



Foreign Direct Investment (FDI) and Learning in Ethiopia's Textile and Garment Sector

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Abstract

Theoretically, foreign direct investment (FDI) favours industrial upgrading by allowing local firms to learn from global interaction and to improve their production processes by improving and maintaining quality and making processes more effective. However, empirical evidence suggests that the quality of this growth in developing countries is unclear. The purpose of this paper is to explore whether recent Chinese and Indian FDI in the Ethiopian textile and garment sector favours knowledge-based economies or if it is shifting growth directionality towards a non-inclusive model. The empirical analysis is based on a systematic review of the Ethiopian case study's empirical studies, complemented by interviews with managers and employees of selected firms and policymakers. The results show that foreign firms tend to neglect training and technology transfer beyond what is strictly necessary for their operations. Moreover, FDI discourages learning investments in domestic firms, rapidly disappearing or turning towards the local traditional clothing segment. The results indicate that neither learning directionality concerns nor the integration between foreign and domestic firms can be addressed without purposive and explicit FDI policies. Therefore, there is an urgent need to implement policies in support of local capability development and supply chain integration of the domestic private sector.

Keywords

foreign direct investment (FDI), local learning, technology transfer, capacity development, textile and garment industry, Ethiopia, China, India

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I. Introduction

There is a significant interest in leveraging foreign direct investment (FDI) as a critical growth mechanism for developing countries (Dritsaki et al., 2004; Durham, 2004). However, the capability-building strand of the literature's empirical results indicates a lack of clarity in the quality and sustainability of this fast growth (Amendolagine et al., 2019). The purpose of this paper is to explore whether recent Chinese and Indian FDI in the Ethiopian textile and garment sector¹ favours knowledge-based economies or whether it is shifting growth directionality towards a non-inclusive model.

This study presents a case study of the textile and garment industry in Ethiopia. Although textile and garment manufacturing is concentrated in countries like China, India, Bangladesh, and Vietnam, the massive amounts of FDI received by Ethiopia during the past ten years have resulted in Ethiopia becoming an emergent player in this industry (EIC, 2019b). Chinese FDI has played an essential role in constructing state-of-the-art manufacturing facilities and other infrastructure projects that have made Ethiopia the largest recipient of FDI in sub-Saharan Africa, referred to hereafter as Africa (EIC, 2019a). Indian FDI has also played a role in developing the Ethiopian textile and garment sector, with about USD4 billion investment and about 600 firms (Green, 2018).

This study conducts a review of the literature examining the Ethiopian textile and garment sector and complements it with recent interviews with managers and employees at Chinese and Indian textile and garment factories, as well as with interviews with representatives of the Ethiopian Investment Commission (EIC) conducted at the end of 2018. The findings from the interviews complement a systematic review of the empirical literature, providing a more robust perspective of the situation regarding local learning, capacity building, and technology transfer in the sector.

This paper contributes to the literature on FDI, particularly in the South–South FDI context, by adding empirical data for industrial upgrading, from local learning and technology transfer, to the existing

¹ In this study, we considered the words “apparel” and “garment” to be interchangeable.

anecdotal and scarce evidence. The study's relevance relies on presenting a setting where knowledge infrastructures are limited, and where the domestic private sector – on which large parts of the economic activity are dependent – is composed mainly of informal firms (Vallejo et al., 2019). The study also contributes to the scarce body of empirical literature addressing the newborn textile and garment industry in Ethiopia.

The next section presents a theoretical framework. Section III situates Ethiopia within the global textile and garment industry, particularly in terms of FDI. Section IV presents a brief overview of the Ethiopian industrial policies that provide the guidelines and enforce the new industry's environment. Section V provides an understanding of the existing Ethiopian Free Trade Agreements, a key motivational factor for foreign manufacturing firms to invest in Ethiopia. Section VI describes the country's significant infrastructure investment during the last decade to attract FDI and provide the infrastructure requested by foreign firms in order for them to be operational in Ethiopia. Section VII briefly introduces the textile and garment sector in Ethiopia. Section VIII presents the methodology of the analysis and describes the data. Section IX presents the analysis results, emphasising FDI's role in promoting learning, technology transfer, and capacity building in the host economy. Section X discusses the implications of the results and relevant findings. Section XI presents the conclusions and limitations of the study.

II. The Local Learning Opportunity of FDI in Developing Countries

Much has been written about the role that exports and FDI play in developing countries' industrial upgrading. Industrialisation policies understand manufacturing technology as the central player in productivity, driving towards economic growth. Through investment in technology countries could move forward from traditional activities towards a more advanced knowledge-based economy (Soete, 1981, 1985). The literature has widely recognised the centrality of learning and technology transfer as key drivers of industrial competitiveness and fundamental prerequisites for sustainable economic growth (Cimoli et al., 2006). Empirical studies from the capability building literature in latecomer firms have proven that learning and technological upgrading is reached when the emphasis is put on the learning processes and the mechanisms needed to build a base of technological knowledge not yet in existence (Bell & Pavitt, 1993, 1995; Katz, 1987; Lall, 1990, 1992). Learning and technology transfer are two frequently adopted terms in most industrial development plans and policies in the South. Nevertheless, in practice, the indicators pursued when discussing industrial upgrading and global value chain integration focus only on static notions of employment, output, and foreign exchange generation.

