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Productive Capacity and Economic Growth in Ethiopia

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ABSTRACT

This paper examines the process of building productive capacity in Ethiopia over the past two decades and the roles played by the state, government, the private sector, foreign firms and development partners. Productive capacity is defined broadly as the natural resource potential, accumulation of human capital and the institutions that facilitate inclusive and sustainable economic growth. This process also encompasses the nurturing modern entrepreneurial skills in the private sector and fostering innovation.

The paper starts with an overview of Ethiopia's economic growth and the change in the domestic economic structure. The manufacturing sector is seen as the success of Ethiopia's Growth, and its development to a large extent the product of an activist developmental state. The paper then examines growth and diversification of exports and the country's recent efforts to effectively exploit its natural resources. An analysis of public and private investment and the underlying allocation of financial resources finds that a recent upturn in domestic investment has been financed largely by foreign aid, and that private financing remains too low. Finally, the paper addresses educational attainment, arguing that Ethiopia has some distance to go in its attempts to close the large human capital gap relative to other low-income countries.

Keywords: Productive capacity, least developed countries, Ethiopia

JEL Classification: F14, O14, O2, O25, O55

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Acronyms

ABNJ	Areas Beyond National Jurisdiction
AMIS	Agricultural Market Information System
AMS	Aggregate Measurement of Support
AoA	Agreement on Agriculture
AOI	Agricultural Orientation Index
BSE	Bovine Spongiform Encephalopathy
CAADP	Comprehensive Africa Agricultural Development Programme
CDP	Committee for Development Policy
CFA	Comprehensive Framework for Action
CFS	Committee on World Food Security
CFS-RAI	CFS Principles for Responsible Investments in Agriculture and Food Systems
CSO	Civil Society Organization
FAO	Food and Agriculture Organization
GAFSP	Global Agriculture and Food Security Program
GEF	Global Environment Fund
GM	Genetically modified
HLTF	High-Level Task Force
ICN	International Conference on Nutrition
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
ILO	International Labour Organization
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	International Panel on Climate Change
LDCs	Least Developed Countries
MDGs	Millennium Development Goals
NGO	Non-Governmental Organization
OECD	Organization for Economic Co-operation and Development
PPP	Purchasing Power Parity
PRAI	Principles for Responsible Agricultural Investment
R&D	Research and Development
SPS	Sanitary and Phytosanitary
SUN	Scaling-Up Nutrition
UNCTAD	United Nations Conference on Trade and Development
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
WFO	World Farmers Organization
WFP	United Nations World Food Programme
WHO	World Health Organization
WTO	World Trade Organization
WWF	World Wide Fund for Nature

Productive Capacity and Economic Growth in Ethiopia

1 Introduction

Ethiopia is one of the largest least developed countries (LDCs) in Sub-Saharan Africa, with a population of about 94 million people in 2012. After suffering economic stagnation for most of the 1970s and 1980s, its economy began to grow in the mid-1990s. During the last decade it has become one of the fastest growing economies in the world with an average gross domestic product (GDP) growth rate of about 10% per annum. According to the ambitious five-year Growth and Transformation Plan (GTP) that the Ethiopian government rolled out in 2010, Ethiopia aims to attain a lower-middle-income status by 2020. The challenge is hence not about kick-starting growth, as it was the case for most LDCs prior to 2000, but rather about ensuring the sustainability of the current growth momentum. This is a real challenge given the current structure of the Ethiopian economy where rain-fed agriculture continues to play a dominant role, while manufacturing accounts for only 5% of GDP. Rodrik (2014) argues that sustaining rapid growth in African countries is unlikely without a profound structural change in favor of manufacturing. It is therefore very important that policymakers and development partners are clear about the prospect of productive capacity in Ethiopia and related challenges. The latter pertain not only to growth in overall productive capacity but also to the composition and distribution of productive capacity by sector and type of ownership.

This paper examines the process of building productive capacity in Ethiopia over the past two decades and the roles played by the government, private sector, foreign firms and development partners. Building productive capacity broadly refers to a nation's efforts in harnessing natural resource potential, accelerating the accumulation of human capital and designing suitable institutions that facilitate inclusive sustainable economic growth. This process also encompasses nurturing modern entrepreneurial skills in the private sector and fostering innovation.

The paper starts with an overview of economic growth and the change in the domestic economic structure. Attention is given to the manufacturing sector as the success of Ethiopia's Growth and Transformation Plans (I and II) is strongly tied to the performance of this sector. The paper then examines growth and diversification of the exports sector to gauge international competitiveness. In doing so, the paper examines the country's recent efforts to effectively exploit its natural resource endowments. The paper also analyzes public and private investment activities and the underlying allocation of financial resources. A key dimension of the analysis is the development of the financial institutions and the allocation of financial resources across economic agents and sectors. Finally, the paper addresses educational attainment as Ethiopia strives to close a large human capital gap as compared to other low-income countries.

2 Political Economy before the 1991 Reforms

Similar to most LDCs, Table 1 shows that the Ethiopian economy performed poorly and remained weak throughout the 1980s and in the first half of the 1990s. Per capita GDP declined by nearly 1% per annum during the 1980s as GDP growth lagged behind population growth. Further decline in per capita income occurred during the first half of the 1990s, by 2.8% per annum, as civil war intensified in the northern part of Ethiopia and the country entered a period of uncertain political and economic transition. The socialist economic system during the 1974-1991 military regime was grossly inefficient

marked by the outright discouragement of private sector participation and poor performance of State-Owned Enterprises (SOEs). Policy choices including high import tariffs, export taxes, currency overvaluation and the use of marketing boards for agricultural commodities, all played out simultaneously during this period severely undermining economic growth. The violent civil war that culminated in the overthrow of the Derg in mid 1991 was a financial burden on the economy and a human tragedy. The sudden collapse of the military regime was also precipitated by the disintegration of the former communist block toward the end of the 1980s and by a rare alliance between the two insurgent groups in the north, i.e., the Eritrean People Liberation Front (EPLF) and the Tigray People Liberation Front (TPLF), to defeat the Derg. TPLF formed, in coalition with other ethnic based political parties, the current ruling party in Ethiopia, i.e., the Ethiopian People Revolutionary Democratic Front (EPRDF), while EPLF secured the secession of Eritrea in 1993.

The Transitional Government of Ethiopia (TGE) was established in 1991 based on a transition period charter in which EPRDF and other ethnic based political parties participated. TheTGE adopted a new constitution in 1994 paving the way for the first democratic national elections in 1995, which EPRDF won by a large margin. However, the country's democratic process has since stalled with ever diminishing political space for opposition parties and EPRDF wining all subsequent elections. On the other hand, with the exception of the border war with Eritrea during 1998-2000 and other sporadic low-intensity ethnic conflicts in Oromiya and the Somali regional states, there have been no major civil wars in Ethiopia since 1991 making it one of the most stable states in Eastern Africa.

3 Economic Growth and Structural Change after the 1991 Reform

The shift in political institutions in 1991 was accompanied by major economic reforms encompassing currency devaluation, trade liberalization, deregulation of markets, removal of restrictions on private sector participation, and modest privatization and reform of SOEs. Most importantly, the government demonstrated unprecedented commitment to public investment in economic infrastructure, education and health services. As shown in Table 1, the Ethiopian economy began to recover during 1995-99 with a 4.7% annual average growth and continued to grow at 5.5% per annum during 2000-04. Economic growth greatly intensified since 2005 at slightly above 10% per annum in the ensuing 10 years, allowing per capita GDP to grow at nearly 8% annually. Such performance has made of Ethiopia a symbol of economic turnaround in Africa.

Table 1

Growth and Structure of the Ethiopian Economy

	Sector Share in GDP				Growth Rates					
	Agri	Indu	Manuf	Serv	Agri	Indu	Manuf	Serv	GDP	GDP-PC
1980-84	55.8	9.6	4.7	34.6	-0.5	7.1	4.7	5.5	2.1	-0.9
1985-89	52.8	10.7	4.9	36.5	2.6	2.6	2.5	4.2	2.5	-0.8
1990-94	59.5	8.0	4.0	32.5	2.1	-1.8	-2.3	-0.4	0.6	-2.8
1995-99	53.6	11.7	6.1	34.6	3.3	5.4	4.8	7.3	4.7	1.6
2000-04	43.5	13.3	6.1	43.2	3.5	7.4	4.1	6.9	5.5	2.5
2005-09	46.6	11.8	4.7	41.6	9.6	9.8	10.2	14.4	10.7	7.8
2010-14	44.9	11.7	4.0	43.4	6.3	18.2	11.7	12.0	10.6	7.7
Average	**51.0**	**11.0**	**4.9**	**38.1**	**3.8**	**6.9**	**5.1**	**7.1**	**5.2**	**2.2**

Source: World Development Indicators (2015)

Note: The share of industry in GDP includes that of manufacturing. GDP-PC is GDP per capita.

