



The Structure and Performance of the Ethiopian Manufacturing Sector

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Abstract

Although Ethiopia has emerged as one of Africa's fastest-growing economies, its manufacturing sector is still far from being an engine of growth and economic transformation. It currently plays a marginal role in employment creation, exports, and output, and falls short on stimulating domestic linkages. The sector is dominated by small firms and resource-based industries, low-value and low-technology products, and weak inter-sectoral and intra-sectoral linkages. The manufacturing sector's export orientation has been low and stagnant. Based on data and evidence from the past 25 years, the paper provides an in-depth analysis of the structure

and performance of the Ethiopian manufacturing sector and further explores the reasons behind the 'paradox' of the slow growth of industrial outputs and structural shifts. Since the mid-2010s, however, there are some promising signals that the manufacturing sector might be coming out of its doldrums and showing positive dynamics. The paper summarizes the growing challenges of building an industrial workforce and domestic capability, together with export capacity. The findings from this study show a bias for hope, as well as a potential structural transformation.

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The Structure and Performance of the Ethiopian Manufacturing Sector

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1. Introduction

Since the 2000s, Ethiopia has emerged as one of the fastest-growing economies in Africa. Nevertheless, Ethiopia's manufacturing sector is still far from being an engine of growth and structural change. The manufacturing sector plays a marginal role in employment generation, exports, output, and inter-sectoral linkages. In some ways, the structure and performance of the Ethiopian manufacturing sector mirrors the wider sub-Saharan African experience (Lawrence 2005). The Ethiopian manufacturing sector has had two distinct features: first, "... a low level of industrialization in terms of the sector's share in GDP, export earnings, industrial intensity, and competitiveness. Second, the industrial structure is dominated by small firms and resource-based industries (in particular the food industry) and [is] concentrated around the capital city" (Oqubay 2015: 66).²

Based on data and evidence from the past 25 years, the paper provides an in-depth analysis of the structure and performance of the Ethiopian manufacturing sector and further explores the reasons behind the 'paradox' of the slow growth of manufacturing outputs (especially manufactured exports) despite determined efforts through industrial policy. Although the performance of manufacturing has been unimpressive, the evidence does suggest that there may have been a turning point in the mid-2010s. There are some promising signals that the manufacturing sector might have begun to emerge from the doldrums. The paper presents this evidence, identifying signs of positive dynamics but also emphasizing the enduring weaknesses of the sector. In particular, the paper highlights the difficulties of building an industrial workforce, the weaknesses in domestic productive capability, and the very limited manufacturing export capacity. Nonetheless, I argue that there is evidence of nascent structural change. The paper's focus is on the structure and performance of the manufacturing sector. It focuses on explaining poor manufacturing performance and covers the past 25 years.

This paper is organised in five sections. The first section reviews the slow pace of manufacturing growth and patterns of industrial development in Ethiopia. The second section examines the structure of the Ethiopian manufacturing sector with a particular focus on firms' dynamics (growth of firms, firm size and ownership, agglomeration patterns, linkages, and

² Africa's share of global manufacturing was below 1 percent, while Asia and other developing economies accounted for 25 percent and 23.7 percent respectively in 2008 (UNCTAD-UNIDO 2011: 15). Africa's manufacturing value added (MVA) share of GDP was only 14 percent in 2003, with a decrease of 2 percent from 1965, the result of almost four decades of sluggish growth (Lawrence 2005, 2015). Moreover, the sector has been dominated by low-value, labor-intensive, resource-based activities and by small firms and the informal sector (Dinh, Palade, Chandra, and Cossar (2012).

manufactured value added and output). The third section explores the ‘paradox’ of slow industrial development, the intensifying structural constraints on Ethiopia’s structural transformation in recent years, and the key global structural pressures. The fourth section highlights the government’s recent policy responses to improve the performance of the manufacturing sector. There are now clear signs of dynamism in the manufacturing sector, which gives hope for the possibility of late industrialization in the early 21st century Ethiopia. The final section summarizes some of the key challenges and their policy implications.