Exports and FDI are two channels recognised in the capability building literature as enabling tools to facilitate manufacturing activities in the South into global value chains and to promote local learning and technology transfer (to reach industrial upgrading). As a development strategy for upgrading industrial capabilities, exports were emphasised in the late 1990s by the World Bank (1998). It is argued that exporting firms increase their productivity by learning from participating in international markets (Galina & Murat, 2004). It is assumed that exporting firms would learn by changing their production, distribution,

and managerial procedures and upgrading their technological capabilities to respond to competitive pressure at international levels (Macario, 1999, 2000; Macario et al., 2000). The interactive learning and capability building literature offers no conclusive evidence that firms that export have higher technological capabilities than those that are not exporting. It is accepted in the literature that the presence of support structures fostering the capabilities of domestic firms to innovate is a critical element in determining their level of involvement in exports and the ability to add value to their products (Ballard & Rigby, 2007; Hidalgo et al., 2007). A recent empirical analysis by Gehl Sampath and Vallejo (2018) provided evidence that during the last two decades, only exports of low-technology manufacturing (i.e., the textile and garment sector) are contributing to significant value-adds in exports in the South. The study highlights that in the South, no value-added contribution is made by exports to those sectors seen as critical for capability building, such as medium-tech or high-tech manufacturing.

The second growth strategy preferred among many developing countries is attracting FDI, as this strategy is said to generate employment and to “promote” technology transfer and industrial upgrading in the host economies through the enforcement of local content requirements by the hosting economies. The rationale for FDI differs, depending on the type of investment performed and the nature and strength of the linkages with the local sector (Alfaro & Charlton, 2007; Dunning, 2002). The enabling environment in which FDI occurs determines backward linkages (Gold et al., 2017; Okafor et al., 2016). Although traditional FDI goes from firms in the North towards countries in the South, recent literature reports an emerging phenomenon in which multinational corporations (MNCs) from the South are increasingly investing in other parts of the South (Chaminade & Gomez, 2016). South–South FDI is a mechanism through which governments in the South attract FDI from Southern firms (which have experience operating in adverse institutional settings) to upgrade their technological capabilities, create employment, increase their exports, and promote economic growth. Under this paradigm, China and India are the major actors in Africa, particularly in infrastructure and manufacturing investment.

III. The Textile and Garment Industry

The textile and garment industry is considered the first step in a country's structural transformation from an agricultural-based perspective to industrial-based growth (Gereffi, 2002; Gereffi & Fernandez-Stark, 2010; Gereffi et al., 1994). FDI in this sector is mostly characterised by firms exporting their products and taking advantage of low wages and production costs in the hosting country. Empirical evidence has shown that industrial upgrading is possible if the public sector closely monitors and supports this process (Pasquali et al., 2020), for example in Hong Kong, South Korea, and Taiwan (Akamatsu, 1962). In the absence of the dynamic elements of industrial transformation, namely, local learning technological transfer, the capacity building literature in developing countries reports low levels of integration of domestic firms (mostly SMEs), leading to their gradual disappearance (Carrillo et al., 2002; Carrillo & Zarate, 2009).

China has been the largest manufacturer and exporter of garments since the late 1980s (Qiu & Tao, 2001). The recent increasing labour costs in China and the US's increasing trade restrictions have forced China to adopt new export strategies. An example of these strategies is the ongoing Chinese reallocation

of low-end clothing manufacturing to low-cost countries while retaining high-value manufacturing domestically (TexPro, 2020).² This strategy resulted in increasing Chinese investment in low-cost Asian and Latin American textile manufacturers, particularly in Cambodia, Vietnam, Bangladesh, Mexico, Chile, and Argentina (TexPro, 2020). African countries have also benefited from this situation. Low wages and the existing free trade agreements (FTAs) in Africa have increased African countries' attractiveness for Chinese and other foreign investors. Taking advantage of the 'third-country fabric provision' under the African Growth and Opportunity Act (AGOA) allows non-AGOA members, such as China and India, to qualify for duty-free exports of textiles and garments to the US.

Table 1 presents the top exporters of textiles and garments from 2014 to 2018 and new emerging exporters in the sector. Table 1 shows a decrease in textile and garment exports from China in the period 2014 to 2018; it also shows that Ethiopia is one of the sector's newcomers.

Table 1: Exports of Textiles and Garments (in USD millions)