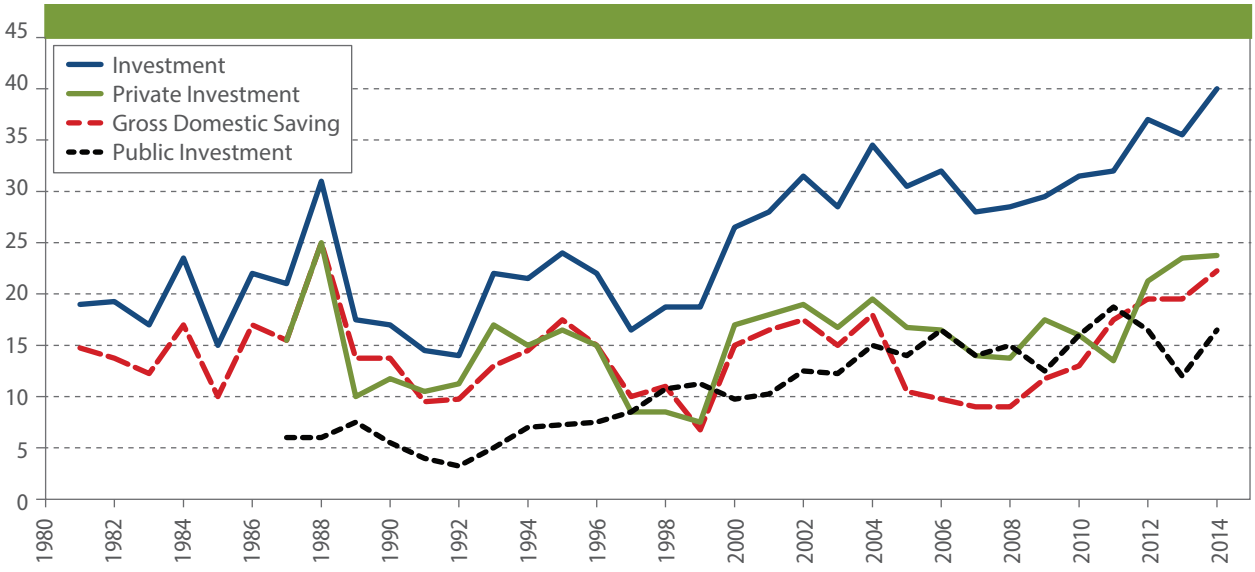
There is broad consensus that the rapid economic growth in Ethiopia since 2000 is largely driven by public investment in infrastructure (World Bank, 2009). The latter include not only expansion of road networks but also construction of hydroelectric power plants and transmission lines, airports, telecommunication systems, health and education facilities, and most recently railways. For instance, a series of Road Sector Development Programs (at a cost of more than $7bn during 1997-2010) have significantly improved road accessibility. Table 2 indicates that the proportion of roads in good conditions increased from 22% to 57% between 1997 and 2011 while road density doubled from 24km to 49km per thousand square kilometers. Although evidence remains scant, Shiferaw et al., 2015 find that improvements in road infrastructure have allowed a growing number of new firms to locate outside the historical centers of manufacturing including the capital city Addis Ababa and increased average size of startup firms.

Figure 1 shows that the investment rate in Ethiopia doubled from about 20% of GDP in the second half of the 1990s to about 40% of GDP in 2014. This represents nearly a percentage point increase in domestic investment rate annually since the mid 1990s. Most of this increase is attributed to a steady increase in public investment from about 5% of GDP in 1992-93 to 16% of GDP in 2014. Private investment, on the other hand, has been very volatile and declining in recent years. It increased to about 15% of GDP right after the 1991-92 economic reforms but declined sharply in the second half of the 1990s. Although private investment bounced back to 18% of GDP during 2002-2004, it steadily declined to about 14% of GDP in 2011. It is only in 2012, half way into the first GTP, that private investment for the first time rose above 20% of GDP. While some of the reasons behind the unimpressive and volatile private investment will be discussed shortly, it is clear that the steady increase in public investment has not yet attracted commensurate private investment. The unsteady and limited expansion of productive capacity in the private sector is an important concern for sustained economic growth of Ethiopia.

Before the launch of the GTP in 2010, the Government of Ethiopia adhered to a development strategy dubbed Agricultural Development Led Industrialization (ADLI) that emphasized improving agricultural productivity. Major interventions under ADLI included provision of fertilizers, improved seeds and extension services to smallholder farmers. These

Figure 1

Trends in Gross Domestic Savings and Investment



Source: World Development Indicators (2015).

interventions coupled with better road connectivity and favorable rainfall for most of the post-reform period facilitated faster growth in agriculture, especially after 2003 (See Figure 2 and Table 1). Other interventions that are believed to have contributed to better agricultural performance include the donor supported Public Safety Nets Program (PSNP) which aimed at building farmers' productive assets in drought prone areas. Given that agriculture accounts for about 80% of employment, growth in agriculture (about 6% per annum) is believed to have greatly benefited rural households in Ethiopia.

While ADLI is credited for improved agricultural productivity and poverty reduction in rural areas, it did not lead to agricultural based industrialization as initially anticipated. As shown in Table 1, industry value added stagnated at about 12% of GDP since the mid 1990s. The share of agricultural value added declined from 56% during 1980-84 to 45% during 2010-14. With no change in the share of industry value added, the 10 percentage point reduction in agriculture's share reflects rapid expansion in the services sector which increased from 34% of GDP during 1980-84 to about 44% in 2010-14. Since the mid 1990s, the service sector's growth was about 3 percentage points faster than growth in the industrial sector. Faster growth in services is attributed to growing public and private spending on education and health sectors, expansion of financial services as well as growth in distributive services such as transportation and domestic trade. The reason why growth in services outstripped that of industry is a critical question which has implications on the sustainability of Ethiopia's rapid economic growth.

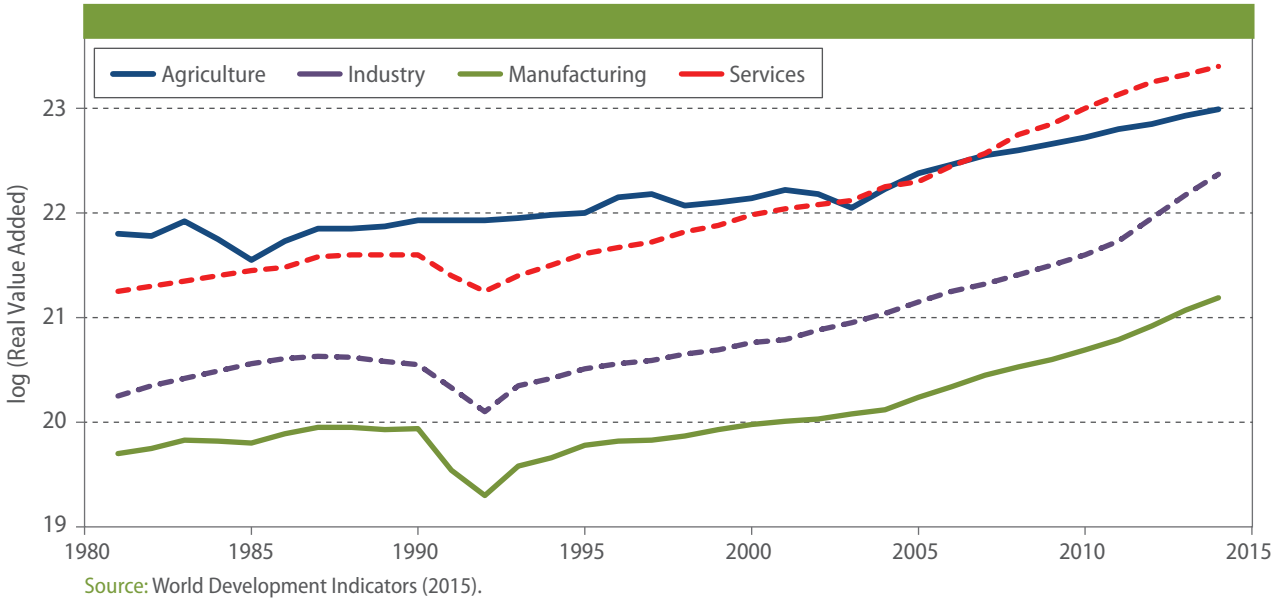
The nature of structural change in Ethiopia also differs from the experiences of most East Asian countries where rapid economic growth has been accompanied by sharp increases in the share of manufacturing. Given the capital intensity of manufacturing industries relative to rain-fed agriculture and services, it is very important to explore why productive capacity in manufacturing is lagging behind and some of the actions that can be taken to strengthen it.

