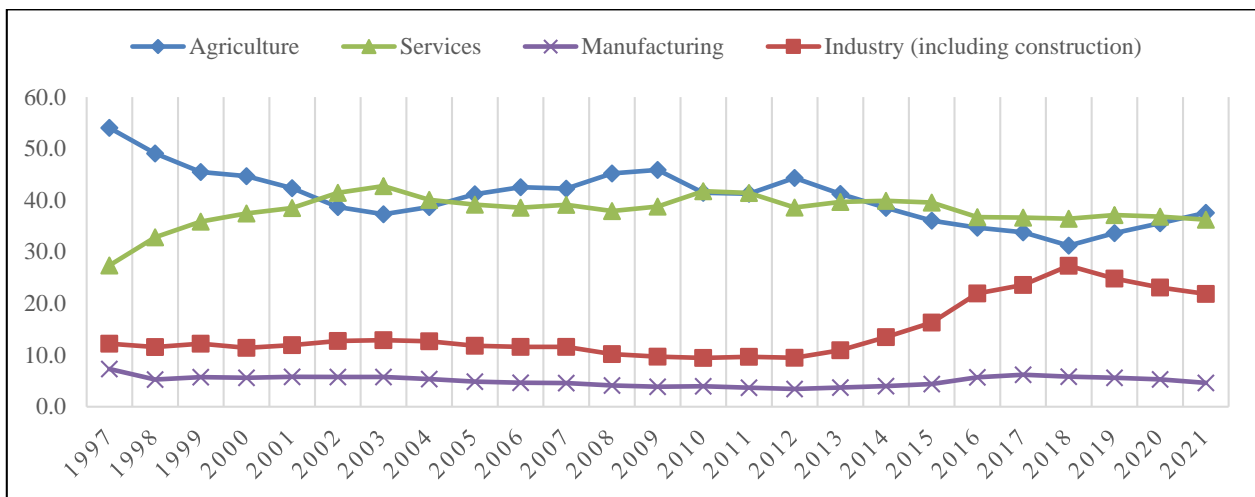

Figure 7. Economic sectors value added (% GDP) in Ethiopia (1997-2021). Source: World Development Indicators (World Bank, 2022).

Long-term sustained economic growth requires structural transformation of the economy from low to high productivity sectors. As the experience of most of the successful countries particularly the East Asian emerging

economies show agriculture plays a key role at the lower development stage, followed by an engine role of manufacturing industry and then the leading role of the service sector at the advanced stage of development. As it is shown in Figure 6, the contribution of agriculture in GDP has declined from 54 percent in 1997 to 35.6 percent in 2021. On the other hand, the contribution of the service sector has increased from 27.4 in 1997 to 36.3 percent in 2021 and it has taken the lead role from agriculture since 2014. The contribution of industry (including construction) has also increased from 12.2 percent to 21.9 percent in the same years. The contribution of the manufacturing industry to the structural change of the economy is very weak and shows stagnation trend. Thus, enhancing the industrial park development is vital to overcome the infrastructure and business environment constraints to boost the manufacturing industries in order to play an engine role for sustained economic growth and development.

Labor wage rise in china and other emerging economies. One of the peculiar characteristics of the current globalized world is the tough and intensive competition particularly for low-income countries. On the other hand, globalization provides opportunities for developing countries to play their own role in the global value chain of production. Thus, countries have to design and implement proper strategies and policies that consider both the domestic situations and the international trends and conditions. The remarkable economic development of the East Asian countries and the economic growth registered in large countries like China, India, Brazil, and Indonesia after the World War II creates hope for low-income countries. These countries had started with labor-intensive industries and have upgraded to the capital and knowledge intensive industries through dynamic structural transformation process.

The labor wage rise trend in the emerging economies is one of the opportunities for the labor endowed low-income countries like Ethiopia. Lin (2012) states:

> as wages rise rapidly in dynamically growing emerging market economies, such as China, India, Brazil, Indonesia and others, in the multipolar growth world of the 21st century, the labor-intensive industries in those emerging market economies will be losing comparative advantages and provide golden opportunities for other low-income countries to enter. (p. 8)

The author further elaborates that only China has 85 million manufacturing workforces in labor-intensive industries in 2013 and low-income countries have an opportunity to seize these jobs and will be able to achieve dynamic economic growth. The current Reshoring Institute (2022) study on global wage rate comparisons indicates that "China has experienced a significant rise in average wages over the last decade, making companies realize that China may no longer be the cheapest and best alternative" (p. 1). The wage rate in other emerging economies such as Brazil, Malesia, Vietnam has also increased.