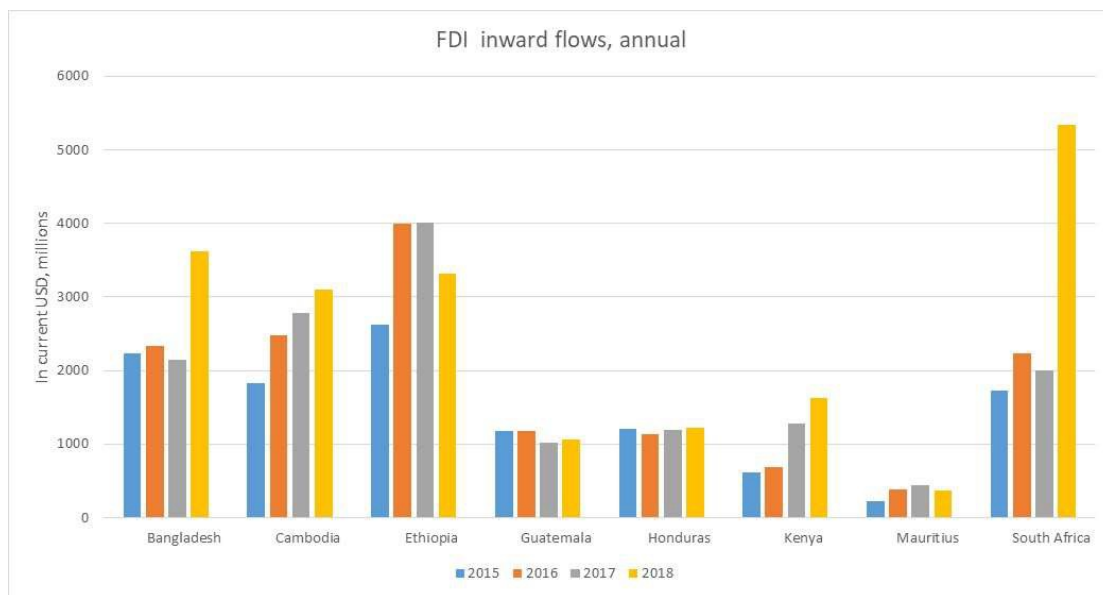
	2014	2015	2016	2017	2018
Top textile and garment exporters					
China	186,612.93	174,572.92	158,179.55	157,463.89	177,490.60
Hong Kong	20,510.19	18,417.13	15,688.30	14,483.25	13,857.15
Bangladesh	24,604.36	26,824.51	28,599.53	29,416.06	32,344.12
Vietnam	20,174.27	21,948.45	23,004.95	25,036.98	29,962.72
India	17,650.32	18,168.05	17,931.59	18,313.00	16,552.07
Cambodia	4,673.37	5,539.22	6,078.55	7,660.49	8,835.85
Top emerging textile and garment exporters					
Indonesia	7,669.79	7,593.30	7,474.03	8,213.60	8,927.92
Honduras	1,973.64	2,102.11	2,112.67	2,062.27	2,183.28
Guatemala	1,404.82	1,452.15	1,397.94	1,403.41	1,423.79
Myanmar	1,016.23	820.52	1,575.38	2,434.99	4,129.72
Mauritius	810.15	762.05	664.66	608.11	620.44
Lesotho	294.69	404.76	359.68	463.19	482.43
Kenya	281.66	267.86	326.66	329.18	353.15
Ethiopia	56.29	52.57	93.95	76.34	81.13

Source: Derived from information obtained at UNCTADstat (n.d.a)

Figure 1 illustrates the flows of FDI towards selected textile and garment manufacturing economies. It shows that the levels of FDI received by Ethiopia are comparable to those received by Bangladesh and Cambodia. Figure 1 shows the total FDI flows to these economies, not only those to the textile and garment sector. In Ethiopia, this is one of the very few manufacturing activities in the economy.

² This has been facilitated by the One Belt, One Road policy of the Chinese government.

Figure 1: FDI Inward Flows, Annual (in USD millions)



Source: Derived from information obtained at UNCTADstat (n.d.b).

According to the Chinese Ministry of Commerce, in the period 2015 to 2018, Chinese FDI in the textile and garment sector towards low-cost countries reached about USD6.3 billion (about 7.15 percent of the total Chinese FDI in manufacturing activities). Table 2 shows Chinese investment in textile and garment manufacturing in Bangladesh, Cambodia, Vietnam, Myanmar, and Ethiopia.

Table 2: Chinese Foreign investment in Textile and Garment Manufacturing (in USD millions period 2015-2018)

Rank 2015 to 2018	USD millions (2015-2018)	One Belt, One Road initiative
Hong Kong	2,599	*
Vietnam	1,071	*
Singapore	771	*
Viking Islands	258	
United States	214	
Ethiopia	185	
Myanmar	152	*
Egypt	147	*
Cayman Islands	132	
Cambodia	125	*
Malaysia	102	*

Source: Xu (2019), with information from the Chinese Ministry of Commerce.

IV. Ethiopian Industrial Policies towards Structural Change

The Ethiopian industrialisation policy is grounded in an agriculture-led industrialisation strategy introduced in 1994. The Industrial Policy Strategy (announced in 2002) reinforces it by promoting a development strategy focused on agriculture-led, export-led, and labour-led industrialisation strategies. Vrolijk (2020) and Mbate (2016) identify three key policies and strategies framing the Ethiopian industrial policy framework, namely (i) the Plan of Action for Sustainable Development and Eradication of Poverty (established in 2005), which emphasises the need to establish an internationally competitive industrial export-oriented sector; (ii) the Industrial Development Strategy, which supports an agriculture-led and labour-intensive industrialisation process and the need to promote synergies between the agricultural sector and the industrial sector; and (iii) the Growth and Transformation Plans (GTP I (2010–2015) and GTP II (2015–2020)), which provide firms with a range of incentives (i.e., duty-free imports of machinery and spare parts, duty drawback). Although GTP I emphasised structural transformation based on upgrading and learning, Vrolijk (2020) analyses the document operationalising this policy as focusing only on output and employment. GTP II addresses technological innovation notions by emphasising job creation, improving productivity and competitiveness, and promoting linkages between local and international firms to facilitate knowledge and technology transfer. GTP II focuses on technological learning through FDI (i.e., through the creation of clusters and industrial parks), implementing the *Kaizen* (constant improvement) management system, and upgrading institutional capacity by creating industrial linkages (Jin, 2020; Vrolijk, 2020). GTO II aims to transform Ethiopia into the African hub for light manufacturing by 2025.