4 Productive capacity in manufacturing

The performance of manufacturing remains a cause for concern as its contribution to GDP not only remained low but also contracted slightly from about 6% of GDP during 2000-04 to about 4% during the first GTP. A goal of the second GTP is to increase

Figure 2

Trends in Real Value Added by Sector (Log Scale)



Source: World Development Indicators (2015).

the share of manufacturing to 15% of GDP. Despite the attention given to manufacturing in these five-year plans, it is quite clear that the sector's productive capacity is not expanding as expected.

The Government of Ethiopia has prioritized a few industries to lead its ambitious industrialization agenda, namely, sugar, textile and garments, and leather products industries. These sectors are prioritized because of their expected linkages with the agricultural sector and the desire to exploit the country's potential comparative advantage in labor-intensive products. These priority industries are expected to be exported-oriented in order to generate the financial resources needed for capacity expansion in other manufacturing industries. This strategy sounds consistent with the country's natural resource endowments and may allow the country to take advantage of preferential trade arrangements such as The African Growth and Opportunity Act (AGOA).

However, evidence from firm-level studies uncovers a number of challenges that may restrain the rate of industrial expansion in Ethiopia. These challenges pertain to firm-level investment activities, the rate of adjustment of the product basket, and the rate of job creation in the manufacturing sector. The next section addresses these challenges followed by a discussion on industrial zones designed primarily for FDI firms and the direct involvement of the state in the production and export of sugar.

4.1 Private Investment in Manufacturing:

Given the historically low manufacturing base in Ethiopia, the intensity of firm-level investment will undoubtedly play a critical role in industrial expansion. Unfortunately, private investment in Ethiopian manufacturing remains relatively weak. Shiferaw (2015) finds that about 50% of Ethiopian manufacturing firms have a zero investment rate at any point during the period 1996-2007. This proportion rises to 70% among small firms that employ less than 50 workers. Among firms with a positive investment rate, the majority has investment rates that are far below the frequently used 10 % depreciation rate. The average firm-level investment rate is about 12% of the capital stock. Such limited private investment in manufacturing is inconsistent with the emphasis placed on this sector by the GTPs.

Previous studies lamented that the size and investment rates of African firms are restrained by a weak aggregate demand and poor infrastructure (Collier, 2000). While this might explain conditions in most African countries during the 1980s and 1990s, it stands at odds with recent experiences of rapid GDP growth and improved infrastructure in countries like Ethiopia. To better understand current investment patterns, Shiferaw (2015) compares the investment responses of private enterprises in Ethiopia, with and without access to credit, using initial relationship with banks as a proxy for potential credit constraints. This is based on the assumption that borrower-lender relationships tend to be sticky (Chodorow-Reise, 2014)[1]. According to this proxy, about 60% of private manufacturing firms do not have ties with commercial banks implying that they are potentially credit constrained. Interestingly, the average investment rate among firms with initial bank ties (14%) is twice that of firms without bank ties (See Table 3). Unsurprisingly, investment rate among large firms (16.4%) is higher than that of small firms (9.3%). The former are also significantly less likely than the latter to have zero investment episodes. Shiferaw (2015) also finds that although access to credit increases with firm size, small firms with bank ties are at least as responsive to investment opportunities as large firms are, who enjoy better access to credit. Most importantly, having a relationship with banks seems to allow firms to implement large (lumpy) investment projects that exceed 20% of initial capital stock.[2]

1 Chodorow-Reise (2014) finds that US firms who borrowed from less financially healthy banks before the 2008 financial crisis experienced stronger contraction of employment during the 2008-09 recession than firms who borrowed from healthier banks.

2 In the Ethiopian case, firms with such lumpy investment account for about 70% of total private investment in manufacturing although they account for less than 15% of the number of firms.

Table 3

Investment Patterns in Ethiopian Manufacturing Firms (1996-2007)

	All Firms	Bank Ties		Firm Size	
		No	Yes	Small	Large
Investment Rate (IR)	0.114	0.076	0.136	0.093	0.164
Percent of firms with zero investment (IR=0)	0.496	0.684	0.381	0.629	0.245
Percent of firms with lumpy investment (IR>20per cent)	0.161	0.103	0.197	0.112	0.238
Cash Flow (π)	1.010	1.289	0.835	1.420	0.952
Firm Size (No. of workers)	105.33	33.22	163.32	20.22	294.83
Percent of Small Firms	0.690	0.897	0.524		
Percent Without Bank Ties				0.580	0.149

Source: Central Statistical Agency (CSA) of Ethiopia, 1996-2007.

Shiferaw (2015) shows no significant difference in investment opportunities among firms with and without bank ties, suggesting that the difference in actual investment rate lies in the ability to capture investment opportunities, which at least in part depends on access to credit. The key message is that private investment in manufacturing and its contribution to GDP seems to be constrained substantially by limited access to credit for private enterprises, particularly small firms. This observation is consistent with a recent study by the World Bank which finds that 56% of small medium enterprises in Ethiopia, (not just in manufacturing), are credit constrained far above the African average (World Bank, 2015). This study also finds extremely high collateral requirements as well as stringent financial regulations on private commercial banks. This situation has led to a steady decline in private sector borrowing from the banking sector as percentage of GDP. Details on financial sector developments will be provided in section six.

4.2 Diversification of manufacturing firms

There is growing evidence that economic prosperity is strongly associated with the pace at which new products are added to an economy and its exports basket (Imbs and Wacziarg, 2003). Most importantly, the higher the technological content of the newly added products, the faster the expected rate of growth in income per capita (Hausmann et al., 2012). At the micro level, evidence shows that multi-product firms are larger, more productive and export-oriented than single-product firms (Bernard et al, 2010; Goldberg et al. 2010). In the Ethiopian context, Shiferaw (2010) shows that multi-product firms account for about 34% of manufacturing firms and 42% of manufacturing sales. Interestingly, the rate of transition from single- to multi-product firm is strongly associated with the incidence of lumpy investment (Shiferaw, 2010). In other words, adding a new product at the firm level is associated with a major increase in investment spending. Unfortunately, only 13% of firms exhibit lumpy-investment rate (often defined as investment rate exceeding 20% of capital stock). The process of adjusting the product basket at the firms' level also accounts for 30% of growth in manufacturing output which is greater than the contribution of net firm entry. The lacklustre investment activity highlighted above not only undermines industrial expansion through the intensive margin but also through the extensive margin.

4.3 Job creation

The other major challenge for Ethiopian manufacturing is the ability to create jobs. The employment share of manufacturing remains below its 5% contribution to GDP. One contributing factor for this outcome is the extremely low graduation rate of small enterprises into medium and large size categories. Shiferaw and Bedi (2013) find that among small

firms that employ less than 30 workers, only 7 percent managed to employ more than 50 workers after 10 years. This suggests that small firms contribute to job creation primarily at the time of entry but much less through post-entry expansion. Most of the job creation in Ethiopian manufacturing actually occurs among large firms. This underscores the need to increase the average size of manufacturing startup firms and/or to create a business environment that allows small entrants to grow faster. The authors also show that the major problem for expansion of manufacturing employment is not inadequate gross job creation rate. Net employment growth is actually undermined by a simultaneous process of gross job destruction. Net employment growth has gained some momentum since 2003 mainly because of a significant reduction in job destruction rate among large firms and an improvement in gross job creation. Even during periods of strong growth in manufacturing employment, data show substantial rates of job destruction among small firms due to high rates of firm closure.

In 2011, the Ethiopian government passed a new pension law mandating pension benefits to private sector employees for the first time. This was a privilege that so far was available only for civil servants, the police and armed forces. The new pension law requires all formal sector firms, regardless of size, to contribute 11% of salary for pension contributions and to withhold 7% in employee contributions. Since some large firms have been providing pension benefits to their employees on a voluntary basis before the reform, the pension reform is less likely to affect their profit margins and labor demand. However, for small firms without pre-existing pension schemes, the sudden increase in labor cost might reduce their labor demand, unless they are able to adjust other cost/utilization of other inputs.

Using industry-level data from 72 counties Shiferaw and Hailu (2016) find that developing countries need to achieve exceptionally high growth in manufacturing value added (about 10% per annum) to achieve modest growth in employment (about 4%). This suggests that even if the share of manufacturing value added may increase by 10 percentage points as per GTP II, the employment share of manufacturing may not increase by the same proportion. This will have important implications not only on welfare but also on long-term competitiveness and export orientation of the manufacturing sector. Currently, policymakers in Ethiopia seem to be focused primarily on increasing manufacturing output and exports without explicitly addressing the employment challenge. However, given the high rate of urban unemployment (25%) which is even higher among the youth, policy makers cannot afford to overlook job creation in manufacturing.