2. Patterns of industrial development: acceleration but limited scale

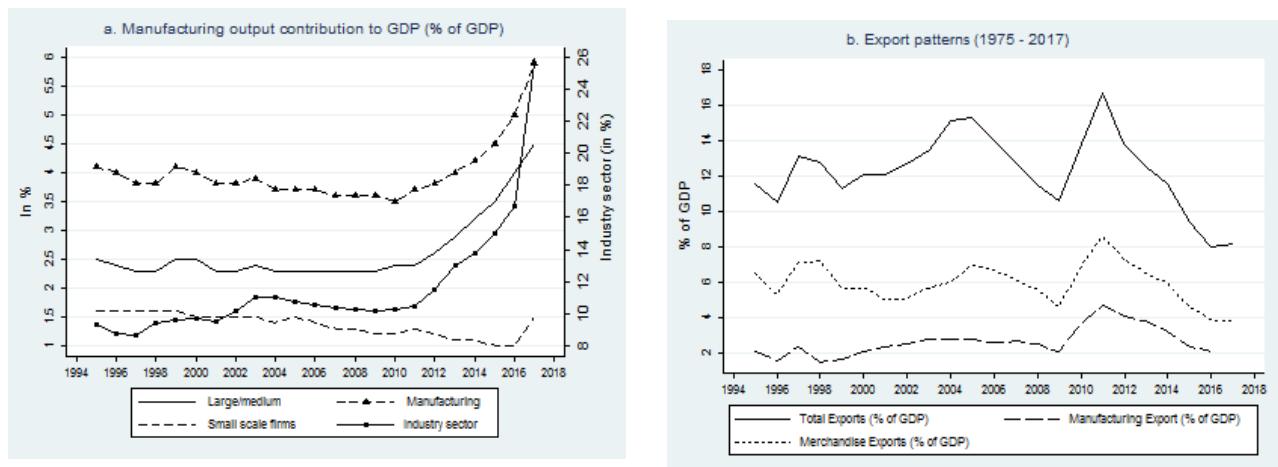
The wider industrial sector, and manufacturing within it, grew much faster after 2005. Thus, the annual rate of growth of industrial output doubled to nearly 20 percent by 2015–17, while manufacturing output grew by 10 percent a year from 2005 to 2010 and by 17.9 percent in 2015–17.³ Despite this acceleration, however, the level of industrialization remained low. Value added in manufacturing had only reached 6.4 percent of GDP by 2017, though value added in the wider industrial sector was by then up to more than 25 percent (NPC 2018: 8; NBE 2018b: 6).⁴ During the same period, the annual growth rate of the industrial sector almost doubled from 10.1 to 19.8 between PASDEP and GTP I period.

Nonetheless, in 2016/17 the net contribution of the manufacturing and industrial sectors to the 10.9 percent annual GDP growth rate rose to 1.1 and 4.4 percent respectively (see Table 1). This is much higher than the 0.4 and 1.1 percent that these sectors had respectively contributed to overall growth during the PASDEP period (2005/06–2009/10). By contrast, the net contribution of agriculture remained the same (at 2.5 percent), while that of the service sector dropped from 5.6 percent in 2006–10 to 4 percent of the GDP in 2016/17 (NPC 2018; NBE 2018). This suggests that the industrial sector may be evolving to become the primary driver of the economy for the first time in Ethiopia. However, further observation of this trend is necessary. Furthermore, this trend needs to be sustained for a longer period to have a greater impact.

³ This acceleration reflected the greater emphasis on industrialization in the government’s five-year plans, PASDEP (2005–10), GTP I (2011–14), and GTP II (2015–19).

⁴ Agriculture and services accounted for 36.3 and 39.3 percent respectively in 2016/17 (CSA 2018).

Figure 1 Growth patterns of manufacturing output and exports (percent of GDP)



Source: Author's computation based on CSA 1994–2017; ERCA 2018; NBE 2018b; NPC 2018

Despite the increase in manufacturing output, there has been no comparable growth in manufactured exports and employment. The share of manufactured exports in total exports remained less than 13 percent while total exports decreased from 12.7 to 7.7 percent of GDP during 2001 and 2016/17 (see Figure 1). Manufactured exports were characterized by low-value products, which were generated in the leather and leather goods, textiles and apparel, and meat industries, and which generally went to other low/middle-income markets. This may be compared to the traditional coffee and the new cut-flower exports, which accounted for 25 and 7.5 percent of total merchandise exports respectively in 2014–17, and a greater share of these exports were destined for higher income markets. The failure to increase manufactured exports as a share of total exports suggests limited structural transformation and the significance of the balance of payments constraint on growth through industrialization (Thirlwall 2013; Cramer, Sender, and Oqubay 2019; Lin and Monga 2019).⁵