Interviews with Ethiopian policymakers conducted by Vrolijk (2020) suggest a struggle to structure and quantify technology transfer notions and to implement mechanisms to allow for such knowledge transfer to take place (Vrolijk, 2020). Vallejo et al. (2019) highlight the limited knowledge and skills available to implement science, technology, and innovation in the African policymaking arena. This limitation affects the ability of local policymakers to address the complexity of the capacity building, learning, and technology transfer required to achieve technological upgrades and industrial integration in the Ethiopian light manufacturing sector.

V. Ethiopian Free Trade Agreements Favouring Textile and Garment Exports

During the last decade, Ethiopia has been the fastest growing country in Africa. FDI has played a critical role in the country's development. Some of the Ethiopian government's incentives to foreign investors include preferential trade deals, land policies, up to nine years of tax holidays, and duty-free imports of machinery, equipment, and construction materials (Newsome, 2017). All exports of products

manufactured in Ethiopia benefit from the country's FTAs with other parts of the world. This is the case, for example, of AGOA with the US and the Everything But Arms (EBA) trade access for Least Developed Countries with the European Union (Altenburg et al., 2020; Newsome, 2017).³ With the trade tensions between the US and China, as heightened by the administration of then-President Donald Trump, Ethiopia provides an alternative to export to the US for Chinese investors (International Trade Centre, 2018).

The positive and significant role played by FTAs in attracting FDI to developing countries has been demonstrated by several authors, who state that FTAs provide an essential incentive for foreign firms to start manufacturing operations in countries with lower levels of skills if these countries provide cheap manufacturing bases (Oyamada, 2019; Bae & Jang, 2013). Several case studies on developing countries' industrialisation efforts have shown that FTAs played a crucial role in MNCs' decision to establish manufacturing operations in developing countries where skilled workers were scarce. This was the case with Asian and European firms in Mexico in the mid-1990s taking advantage of NAFTA's benefits (Carrillo & De los Santos, 2020; Carrillo & Zarate, 2009; Vallejo, 2010).

VI. Critical Infrastructure Investments Facilitating FDI

Seeking to become the African hub for light manufacturing by 2025, Ethiopia, under GTP II, is working towards completing 30 industrial parks by 2025 (Barrett & Baumann-Pauly, 2019; Nicolas, 2017). This massive investment in infrastructure has been financed by foreign loans and investments, with China as the leading lender and investor (Nicolas, 2017). Chinese investment has been the main engine behind Ethiopia's development as an African hub for the global textile and garment market (Altenburg et al., 2020; Nicolas, 2017). This large amount of funds is rooted in One Belt, One Road, a Chinese government policy encouraging Chinese companies to invest overseas, develop new brands, and address new markets (Nicolas, 2017). In 2006, the Chinese government included financial support and subsidies for the construction of Chinese Special Economic Zones (SEZs) in other parts of the world.⁴ From 2012 to 2017, 400 Chinese projects in infrastructure were registered in Ethiopia (Nicolas, 2017).⁵

³ In the case of the textile and garment industry, AGOA allows for up to 60 percent non-African input in the exported product and the EBA allows for third-country fabric imports used in exports to the EU. Therefore, it is not surprising that clothing exports from Ethiopia include a large amount of imported synthetic products (e.g., polyester yarn), which favours firms who are exporting from Ethiopia to avoid higher tariffs in the US market (Altenburg et al., 2020). Nevertheless, there is a national effort (or interest) in favouring local cotton production, and the use of locally produced yarn and blend in the production of Ethiopian-based firms (Altenburg et al., 2020).

⁴ The One Belt, One Road initiative finds a complement within the Program for China–Africa Cooperation in Economic and Social Development, launched in 2006, which promotes the creation of SEZs in Africa through the China–Africa Development Fund (CADF) of the China Development Bank, offering up to USD 33 million for each SEZ (Nicolas, 2017).

⁵ Altenburg et al. (2020) find that the government invested in too many industrial parks without ensuring that it had the financial resources to manage all of them.

Among the critical infrastructure investments undergone in the last decade, and with an indirect influence on the development of light manufacturing activities in the country, we identify (i) an important expansion of the Addis Ababa Bole International Airport (2015–2020), (ii) the Renaissance Dam, which is Africa's largest hydroelectric power plant,⁶ and (iii) the Standard Gauge Railway from Addis Ababa to the closest seaport in neighbouring Djibouti (Barrett & Baumann-Pauly, 2019). Additionally, Chinese firms have financed about 70 percent of the country's roads, telecommunications, hydroelectric power plants, wind farms, and biomass plants through concessional loans (Nicolas, 2017).