4.4 Industrial zones and foreign direct investment in manufacturing

While privately owned local firms do not seem to feature prominently in Ethiopia's industrialization process, the government continues to take some bold initiatives to accelerate growth in manufacturing and achieve the GTP targets. One such initiative is the establishment of major industrial zones around Addis Ababa, such as Bole Lemi industrial park funded in part by the World Bank Group. These facilities are intended to provide investors with ready-made factory sites, basic utility services, and are particularly attractive for foreign firms who may not be familiar with the local bureaucracy and business practices. One of the largest foreign firms in Bole Lemi industrial park is the Taiwanese Shoe factory George Shoe PLC, established at a cost of around $120 million. In addition to attracting more foreign direct investment (FDI), the government also uses industrial zones to create clusters of related industrial activities. The Bole-Lemi industrial zone hosts firms in the textile, garments and leather industries. Similarly, the Kilito industrial zone will host firms in the agro-processing, food, beverage and pharmaceutical industries. Such clusters may facilitate the flow of information and technology across firms in closely related industries that may in turn increase collective efficiency beyond intra-firm productivity gains. This would be particularly likely if the industrial

parks could accommodate both local and FDI firms, which unfortunately is not the case at the moment.

Apart from state-owned industrial zones, private companies are also allowed to lease land at a reduced rate for establishing industrial zones. Examples include the Eastern Industrial Zone that hosts Chinese manufacturing firms, and the Ethio-Turkish industrial zone, which will be hosting several Turkish firms. Some of the largest foreign firms are also building their own industrial zones taking into account their size and future plans for expansion. For instance, the Ayka-Addis complex is established by the export-oriented Turkish textile firm Ayka that started operations in 2010 with 7,000 workers. Textile exports from Ethiopia are expected to increase substantially in the near future as Ayka-Addis and other FDI firms become fully operational. Similarly, the Chinese shoe producer Huajian Group has acquired a large plot of land to build its own industrial zone that would host about 45 Chinese firms affiliated with the Huajian Group. Together with the Taiwanese shoe factory (George Shoe PLC), Ethiopia is expected to become a major hub for shoe exports.

Major attractions for multinational companies (MNCs) in Ethiopia are low costs of labor and energy. MNCs in the above-mentioned industrial zones pay $40-$60 per month for factory workers as compared to a $600 average monthly wage in China. Although labor productivity in Ethiopia is also lower than that of Chinese workers, the wage gap is much larger than the productivity gap thus suggesting that labor cost will still be lower in Ethiopia. Public investment in hydroelectric power plants has kept cost of electricity very low, although both local and foreign investors complain about frequent power interruptions. The government attributes this problem to power transmission problems. In addition to low energy and labor costs, the government provides tax holidays and duty free import of capital goods for most investment activities and a duty drawback scheme for export-oriented firms. Other attractions to FDI include the relative stability of the country, Ethiopia's preferential access to export markets in developed countries and also the growing domestic market.

The growing number of foreign-owned manufacturing firms in the industrial zones indicates a potential avenue by which productive resources in LDCs can be aligned with the interests and capabilities of MNCs to fuel economic growth. Although Ethiopia has nine major river systems, most of them are non-navigable because of topography reasons and are rarely used for irrigation and power generation due to high fixed costs. This has begun to change in the last decade with major investments in new hydroelectric power plants contributing to Ethiopia's competitiveness as a low cost destination for export-oriented manufacturing. With the foreseen completion of the Grand Renaissance Dam on the Nile River in the next few years, electricity generation is expected to rise above domestic demand allowing exports to neighboring countries. Together with its large, relatively young and increasingly better-educated workforce, Ethiopia has a great potential to become a major player in the export of light consumer goods. Moreover, Ethiopia is known for having the largest livestock population in Africa, and the inflow of FDI in the shoe sector reflects its huge potential for exports of leather products. The recent increase in foreign and domestic investment in the leather and footwear industry for export purposes represents a major shift from previous practices where Ethiopia used to export primarily raw hides and skins.

Further investment in manufacturing is needed to take advantage of trade opportunities such as the African Growth and Opportunity Act, mentioned earlier. According to some estimates, about 40% of Ethiopian textile exports are destined to the US market while the remaining 60% goes to European countries. *The Wall Street Journal* reported how global buyers such as H&M and Calvin Klein are exploring possibilities to source garments from outside their current suppliers in Asia (including China and Bangladesh) among which Ethiopia seems to be a major contender. In fact, H&M has already started to place test orders that may lead to importing more than a million pieces of garment per month. These possibilities will allow Ethiopia to join the global value chain in garments, which is currently

dominated by Asian countries. Further integration in global value chains would allow Ethiopian firms to not only increase their access to foreign markets but also to acquire much needed technological capabilities. However, this process is at an incipient stage and a lot needs to be done to secure a stable and profitable position in value chains in its low-technology industries.

4.5 The Sugar Sector Mega Projects

While industrial parks are established primarily to attract more FDI in manufacturing, the government is also heavily investing in sugar production. Until recently, Ethiopia has been a net importer of sugar as the two old sugar factories (Wonji and Metehara) have limited capacity to meet domestic demand. However, one of the targets of the first Growth and Transformation Program (GTP I) is to expand the sugar sector with the ambition for Ethiopia to become one of the top ten sugar exporters in the world. This plan involves the construction of ten large sugar plantations and factories in different parts of the countryto be implemented by the state-owned Ethiopian Sugar Corporation (ESC). The assumption is that the domestic private sector does not have the managerial and investment capabilities to undertake such a large project and hence a decision was made to create a number of state-owned enterprises under the Sugar Corporation.

According to a press conference issued by the director of the Ethiopian Sugar Corporation in 2014, seven out of the ten new sugar projects will become operational in 2015 with a production capacity of 1.5 million tons. The press release also reveals that the country has already stopped importing sugar for the first time in 2014-15 reducing the import bill by about $130 million a year. With domestic demand currently amounting to 0.5 million tons, the country may be able to export nearly 2 million tons of sugar when all ten factories become operational. Work on the other three sugar factories is delayed mainly because of financial constraints and lack of infrastructure in the planned sites. Financing for the new sugar factories are secured partly through loans provided by emerging economies with a requirement that contracts to build the factories are awarded to firms from the lending countries. For instance, the Indian Import-Export Bank has given about $650 million in loan for one of the sugar factories and an Indian firm has been awarded the contract to build the project. Similar arrangements have been made with Chinese and Israeli firms.

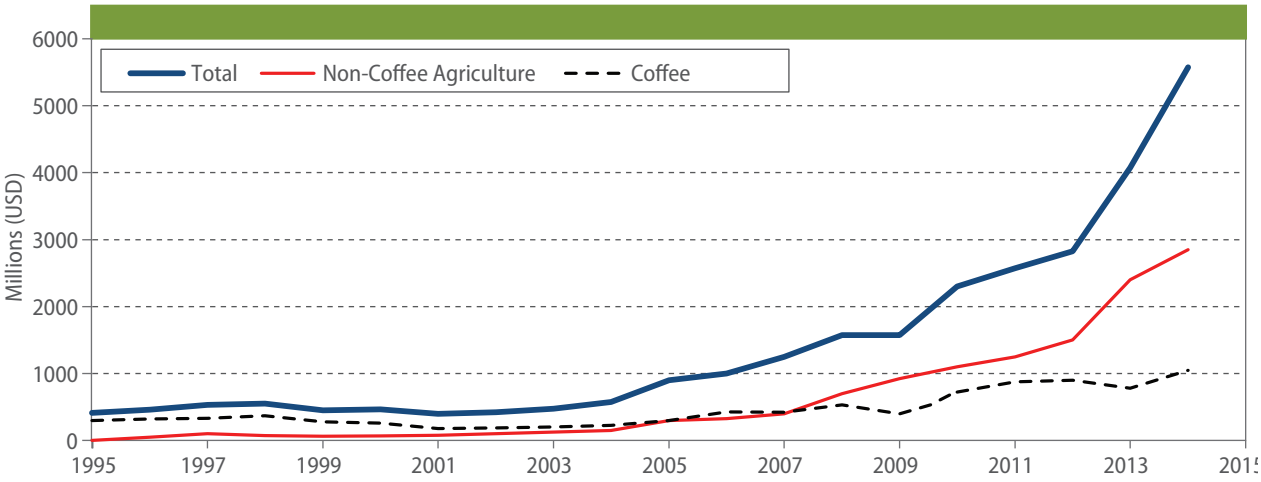
The ambitious expansion of the sugar sector involves not only building the new factories but also constructing several irrigation dams and sugar cane plantations to supply the factories. It also involves investment in road infrastructure and residential units to host factory and plantation workers, as well as the provision of health and education services for their families. Moreover, there are resettlement programs for farm households who will be displaced by the irrigated plantations. The expansion of the sugar sector is another example of a development program that harnesses natural resource endowments, primarily land and water, as well as the country's growing and youthful labor force. Although the financing of some of the projects involves a form of tied-aid, which is known for being inefficient, the loans in this particular case seem to be used for the intended purposes. Moreover, the huge potential for sugar exports in the near future implies that the loans may not increase the country's external debt burden while on the other hand may help reduce it.