Figure 8 provides the comparisons of the revealed comparative advantage of the sample labor-intensive manufacturing products export (textile & closing and footwear) of China, Vietnam, and Ethiopia to show the trends. The trend indicates that the comparative advantage of China and Vietnam in labor-intensive manufacturing has declined, and Ethiopia's comparative advantage has shown an incremental trend in the last five years. In the textile and clothing industries, Ethiopia exceeds China in 2019 and 2020 and scores equally with Vietnam in 2020. The revealed comparative advantage analysis on the footwear industry shows that China is losing its comparative advantage; Vietnam has still a comparative advantage in a declining trend; and Ethiopia's comparative advantage has increased slowly.

The wage rise in emerging economies is by and large a golden opportunity for Ethiopia. As it is discussed earlier Ethiopia is a labor-endowed country at its current stage of development with a trainable and low-wage labor force. Thus, the country has to utilize its labor-force potential and needs to take the emerging country's wage advantage to enhance its growth and transformation endeavors.
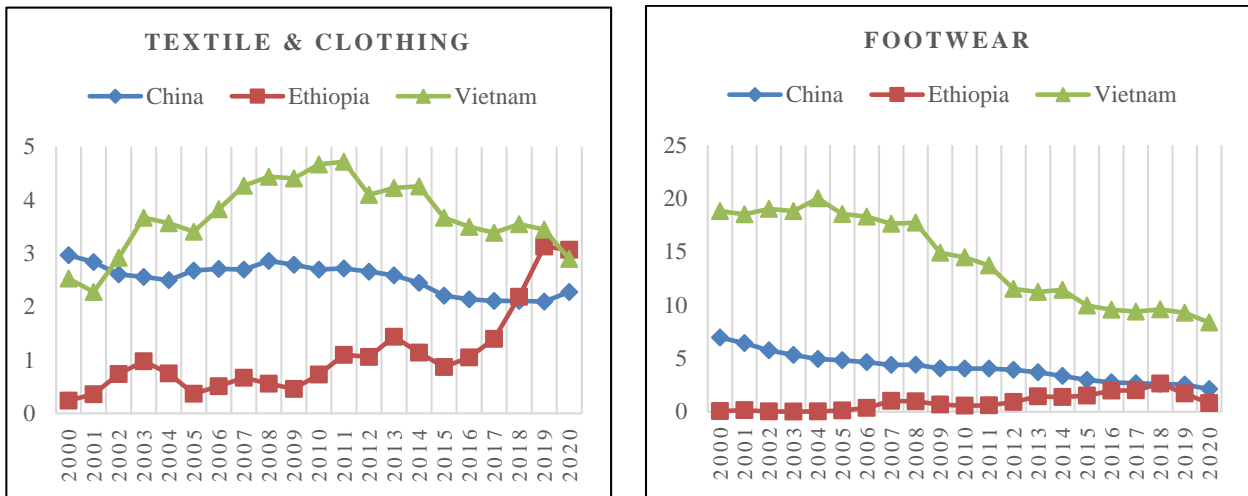
Figure 8. Revealed comparative advantage comparisons (China, Vietnam, and Ethiopia). Source: Own computing World Integrated Trade Solution (WITS) Data (2022).

Conclusion and Policy Implications

The feasibility of industrial parks as a policy tool for economic growth and transformation is one of the debatable issues among scholars and policymakers. The practical experiences of different countries also show mixed results with successes and failures. The existing studies on industrial park development in Ethiopia have gaps in showing the significant effects of industrial parks. Hence, this study aims to examine the effects of the industrial parks on export earnings, employment creation, and FDI attraction in Ethiopia. Furthermore, the study aims to identify the constraints, potentials, and opportunities for the industrial parks to serve as an effective policy tool to foster the growth and transformation of the country.