VII. The Textile and Garment Industry in Ethiopia

As in the early-industrialisation process of many other developing countries, Ethiopian textile and garment manufacturing production is classified according to its market orientation into two segments, with substantial differences in governmental support, capabilities, and orientation. On the one hand, there is production for the domestic market with higher local content (i.e., locally produced cotton and yarn) and lower quality requirements. This segment is integrated by domestic firms located outside the industrial parks and focusing mostly on traditional or cultural clothing (Alderin, 2014). On the other hand, foreign-owned firms focus their production on the export market, with most of their inputs imported (Alderin, 2014). This group of firms is located in industrial parks and special economic zones, where China and India are the two leading investors, with about 70 and 20 percent of the total exporting firms, respectively.

Table 3 presents the textile and garment sector firms operating in Ethiopia's industrial parks and special zones. Textile and garment firms operating on the continent do so through Asian suppliers (15 percent), agents (32 percent), or directly (50 percent). At the moment, most of the production is concentrated in cut-make-trim (CMT).

⁶ The construction of the dam has contributed to guaranteeing Ethiopia's stable supply of electricity power.

Table 3: Textile and Garment Firms in Ethiopian Industrial Parks

No.	Industrial Park	Sheds	Firms	Products	No. of employees
1	Hawassa Industrial Park	52	PVH-Arvind Apparel, EPIC Apparel, Hirdarmani Garment, Hela/Indochine Clothing, Quadrant Apparel, Silver Spark Apparel, Tal Apparel, Bussana Apparel Group, Isabella and Sarasavi Export (Pvt) Ltd, Wuxi Jinamo Co. Ltd	woven shirts, woven bottoms, sportswear, casual and motorcycle wear, underwear garments, synthetic tops, socks and tights, women's wear (blouses, dresses, skirts)	20,000
2	Bole Lemi Industrial Park	20	Shirts ETP Garment PLC, Evertop Sportswear, George Shoes, Jay Jay Textiles, VESTIS Garment Production, ASHTON Apparel Manufacturing	women's shoes, sandals, sportswear, shirts, trousers, gloves, jackets, shorts	14,000
3	Mekelle Industrial Park	15	Calitoga and Strathmore (Ananta Group), SCM Garment Knit Textile PLC, Pooja international, ITACA Textile	wearing apparel, denim composite, knit composite, sweaters, apparel, knit, readymade garments	3,038
4	Kombolcha Industrial park	9	Carvico S.P.A., Trybus Bridgetex Ethiopia, Pungkook Corporation	synthetic fibres, men's clothing, leather bags, cotton yarn	1,366
5	Dire Dawa Industrial Park	15	Wuxi Cotton Mill (Wuxi No. 1)	cotton and blended fabrics, yarn and dyed fabrics, leather and leather products, construction inputs	
6	Adama Industrial Park	19	Antex Textiles, Kingdom Linen Ethiopia, Jiangsu Sunshine Ethiopia wool textile, Ibercotton, Youngone, Jiangsu Changfeng group	wool textile, linen yarn, fibre flax, sportswear	1,065
7	Eastern Industrial Park (private investment)	91	(Only in textiles and garments) Linde Garments, Dongfang Spinning Printing and Dyeing, KEPA textiles, Shuaijie (jiShuaijie) textiles	textiles and garments	1,089
8	Vogue Industrial Park (private investment)	36 (planned)	Velocity Apparel Company	jeans, knit garments, poly bags	1,635

Source: Derived from information in EIC (2019a, 2019b).

VIII. Methodology

The research combines a systematic review of empirical papers analysing Ethiopian firms in the garment and textile sector during the period 2010 to 2020, with semi-structured interviews administered to managers and employees of five Chinese and four Indian firms operating in the sector at the end of 2018. Combining the secondary data from the literature with the primary data from the interviews allows us to present a full overview of the sector's current situation.

A. Systematic Review of the Literature

A systematic review of the literature was conducted using the Web of Science and Google Scholar search engines. The independent terms used in the search were: Textile OR Garment AND Ethiopia. This combination of keywords was searched in the “title/abstract/keyword” field of the search engines. The search was limited to manuscripts written in English from January 2010 to April 2020, as the textile and garment sector in Ethiopia underwent most of its transformation during this period. Due to the small number of peer-reviewed journal publications found, we included academic working papers, Master's theses and PhD theses in the selection. We considered the fact that these academic publications had undergone intensive supervision; therefore, they were a useful source of reference. The search resulted in 48 references in Google Scholar and 18 in Web of Science, from which the authors identified nine repetitions and nine unavailable documents. The sample was composed of 48 documents, composed of 32 journal articles, two book chapters, one PhD thesis, nine MA theses, one BA thesis, and three working papers.

B. Interviews

The research is complemented by 35 semi-structured interviews with nine managers, 23 employees, and three policymakers from the EIC related to Ethiopia's textile and garment industry. The interviews took place during the second half of 2018 in Ethiopia. One manager and two or three employees (operators, supervisors, and office workers) per firm were interviewed. The sample of firms was composed of four firms from mainland China, one from Hong Kong, and four from India. The interviews with three officials from the EIC provide the policymaking perspective. The interviews were face-to-face, taking about 20 minutes each. All the recorded audio files were transcribed verbatim. Interviews with managers were in English. In the case of employees and policymakers, the interviews were in Amharic. The verbatim transcription in Amharic was translated into English for the analysis.