5 Growths and Diversification of Exports

5.1 Overall growth

We now turn to the performance of the exports' sector both in terms of growth and composition of the exports' basket. Figure 3 shows a dramatic increase in export earnings in Ethiopia since 2005 against a backdrop of nearly zero growth for the preceding ten years. In five years export earnings doubled from $1bn in 2005 to $2bn in 2010, and doubled again in the four following years. This shows a 20% annual growth in exports since 2005, which is twice the rate

Figure 3
Ethiopian Export Earnings



Source: UN COMTRADE Database (2014).

GDP growth. This trend suggests strong improvements in the competitiveness of the economy and the reallocation of resources toward tradable sectors.

5.2 Export performance by commodity

Like most LDCs, Ethiopia relies heavily on a few primary export commodities exposing its economy to volatility of international markets and declining terms of trade. During the 1970s and 1980s, coffee and oilseeds accounted for nearly 85% of exports in which the coffee's share was 65%. While coffee remained the dominant source of export earnings until 2000, this started to change in subsequent years as the share of non-coffee agricultural exports surged. Figure 4a shows this clearly with a secular decline in the share of coffee from about 65% in 1995 to about 20% in 2014. In the meantime, the share of non-coffee agricultural exports increased to 60% in 2014 from only 15% share in 1995. Figures 4a and 4b reveal remarkable shifts in the composition of the export basket within the agricultural sector. Although the share of agriculture in GDP is declining over time as shown earlier, its contribution to export earnings seems to be rising. Further research will be needed on how much of this outcome is the result productivity gains in agriculture, favorable commodity prices in international markets and reallocation of resources to high value crops. On the other hand, export earnings from leather and food processing industries declined over the last decade from a 15% share each in 2002 and 2005, respectively. The vast majority of non-agricultural export items in Figure 4b have less than 2% share in export earnings and show no noticeable increase over time except for a modest rise in garment exports in recent years.

Therefore, it is evident that the strong growth in export earnings in Ethiopia since 2005 is a result of non-traditional agricultural exports. Key among the latter are cut-flowers which have experienced a 49% annual growth during 1995-2014 followed by a 29% growth in dairy products and eggs. The remainder of the increase in non-coffee agricultural exports comes from traditional items that experienced faster growth since 2005: 29% growth in live-animals exports, 22% growth in vegetables, 18% growth in meat and fish, 18% growth in oilseeds, and a 10% growth in fruits. Coffee exports grew by 6% explaining the secular decline in its share during the period.

Ethiopia has not yet tapped into its competitive advantage in textile and garments, which at the moment are contributing very little to total exports. As shown in Figure 5, some of the fastest growing export commodities are currently contributing the

Figure 4a
Performance of Export Commodities (with at least 2% share)
Graphs by export-category

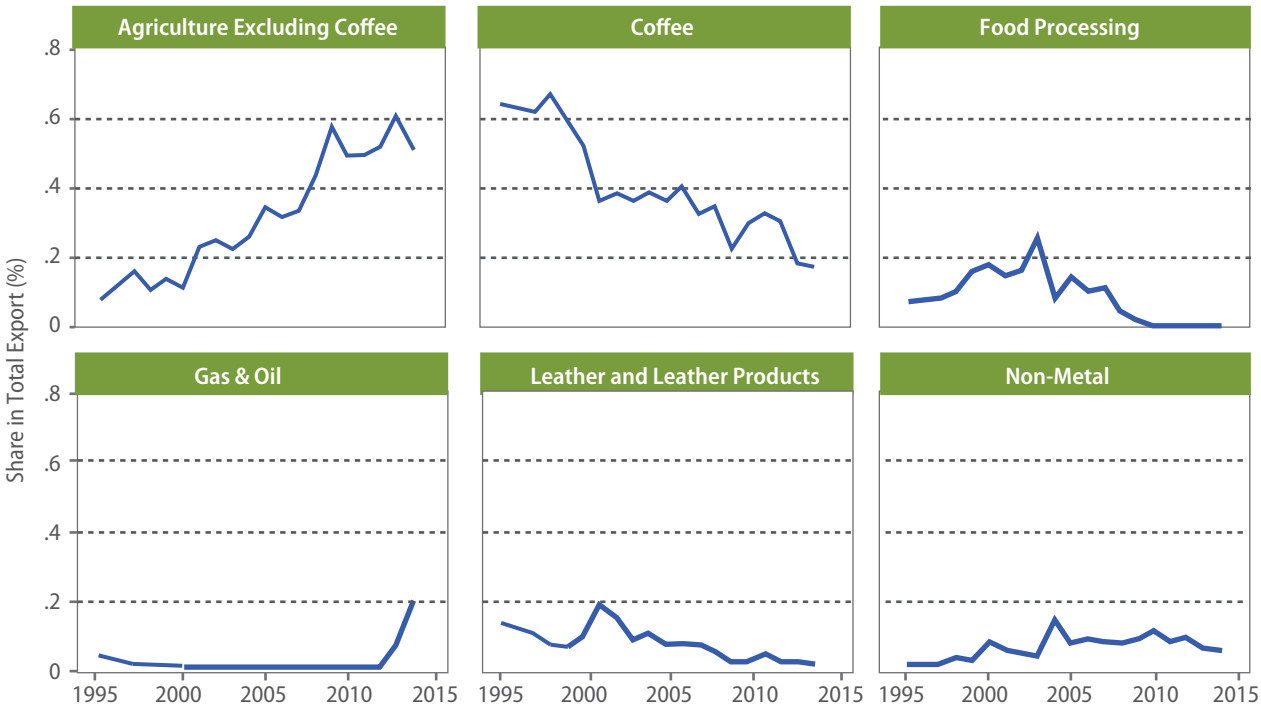
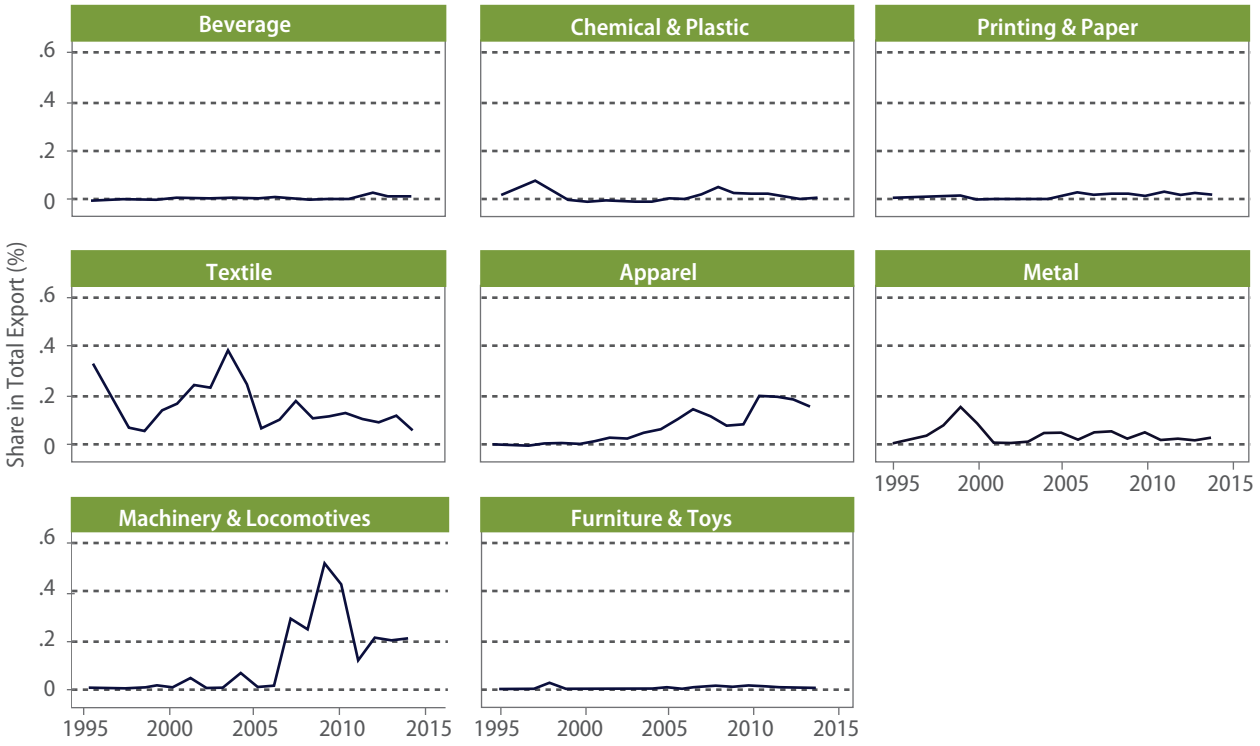