As the theoretical and empirical studies show, static benefits such as export earnings, employment creation, and FDI attraction are expected from industrial park development in a relatively shorter period. Three hypotheses are formulated based on the existing theoretical and empirical studies and proper data are gathered through original surveys from manufacturing firms operating both inside and outside industrial parks in Ethiopia. Using inferential statistics methods (t-test and chi-square test), the analysis of this study reveals that industrial parks in Ethiopia have statistically significant and positive effects on export earnings, employment creation, and FDI attraction with significant levels $p \leq 0.001$ (one-tailed p). The result shows the industrial parks in Ethiopia are contributing to the economic development endeavors of the country in facilitating manufacturing goods export, manufacturing job creation, and FDI attraction. Comparative advantage-based strategic sectors selection, provision of preferential incentives and facilities, and management of the parks are among the success factors.

Furthermore, the analysis revealed that low labor productivity, domestic raw material supply constraints, weak forward and backward linkage, transport cost and logistic constraints, and government institutions' capacity constraints are identified as the top five binding constraints that affect the effectiveness of industrial parks and manufacturing firms. On the other hand, the availability of a trainable labor force, raw material potential, preferential policies and incentives, the economic growth of the country, and the labor wage rise in China and other emerging countries are identified as the top five potentials and opportunities for the industrial parks to serve as a dynamic policy tool in fostering industrialization in Ethiopia. Hence, overcoming the binding constraints and unlocking the potential is critically important for industrial parks to achieve the intended long-term and dynamic benefits.

Based on the findings of this study, three policy implications are suggested. First, formulating and implementing specific and robust manufacturing labor force development and utilization policy and strategy is vital. Second, strengthening and facilitating the forward-backward linkage along the value chain is paramount important. Finally, institutional capacity building through learning by doing and public-private cooperation has to be strengthened.

Further Research

The findings of this study clearly show that the industrial parks in Ethiopia have registered a significant effect on export earnings, job creation, and FDI attraction. The binding constraints, potentials, and opportunities affect the long-term effects of the industrial parks. The government has spent a lot of money including loans from World Bank and other financial institutions agencies to develop the industrial parks. For instance, the capital budget of Hawasa industrial park is estimated at USD 289,000,000, and Bole Lemi industrial park phase I costs around 2.8 billion birrs (IPDC, 2022). There are also running costs to provide the services and facilities in the industrial parks. However, the cost-benefit analysis of the industrial parks in Ethiopia has not been researched as far as my knowledge is concerned. Therefore, there is a need for a comprehensive cost-benefit analysis study to confirm whether the benefit exceeds the cost incurred for the industrial park development or not in the long run.

References

Aggarwal, A. (2017). Towards an integrated framework for special economic zones (SEZs): A dynamic institutional approach (No. 2017-64). Copenhagen Discussion Papers.

Amirahmadi, H., & Wu, W. (1995). Export processing zones in Asia. *Asian Survey, 35*(9), 828-849.

Azmach, E. W. (2019). Regulating industrial parks development in Ethiopia: A critical analysis. *Beijing L. Rev., 10*, 23.

Chakraborty, T., Gundimeda, H., & Kathuria, V. (2017). Have the special economic zones succeeded in attracting FDI? Analysis for India. *Theoretical Economics Letters, 7*(3), 623-642.

Cirera, X., Lakshman, R., & Spratt, S. (2014). The impact of export processing zones on employment, wages and labour conditions in developing countries. *3ie Systematic Review, 10*.

Davies, R. B., & Mazhikeyev, A. (2019). The impact of special economic zones on exporting behavior. *Review of Economic Analysis, 11*, 145-174.

Dorożyński, T., Świerkocki, J., & Urbaniak, W. (2017). FDI inflow to special economic zones in Poland regional approach. *Journal of Management and Financial Sciences, 27*, 87-103.

Ethiopian Investment Commission. (2022). Potential and incentives to invest in Ethiopia. Retrieved from https://www.investethiopia.gov.et

Farole, T. (2011). Special economic zones in Africa: Comparing performance and learning from global experiences. Washington, DC: World Bank Publications.