The interviews provide insights into the perceptions and experiences of the participants. We employed purposive sampling, looking for respondents with sufficient knowledge about the subject of the study. The respondents participated willingly, and their anonymity and their firms are treated with the utmost confidentiality. Table 4 presents the descriptions of the factories that participated in the interviews.

Table 4: Participant Factories and Their Main Characteristics

Firm	Country	Location	Start of operations	No. of workers	No. of sheds	Main market
Firm_CH1	China	Chinese Eastern Industry Zone	2013	439	1	US
Firm_CH2	China	Chinese Eastern Industry Zone	2016	250	1	Not yet able to export
Firm_CH3	China	Chinese Eastern Industry Zone	2014	200	1	Not yet able to export
Firm_CH4	China	Chinese Eastern Industry Zone	2014	200	1	US
Firm_CH5	Hong Kong		2016	570	2	US and Canada
Firm_IN1	India	Bole Lemi Industry Zone	2014	400	1	US
Firm_IN2	India	Bole Lemi Industry Zone	2013	2300	3	US and Europe
Firm_IN3	India	Bole Lemi Industry Zone	2014	1600	2	US
Firm_IN4	India	Hawassa Industrial Park	2016	650	3	US and Europe

C. Code Analysis

The documents and written interview transcripts were uploaded to Atlas Ti and coded. The codes were grouped into families according to industrial development attributes: technology transfer and local learning. The literature and interviews were coded using deductive, inductive, and auto-coding. Table 5 presents the codes given to the interviewees according to their firm. The codes for the three representatives from the EIC are EXP1, EXP2, and TMLDR.

Table 5: Interview Coding

Firm	Country	Managers' codes	Employees' codes
Firm_CH1	China	MDFC	E1DFC, E2DFC
Firm_CH2	China	MjishjiC	E1jishjiC, E2jishjiC
Firm_CH3	China	MKPC	E1KEPC, E2KEPC, E3KEPC
Firm_CH4	China	MLNDC	E1LNDC, E2LNDC, E3LNDC
Firm_CH5	Hong Kong	MEPHC	E1EPHC, E2EPHC, E3EPHC
Firm_IN1	India	MVSTSI	E1VSTSI, E2VSTSI, E3VSTSI
Firm_IN2	India	MJJI	E1JJI, E2JJI
Firm_IN3	India	MASHI	E1ASHI, E2ASHI
Firm_IN4	India	MSSPI	E1SSPI, E2SSPI, E3SSPI
N=		9	23

IX. Main Findings

A. Local Learning

The literature analysis seems to suggest that those firms engaged with the foreign market (mostly multinationals) tend to provide more training to their workforce, given the higher quality standards required by their foreign clients (Fei & Liao, 2020). This may be due to the quality differential between textile and garment products oriented to exports and those oriented to the local market. Geiger and Chorching (2012) indicate that about 70 percent of Chinese firms provide training to their Ethiopian employees (about 87 percent of their workforce). Nicolas (2017) and Zeng (2015) indicate that skills transfers to Ethiopian unskilled workers occur only through labour mobility and job rotation. Fei and Liao (2020) highlight the unsystematic and unstable nature of skills transfers to local workers, mostly through job-hopping.

The literature analysis also identifies the lack of skills and technical experience, not only of the Ethiopian unskilled workforce but also of local engineers and managers, as the most relevant barrier to improving productivity in Ethiopia (Abebe & Sonobe, 2012; Adbella, 2016; Alderin, 2014; Alemu, 2018; Chen et al., 2018; Hagos et al., 2018; Kumera, 2018). Abebe and Sonobe (2012) find that domestic medium-sized garment firms hire technicians from India and Mauritius for technical guidance and on-the-job training for their domestic workers, as they find it challenging to perform this knowledge transfer domestically. These authors highlight that the cost of hiring foreign technicians is high, and many domestic firms cannot cover this cost, resulting in limited access to technical knowledge by local firms (Abebe & Sonobe, 2012). Kumera (2018) reported that the Ethiopian government facilitates international textile and garment firms' visa procedures to attract foreign qualified managers and engineers.

Aduugna (2018) interviewed the managers of 38 domestic exporting firms that identify the lack of skills and capabilities to handle new technologies as factors internal to the firm that negatively affect the firm's productivity. Findings from Sultan (2017) on 15 domestic garment firms in Addis Ababa report that about 75 percent of firms find that hiring a skilled and knowledgeable workforce is a significant problem and that their training is insufficient for the firm's technologies. Ejigu (2018) reports that about 62 percent of his sample of 15 micro and small domestic garment factories in Addis Ababa focus their training efforts on the firm's management rather than on the workforce. This is supported by Vrolijk's (2020) findings that foreign firms do not incentivise the transfer of skills and technology in Ethiopia. According to Chen, Dollar, and Tang (2018), most Chinese firms employ Chinese workers to work on large projects, giving the impression that local people cannot perform the tasks required. Alderin (2014) reports a critical lack of skills and technical knowledge (i.e., in advanced critical analysis, quality control, and product development) among Ethiopian managers and engineers. Alderin (2014) reports on an interview with the scientific director of the Institute of Technology for Textile, Garment, and Fashion Design at the University of Bahir Dar, who states that while Ethiopians occupy most of the low-skilled labour positions, the engineering positions are mostly held by foreign nationals. This emphasises Ethiopia's need to educate its specialised engineers and upgrade its specialised textile education (Alderin, 2014).