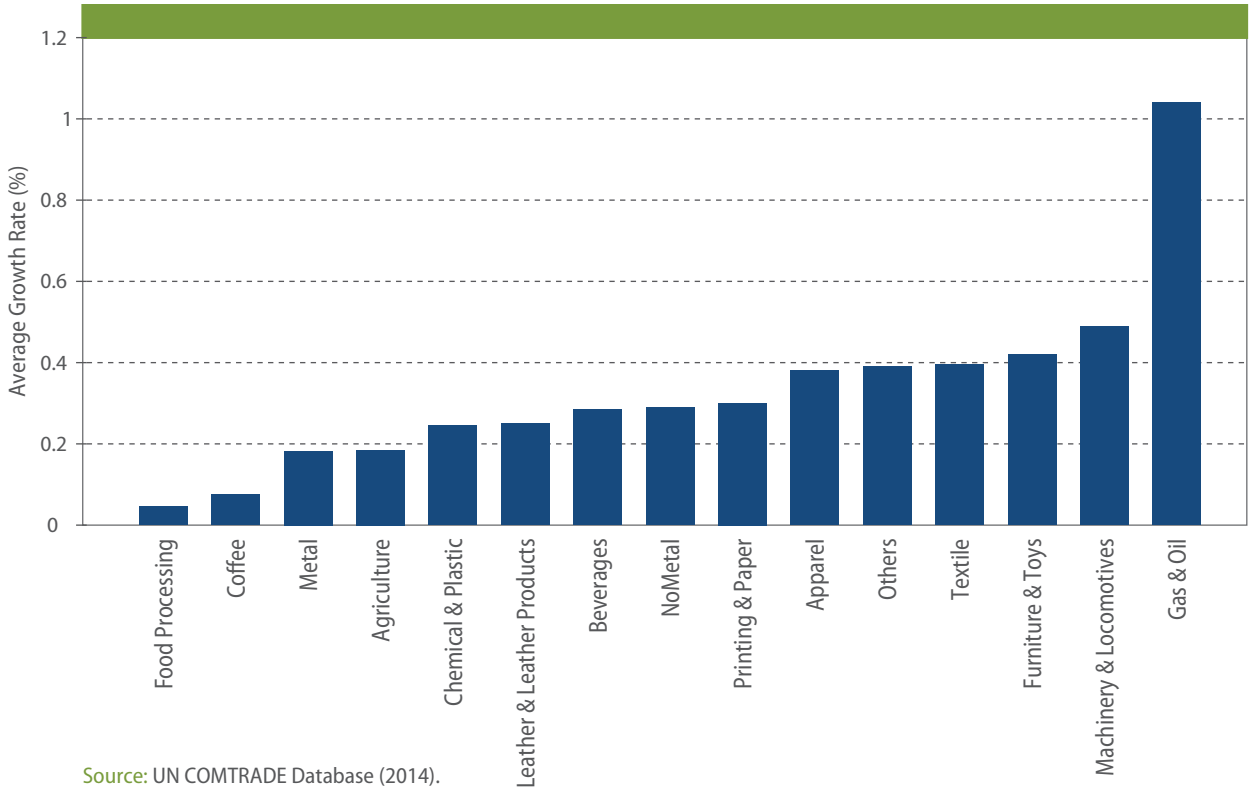
Figure 4b
Performance of Export Commodities (with at least 2% share)
Graphs by export-category



Source: UN COMTRADE Database (2014).

Figure 5

Annual Average Growth Rate of Export Earnings in USD by Major Categories (1995-2014)



Source: UN COMTRADE Database (2014).

least to total export earnings. These manufactured exports could benefit from an aggressive capacity expansion.

5.3 Growth in the Extensive Margin

Based on UN-COMTRADE data, Figure 6 indicates that the number of 6-digit Harmonised System (HS) export items in Ethiopia doubled from about 45 in the late 1990s to about 90 products in 2009. This suggests that the rapid growth in total export earnings has also been accompanied by expansion of the extensive margin. This is consistent with Imbs and Wacziarg (2003) who show that the process of economic development involves building productive capacity in a growing number of products, rather than specializing in a narrow range of products as implied by traditional trade theory.

Figure 6

Number of Six-Digit (HS) Export Commodities

Source: UN COMTRADE Database (2014).

6 Financing domestic investment

6.1 Credit to the Private Sector

LDCs are often characterized by low domestic savings and underdeveloped financial institutions. As shown earlier in Figure 1, the domestic savings rate in Ethiopia declined from 15% of GDP during the 1980s to about 12% during the 1990s. Savings increased above 15% of GDP only after 2010. It is evident from Figure 1 that movements in aggregate investment were closely correlated with the savings rate up until the late 1990s, suggesting a binding constraint on investment imposed by low domestic savings. Since the year 2000, however, the gap between domestic investment and savings widened substantially. While domestic investment doubled from 20% of GDP in the early 2000s to 40% of GDP in 2014, the increase in domestic savings was rather muted. It is clear that foreign aid (including concessional loans) has been playing an increasingly important role in domestic investment finance.

Recent studies have examined developments in the Ethiopian financial sector and the private sector's access to credit (IMF, 2013; Zewdu, 2014; World Bank, 2015). These studies highlight the fact that the Ethiopian financial sector remains closed to foreign banks and that the quality of its services compare poorly with respect to other African countries. There are about 16 privately owned commercial banks as of now, accounting for less than 30% of the sector's financial assets. The state-owned Commercial Bank of Ethiopia (CBE) overwhelmingly dominates the market. Private banks function under stringent financial regulations that restrain financial intermediation. The government justifies strict regulations on the grounds of financial stability.

The market dominating CBE has dedicated almost all of its lending efforts, as a matter of policy, to a growing number of public infrastructure projects and expansion of state-owned enterprises.[3] State-owned banks thus have limited financial resources for lending to the private sector. While individual investors can borrow from private banks, the latter are constrained by high liquidity and reserve requirements as well as single-borrow limits. According to Zewdu (2014), private banks contributed to 34% of total credit supply in 2011-12, down from a 49% share in 2004-05. Since 2011, a new directive of the National Bank of Ethiopia (NBE) requires private banks to set aside 27% of any loan provided to private borrows for purchasing NBE bonds. The idea is that funds raised in this manner will be allocated to the Development Bank of Ethiopia (DBE) for on-lending to priority sectors.

In addition to government interventions that reduce credit supply to the private sector, the latter's demand for credit is also curtailed by collateral requirements and relationship lending practiced by private banks. Private banks impose high collateral requirements (as high as 230% of the loan) making access to credit very difficult, if not impossible, particularly for SMEs (World Bank 2015). Private banks also rely on relationship lending in screening loan applications instead of using a credit rating system. It is assumed that the practice of relationship lending has become more prevalent as the size of loanable funds declines due to the above mentioned policy conditions. The combined effect of excessive regulation on private banks and the preoccupation of state-owned banks in lending to the public sector has resulted in a continuous reduction of domestic credit to the private sector from 19% of GDP in 2004 to about 11% in 2011 (World Bank, 2015). Ethiopia seems to be unique in this regard as no other African country exhibits a declining trend in credit to the private sector. The African average for outstanding credit to the private sector in 2011 is about 23 of GDP (World Bank, 2015). The trend in credit supply to the private sector is entirely consistent with the decline in private investment to GDP ratio since the early 2000s, which however showed some recovery in 2013 and 2014.

3 This pattern of financial resource allocation is quite similar to the Chinese experience except that domestic savings rates and private investment rates are much higher in China

5.2 Foreign Aid Flows

While Ethiopia, like most other developing countries, experienced a decline in official development assistance (ODA) during the late 1990s, it has been one of the largest recipients of aid since 2000. Real net ODA quadrupled to $4bn in 2014 relative to aid flows in 2001. In the meantime, the country's aid-dependence has come down slightly from about 25% of GDP during the late 1980s and early 1990s to about 18.5% during 2000-2009, and to 15% of GDP during 2010-2014. Table 4 also reveals that domestic investment in Ethiopia has been increasing faster than aid flows to the country, as a result of which the percentage of domestic investment financed by foreign aid declined from 50% during 2000-04 to about 29% during 2010-14. Given that most of the increase in domestic investment is driven by public investment in infrastructure, it is not surprising that the government also resorted to borrowing from the domestic banking sector in addition to using aid for investment purposes. This is reflected in the sharp increase in domestic credit to government as percentage of GDP, while the GDP share of lending to the private sector shrank. These developments suggest that credit constraints for the private sector in Ethiopia go beyond the conventional information asymmetry problem.

The preceding discussion underscores that while Ethiopia's productive capacity is growing at a faster pace, it is largely driven by the ability of the public sector to invest in a wide range of programs and projects simultaneously. On the other hand, the private sector is experiencing formidable financial constraints, created directly and indirectly by public investment programs, to capture and benefit from investment opportunities. Assessments of growth prospects by the World Bank and the IMF also underscore that the rapid economic growth over the last decade may prove harder to sustain if the private sector continues to be starved of bank credit. A challenge for the Ethiopian government is striking a balance between the much needed public investments in infrastructure and the ability of the private sector to effectively utilize the infrastructural services. Currently, the aggressive public investment has not attracted yet private investment primarily due to credit constraints. Obviously, increased aid flows to the public sector may ease the state's demand for domestic credit. The other option is for donors to find ways to increase credit for the private sector.