Farole, T., & Akinci, G. (Eds.). (2011). *Special economic zones: Progress, emerging challenges, and future directions*. Washington, DC: World Bank Publications.

FIAS. (2008). *Special economic zones: Performance, lessons learned, and implications for zone development*. Washington, DC: World Bank.

Gebremariam, F. M., & Feyisa, B. D. (2019). Assessing the performance of industrial parks (IPs) in Ethiopia: The case of Bole Lemi 1, Eastern Industry Zone and Hawassa Industrial Parks. *Social Sciences and Education Research Review (SSERR), 6*(1), 72-111.

ILO (2022). Labor Statistics. https://ilostat.ilo.org

Johansson, H., & Nilsson, L. (1997). Export processing zones as catalysts. *World Development, 25*(12), 2115-2128.

Lin, J. Y. (2012). *New structural economics: A framework for rethinking development and policy*. Washington, DC: World Bank

Lu, Y., Wang, J., & Zhu, L. (2015). Do place-based policies work? Micro-level evidence from China's economic zone program. *SSRN Electronic Journal, 2015*, 1-49.

Madani, D. (1999). A review of the role and impact of export processing zones. The World Bank.

National Planning Commission of Ethiopia. (2018). *The second growth and transformation plan (GTP II) midterm review report*. Ethiopia: National Planning Commission.

Reshoring Institute. (2022). Global labor wages caparisons: The impact on manufacturing location decisions and reshoring. Retrieved from https://reshoringinstitute.org/wp-content/uploads/2022/09/GlobalLaborRateComparisons.pdf

Schminke, A., & Van Biesebroeck, J. (2013). Using export market performance to evaluate regional preferential policies in China. *Review of World Economics, 149*, 343-367.

Shah, D. K. (2009). Special economic zones in India: A review of investment, trade, employment generation and impact assessment. *Indian Journal of Agricultural Economics, 64*(3), 431-441.

Song, Y., Deng, R., Liu, R., & Peng, Q. (2020). Effects of special economic zones on FDI in emerging economies: Does institutional quality matter? *Sustainability, 12*(20), 8409.

Tesfaw, D. (2021). Labor-intensive focused industrial policy in Ethiopia: Potentials, latecomers' advantage and binding constraints. *Journal of Economics and International Finance, 13*(2), 64-84.

Theot Therith, C. (2022). Effect of investment promotion through the special economic zone mechanism on the distribution of FDI in Cambodia. *Economies, 10*(9), 231.

UNICTAD. (2022). *World investment report 2022: International tax reforms and sustainable investment*. Retrieved from https://unctad.org/system/files/official-document/wir2022_en.pdf

United Nations Population Division. (2022). World population prospects 2022. Retrieved from https://population.un.org/wpp/

Vidová, J. (2010). Industrial parks-history, present and its influence to the employment. *Review of Economic Perspectives, 10*(1), 41-58.

Warr, P. G. (1989). Export processing zones: The economics of enclave manufacturing. *The World Bank Research Observer, 4*(1), 65-88.

Warr, P., & Menon, J. (2016). Cambodia's special economic zones. *Journal of Southeast Asian Economies, 33*(3), 273-290.

World Bank Group. (2017). Special economic zones: An operational review of their impacts. Retrieved from https://documents1.worldbank.org/curated/en/316931512640011812/pdf/P154708-12-07-2017-1512640006382.pdf

World Bank. (2022). World development indicators. Retrieved from https://databank.worldbank.org/source/world-development-indicators

World Integrated Trade Solution. (2022). Trade statistics database. Retrieved from https://wits.worldbank.org

Zeng, D. Z. (2015). Global experiences with special economic zones: Focus on China and Africa. World Bank Policy Research Working Paper, (7240).

Zeng, D. Z. (2016). Special economic zones: Lessons from the global experience. *PEDL Synthesis Paper Series, 1*(1), 1-9.

Zhang, X., Tezera, D., Zou, C., Wang, Z., Zhao, J., Gebremenfas, E. A., & Dhavle, J. (2018). Industrial park development in Ethiopia: Case study report. *Inclusive and Sustainable Industrial Development Working Paper Series*.