The results of our interviews with managers and employees complement the findings of the literature analysis. Managers of Chinese and Indian factories believe that they provide training to their employees and improve their skills (Interviews, MDFC, MSSPI). Their statements highlight the fact that their factories' workforces did not have previous experience of working in factories. Therefore, local workforce skills have been improved by on-the-job training provided by foreign experts (Interviews, MJJI, MASHI, MDFC, MSSPI, MKPC). Ethiopian managers have also improved their production and human resources capabilities by solving day-to-day issues and doing internal training courses (Interviews, MjishjiC, MKPC, MLNDC). Local management employees' training is not provided during the first six months of employment at the factory, as they first need to get acquainted with the industry's dynamics before receiving any training (Interview, MEPHC).

Most employees report a low transfer of skills (Interviews, E2DFC, E2JJI). However, the interviews with Indian firms' employees report a more positive perception of their employees' knowledge transfers than Chinese firms' employees. Most Indian firms' employees reported gaining experience and technical know-how through on-the-job training (Interviews, E2SSPI, E3SSPI). Several Indian firms' employees also reported receiving management skills training in their routine activities, which improved their job positions (Interviews, E2VSTSI, E1VSTSI, E3VSTSI). Employees reported moving from working as operators to group leaders and then to assistant supervisors (Interview, E2VSTSI) or moving from production to human resources (Interview, E3VSTSI). Employees from Chinese firms reported deficient levels of training or knowledge transfer (Interview, E2DFC). Employees reported receiving training on their operational activities, mostly in sewing (Interview, E2jishjiC). Employees reported receiving training in operating the plant (Interviews, E1KEPC, E2KEPC, E3KEPC). Most employees reported acquiring a broader level of knowledge and technical skills through their training and work in the factory than they had before starting working, and considered their knowledge to be useful in order to keep working in the textile sector (Interviews, E1EPIC, E2EPIC, E3EPIC, E1LNDC, E2LNDC, E3LNDC).

The interviews with representatives from the EIC confirmed that one of Ethiopia's objectives in attracting FDI is the search for technology transfer from foreign firms with better technology and know-how than the domestic industry (Interview, TMLDR). It is assumed that Ethiopian employees will acquire this knowledge through on-the-job training (Interview, TMLDR). One of the EIC's experts in the textile industry indicated that although there is learning among Ethiopian workers, there is limited transfer of management in Chinese and Indian firms, as they prefer to keep their expatriates in these positions (Interview, EXP1). The EIC team leader explained that foreign investors are allowed to bring in expatriates to perform specialised jobs only when that type of expertise is not available in the country (Interview, TMLDR). However, TMLDR indicated to us that while job permits are constantly renewed, the EIC conducts regular controls in the firms to confirm that training is being given to domestic workers, and, from the EIC's perspective, technology transfer is occurring in the industry (TMLDR).

B. Technology Transfer

The literature analysis found weak and insufficient technological learning and transfer in Ethiopia's textile and garment sector. On the one hand, local firms are not investing in modernising their factories. On the other hand, foreign firms lack the skilled local workforce necessary to use their more sophisticated machinery and equipment.

The analysis of 15 domestic garment firms located in Addis Ababa conducted by Sultan (2017) indicates that more than 70 percent of these firms involve intensive manual operations. Although most domestic firms regard communication between their factory departments and customers as acceptable, their information systems and websites are not updated and they are unable to compete with their foreign competitors (Sultan, 2017). About 60 percent of these firms do not feel that their product design and quality make them competitive versus foreign competitors; these firms also acknowledged that they do not have updated information on the market and the availability of raw materials (Sultan 2017). More than 65 percent of the domestic firms analysed consider their products to be of lower quality than those for the export market and believe that their firms do not comply with any type of certification or quality standards (Sultan, 2017).

Ejigu (2018) reports that about 70 percent of his sample of domestic micro and small garment factories in Addis Ababa report frequent breakdowns of their machinery, constant interruptions in electric power, poor process design, and uncertainty in production demand from their customers as the main barriers faced in their production management. Adbella (2016) also identifies constant interruptions in electric power, delays in payments from customers, and scarce availability of foreign currency as important barriers to production in her case study of the Yirgalem Addis Textile Factory.

Dedimas and Gebeyehu (2019) present a case study of Bahir Dar Textile Share Company,⁷ identifying issues such as excessive machine speed, poor implementation of maintenance, shortage of spare parts, and lack of skilled maintenance workers as some significant reasons for the poor performance of the factory. Kumera (2018) reports complaints from exporting firms that, due to the domestic workforce's lack of skills, they are implementing manual processes; although their plants are equipped with imported machinery, skilled workers cannot operate them.