Another interesting development in investment finance is the government's effort to raise funds from international financial markets. In 2014, the Ethiopian government issued 10 year bonds for the first time and raised about 1$billion. This development set a new trend as the investment in infrastructure and growing export orientation boosted investors' confidence on the creditworthiness of the Ethiopian economy.

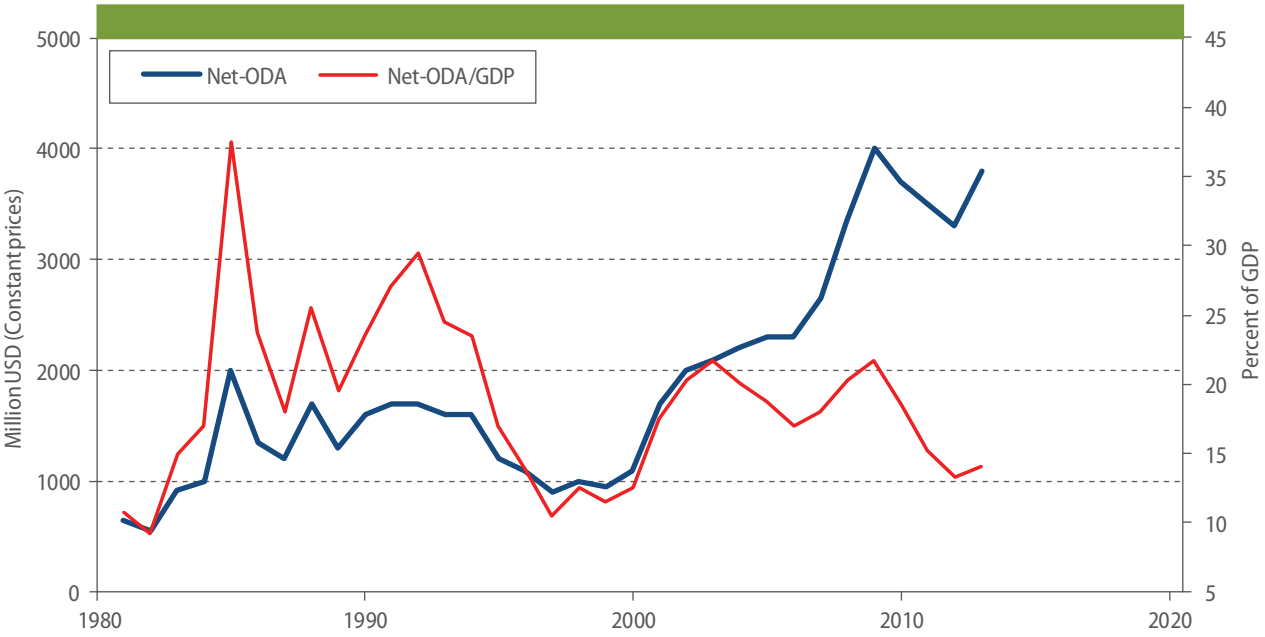
Table 4

Net Flow of ODA to Ethiopia

Year	Net Flow of ODA (Million USD)		ODA/GDP	ODA/Investment	ODA per capita
	Current Prices	Constant Prices			
1980-84	285.0	777.5	13.0	18.3	7.5
1985-89	734.0	1520.0	24.6	34.3	16.8
1990-94	1100.0	1640.0	25.2	62.2	21.0
1995-99	716.0	1024.0	12.7	44.3	11.9
2000-04	1298.0	1820.0	18.2	50.1	18.6
2005-09	2720.0	2940.0	18.9	44.3	33.7
2010-14	3525.0	3575.0	14.9	28.6	39.1

Source: World Development Indicators (2015)

Figure 7
Net ODA to Ethiopia



7 Investment in human capital

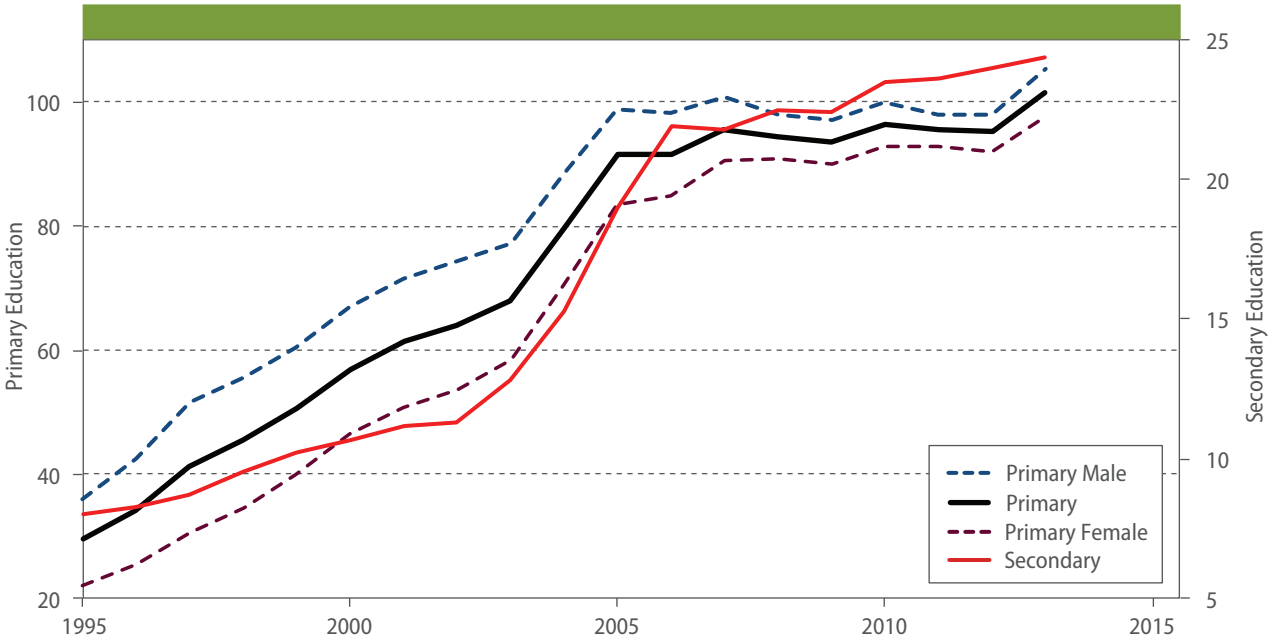
7.1 Primary and secondary education

The most important among the productive resources in any country is its workforce and the level of its human capital. In this regard, Ethiopia has a long way to go, even by the standards of other low-income countries. According to the 2014 Human Development Report, the adult population in Ethiopia has only 2.4 years of schooling, which is 50% lower than the average for Sub-Saharan Africa (SSA), and nearly 2 years less than the average for low-income countries. However, the expected years of schooling for children of school-entry age, the second measure of access to knowledge in the HDI, shows significant improvements from 2000 to 2013. According to this index, children of school-entry age in 2013 are expected to attain 8.5 years of schooling as adults, showing a 100% increase since 2000. The expected attainment is based on the assumption that the prevailing age-specific enrolment rates would remain unchanged throughout a child's life. Improvement in expected years of schooling reflect the rapid increase in primary school enrollment in recent years. This trend may allow Ethiopia to nearly eliminate the gap in the educational attainment of its younger generation with respect to other SSA and low-income countries. The expected years of schooling for children of school-entry age in SSA and low-income countries in 2013 were 9.7 and 9.0 years, respectively.

Using data from several issues of the Education Statistics Annual Abstract prepared by the Federal Ministry of Education, Figure 8 shows rapid expansion of access to primary education over the last decade. In fact, gross primary enrolment rate increased from about 33% in 1995 to 100% in 2014. Most of the increase occurred between 1995-2005 with enrolment staying above 95% since 2005. Figure 8 also shows that the gender gap in primary education has declined significantly. In the meantime, secondary school enrolment rate increased from less than 10% in 1995 to about 25% in 2014. Howver, improvement in secondary education has slowed down since 2006, which is a cause for concern given the low enrolment rate at the secondary level. Secondary school enrolment rate in Sub-Saharan Africa is estimated to be 41.2% in 2012, according to the World Bank.

Figure 8

Gross Enrolment Rate in Primary and Secondary Education in Ethiopia



Source: Ministry of Education, Federal Government of Ethiopia.

Better prospects of educational attainment for the youth are extremely important for sustainability of the recent growth momentum. Actions taken by the government and its development partners are broadly consistent with this recognition. Government spending on education increased from 14% of total government budget in 1995-96 to about 24% in 2011-12. The GDP share of the government's education budget also increased from 2.5% in 1995-96 to 4.5% in 2000, and remained at about 4% until 2012. Given the decline in total government expenditure from 27% of GDP in 2007 to 17% of GDP in 2012, there appears to be strong commitment to investment in human capital.

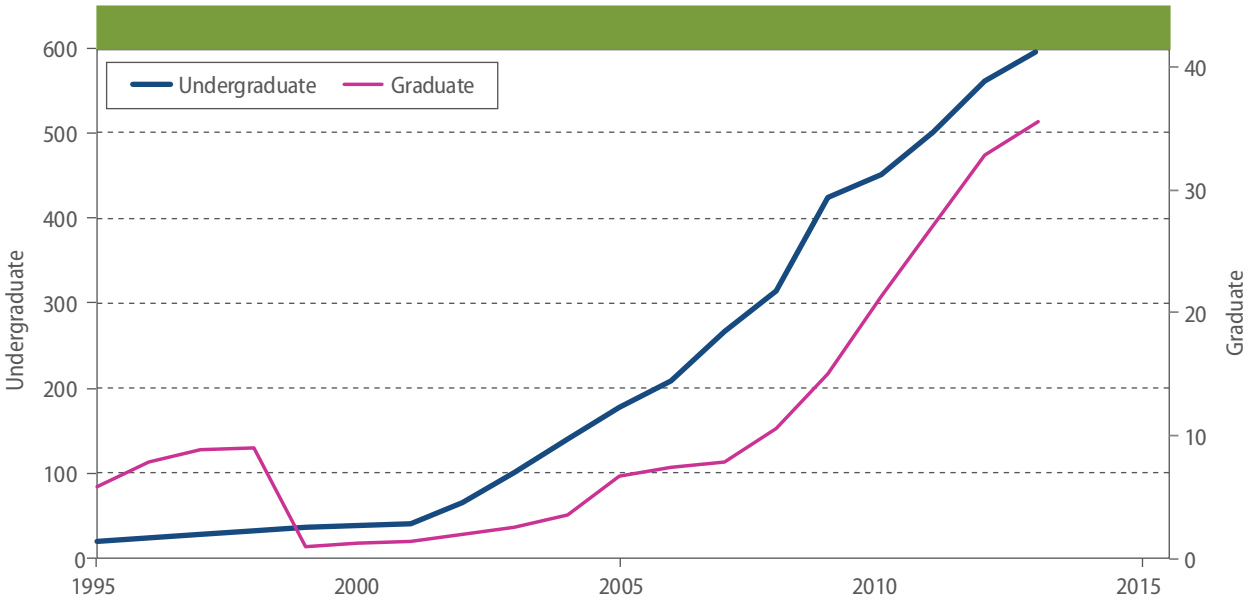
7.2 Higher education

In terms of higher education, enrolment numbers remained very low and relatively stable during 1995-2005 while enrolment in primary and secondary schools increased sharply. It was only after 2005 that enrolment in tertiary education started to rise. Figure 9 shows that enrolment in undergraduate programs was far below 100,000 students per annum until 2003, climbed to 300,000 in 2008 and reached 600,000 in 2014. Similarly, less than 10,000 students were enrolled in graduate programs (mainly master's degrees) until 2007, with a slight contraction in the late 1990s. Although graduate enrolment is still very low, it increased to about 33,000 students in 2014, representing more than threefold increase compared to 2008. Women account for about 30% of enrolment in higher education with very little change over time.

The strong expansion of tertiary education since 2005 is a result of deliberate education reform measures in 2003 (Saint, 2004). These reforms addressed not only the supply but also the management of higher education and the composition of academic programs. There were only two public universities and seven colleges in Ethiopia in 2000. The number of public universities increased to 8 in 2003 and to 32 in 2014, showing dramatic and unprecedented increases in higher education. The government plans to add 10 more universities by the end of the 2nd GTP. There are also several colleges offering two-year diploma programs as well as teachers' training

Figure 9

Enrolment in Tertiary Education ('000)



institutions. Since the late 1990s, the government has also allowed private sector participation in higher education, which in recent years accounts for 30% of total enrolment. Private higher education institutions provide training programs that are high in demand such as accounting, business administration, information technology and nursing, mostly at the diploma level. Some of these training programs are predominantly offered by private colleges making significant contribution to the government's objective of expanding higher education.

The sharp increase in the number of public universities in a short period of time and the opening of private colleges has important implications on the quality of higher education. Most of the new universities have very few instructors at the Ph.D. level and lack the requisite teaching materials and inputs. To ensure that the rapid expansion of higher education does not compromise the quality of education, the government established the Higher Education Relevance and Quality Agency (HERQA) in 2003. Higher education institutions have also been given greater autonomy under the recent education reform program, allowing them to choose their leaders and respond to market demand in designing academic programs. This is extremely important to increase hiring and retention rates of qualified faculty staff, expecially considering the experience under the Derg regime in the 1980s, during which hostile interventions in university matters and censorship led to a massive brain-drain, depriving universities of their highly trained and experienced scholars.

As compared to primary and secondary education, access to tertiary education raises important equity concerns (Saint, 2004). A large majority of students enrolled in public universities come from urban areas whose parents are relatively more educated. Before the 2003 education reforms, public universities did not charge tuition fees and provided students with free food and accommodation. Government subsidy for higher education was thus strongly biased in favor of urban dwellers who account for less than 20% of the total population. Since 2003, the government has introduced a graduate tax to recover the cost of food and housing and in an effort toto expand higher education while addressing equity concerns. Since the new universities are mainly located in regional states, they are expected to improve accessibility of higher education to broader sections of society.

As Ethiopia moves toward export-oriented manufacturing, the demand for educated labor force is expected to rise. In this regard, the rise in educational attainment at various levels is encouraging and the government's budgetary commitment to education may facilitate the economic transition toward increasingly advanced manufacturing industries. Currently the country relies on natural resource endowments (land, water, livestock and cheap labor) and better infrastructure would both attract FDI and foster industrial progress.

8 Conclusions

The Ethiopian economy has been growing rapidly since 2000 and long-term plans are under way that may lift the country to a lower middle-income status by 2020. A major driving force behind this remarkable achievement is the developmental state, which mobilized resources for investment in economic infrastructure and human capital while harnessing some of the country's natural resources.

The paper highlights some of the weaknesses that need to be addressed to sustain the strong growth momentum. Perhaps the most important of these concerns is the relatively weak private investment rate, which in theory is supposed to rise rapidly with improvements in infrastructural services and strong aggregate demand. In addition to critical problems with access to credit, the private sector faces several challenges including access to land, high and at times arbitrary taxes on small firms, and inefficient legal systems for contract enforcement. An improvement in the transparency and efficiency of these institutions is crucial for market competitiveness and sustainable growth.

The second concern, also related to private investment, is the rate of expansion of the manufacturing sector. The share of manufacturing in GDP is far below the African average and there is apprehension about the viability of the current strategy to achieve the GTP objectives. Currently the focus seems to be on large FDI and state-owned firms without commensurate attention to the role of the domestic private sector in manufacturing. While FDI flows to the manufacturing sector is growing, owing that partly to the establishment of industrial parks, its total magnitude remains small. Moreover, it is yet to be seen if multinational companies will have a positive spillover effect on the productivity of local firms as they tend to be confined to industrial zones where only a few domestic firms are located. Similarly, the expansion of the sugar sector is left to the Sugar Corporation and the recurring concern about the inefficiency of state-owned companies may arise. As of now there is no indication whether nor when the government intends to privatize the sugar factories or incorporate private ownership.

The third major concern is the structure and development of the financial sector as an instrument for building productive capacity. The limited number of private banks, the stringent rules and regulations under which they operate, and the high collateral requirements they require, are undermining the allocation of credit to domestic investors while the market dominating state-owned banks credit primarily to the state and state-owned enterprises. Studies show that better access to credit may increase private investment in manufacturing and speed up the attainment of the objectives set in the GTPs. Financial sector reforms, as well as efforts that reduce the government's competition with the private sector for loanable funds, including more foreign aid as well as borrowing from international financial markets, may relax credit constraints of the private sector.

Fourthly, the export of manufactured products has yet to show meaningful contributions to Ethiopia's export earnings. While important changes in the composition of the export basket have occurred recently, most of this change pertains to the restructuring of agricultural exports. Connecting local firms with foreign buyers, providing them with tailor-made business support and inserting them properly in global value chains, may help improve the export orientation of the manufacturing sector.

Finally, while access to tertiary education has expanded rapidly in recent years, it does not seem to

have generated highly trained instructors at the Ph.D. level Currently, this gap is being filled through collaborations with foreign universities who loan their faculty members to teach block-courses. While this might be a viable short-term solution, more aggressive efforts are needed to improve the human capital of the universities and their research capabilities.

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