The interviews with firms' managers indicate that Ethiopia's textile, printing, and dyeing technology has improved due to their investment in the sector (MDFC, MJJI, MASHI, MSSPI). Through this investment and the day-to-day operations, the level of Ethiopia's technological know-how is increasing (MjishjiC, MLNDC). The interviews with employees in the factories do not make a distinction between technology learning and technology transfer. Most of the employees perceived training on the use of the installed technology as technology knowledge transfer. Employees perceived on-the-job training as a technical upgrading (E1DFC, E1jishjiC, E1EPHC). This is mostly the case in sewing operations (E2jishjiC). Employees acknowledged that their operating skills for the factory machinery

⁷ This is the oldest textile mill in Ethiopia, producing spin fibre, fabric, finished fabric, and garment products. Bahir Dar Textile Share Company was established in 1961 by Italian investors (Dedimas & Gebeyehu, 2019, p. 24).

have improved (E1KEPC, E2KEPC, E3KEPC, E2LNDC, E2EPHC, E2ASHI, E3SSPI). In general terms, the employees regarded their technical skills as having improved through training since they started working in the firms (E1LNDC, E3LNDC, E3EPHC, E3SSPI).

The interviews with the EIC indicated that their perception is that there is sufficient transfer of know-how, since the workforces in the factories are mostly Ethiopian (TMLDR, EXP1) and considering that the textile and garment industry is a light manufacturing industry and not a high tech one (EXP2).

X. Discussion of Findings

This paper explores FDI in the South in promoting industrial upgrading through local learning and technology transfer. It focuses on FDI in the textile and garment industry in Ethiopia. Since China and India are the two major investors in manufacturing FDI in Africa, the study focuses on their FDI in shifting growth directionality.

The literature review findings suggest that this type of FDI has increasingly moved towards a non-inclusive model with low local learning and local industrial upgrading levels, resulting in domestic firms being excluded from the global value chain and concentrating in local low-scale niches.

The rapid increase in Ethiopia's infrastructure, strongly financed by Chinese investment, suggests that building industrial infrastructure has become a target in itself rather than a channel to achieve sustainable local development. Ethiopia is following the Asian strategy of industrial upgrading through the construction of SEZs. However, the Ethiopian case lacks a 'breathing space' in which local learning from experience can occur. Moreover, developing the ecosystem and conditions to facilitate the integration of local firms (and actors) into the growth of these zones is not yet into place.

The analysis illustrates a reality that is prevalent in many other industries in developing countries, where FTAs are used as an opportunity window for MNCs to access mature markets by taking advantage of low wages and weaker regulations in the host economies (FAO, 2013). The findings suggest that domestic firms are unable to respond to the new market conditions introduced by the massive inflow of MNCs under the umbrella of AGOA and EBA. The ambiguity in industrial policy formulation and the definition of learning, upgrading, and technology transfer objectives has transformed into weak and unaligned support for the industrial transformation of domestic firms and their inclusion in the development of the sector. As in many other developing countries, the advantages and protection mechanisms favour foreign firms over local ones (FAO, 2013; Amendolagine et al., 2019).

The Ethiopian government has based its FDI discourse on the availability of raw materials, (very) cheap labour, and low energy costs, and has assumed that transformation is automatic and requires only investment from firms. However, this has been proven to be an incorrect assumption. Without technological transfer and the building of local capacity, there are no real benefits. Although skills transfer is stipulated in several policy documents, this does not occur in practice, and when it does occur,

it is unsystematic. Firms in the domestic market hesitate to invest in training and the upgrading of capabilities. Those in the export market tend to invest more time and effort in training due to international clients' high-quality standard requirements. However, training mostly focuses on on-the-job training for unskilled workers and excludes managerial and highly technical training.

The interviews indicate a higher perception of learning by employees of Indian firms in comparison with those at Chinese firms. However, most of this learning is focused on day-to-day operational activities. An important issue, not frequently considered in the documents analysed but continually mentioned by the managers of the firms interviewed, is that many of the unskilled workers employed in the factories have no previous manufacturing experience. Therefore, the workforces at foreign firms comprise mostly young and unskilled workers from rural areas, and their adaptation from a very rural environment to a factory, doing *on-the-line* work, is a challenge for both them and their employers. In this sense, FDI contributes to creating the first generation of manufacturing workers in Ethiopia, and therefore the initial returns to scale of learning are always high (as the perceptions of managers and policymakers of the EIC suggested). The research highlights the need for regulation and policies pushing for linkages between foreign and domestic firms seeking local learning and industrial upgrading in the Ethiopian domestic side of this sector.

XI. Conclusions

The current form of FDI investment in the textile and garment industry in Ethiopia has set the institutional context, determining the patterns of development in the industry, and it is an essential element in the analysis of learning and technological capability building in the domestic environment. The evidence suggests that unregulated FDI discourages learning investments in domestic textile and garment firms, rapidly disappearing or moving towards the local traditional clothing segment. The lack of business relationships between foreign firms and local stakeholders (i.e., domestic firms, knowledge centres, government, and civil society) illustrates the weak local learning and technological upgrading levels in the sector. There is an urgent need to implement policies that support capability development and chain integration of the domestic private sector. Otherwise, as the evidence from other countries has shown us, without technological upgrading and integration of the domestic sector, Ethiopia's textile and garment industry will be no more than a very low wage paradise for foreign firms.

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