Manufacturing employed 4.5 percent of the total workforce in 2013. Employment by the sector grew at an annual rate of 4.8 percent (similar to the 4.7 percent growth for total employment) between 2005 and 2013 (NPC 2018).⁶ Jobs in the construction industry tripled from 229,000 to 825,000. This has doubled the construction industry's share of total employment from 0.9 to 1.9 percent. Meanwhile, stimulated by expansion of public

⁵ Arguably, this intensifies the need to pursue structural change by raising productivity and export output in high-value agriculture and through the “industrialization of freshness” (Cramer, Sender, and Di John 2018).

⁶ The total active workforce increased from 24.9 million to 42.4 million between 2005 and 2013. The share of agriculture decreased from 79.8 to 72.7 percent, while construction doubled from 0.9 to 1.9 percent, and the service sector increased from 14.8 to 20.4 percent. The share of manufacturing employment remained the same, 4.5 percent, during this period.

infrastructure and favourable policies, value added in the construction industry increased from 11.1 to 27.7 percent between 2010/11 and 2014/15 and then slightly dipped to 22.85 percent in 2015/16–2016/17.⁷ Manufacturing industries related to the construction sector (such as the cement industry and other building materials) have also shown rapid growth and shifts in industrial structure (Oqubay 2015; CSA 2017).

3. The state and structure of manufacturing

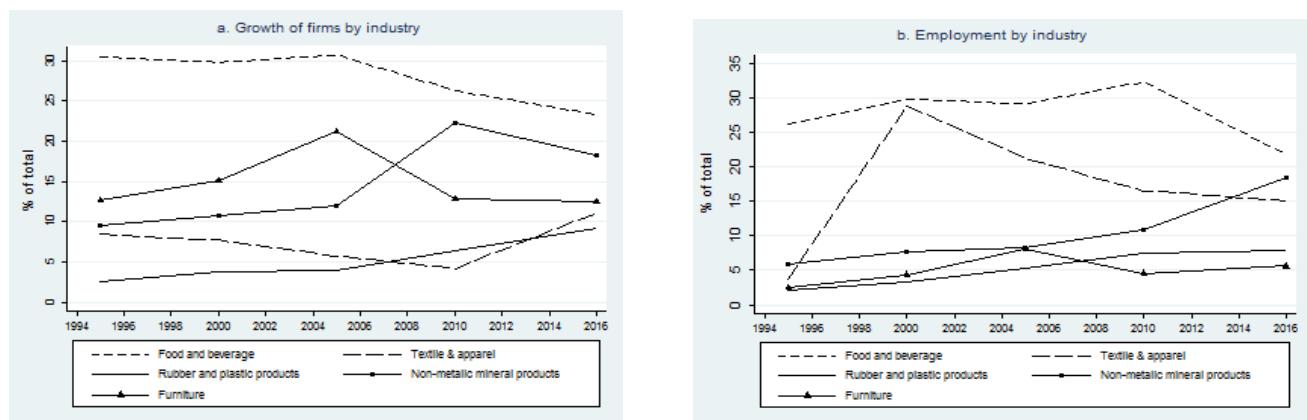
Growth of firms and employment

Drawing on the CSA's annual manufacturing surveys as well as on data from the National Planning Commission (NPC), ERCA, and the EIB, we review experiences in medium and large firms between 1995/96 and 2016/17. According to the CSA's classification, such firms are enterprises that employ ten persons or more.⁸ During this period, the number of such firms increased more than five-fold from 642 to 3,594. Likewise, total employment in these firms increased three-fold, with the biggest increase recorded between 2005/06 and 2015/16, while the average employment per firm nearly halved from 142 to 77 persons (see Figure 36.2). This last change in employment may be associated with the increased capital intensity of firms, intense pressure to improve productivity, and the shrinking of public enterprises that used to be overstaffed. Food products and beverages, other non-metallic mineral products, and apparel and textiles accounted for about 50 percent of these firms.

⁷ This may be linked to the scaling down of the housing development programme and the foreign exchange shortage that hampered imports of some building materials.

⁸ The CSA's firm classification has not changed, despite the shifts in manufacturing activities. The definition raises methodological questions and limits the analytical depth, as all medium and large firms employing above 50 persons fall under the same category.

Figure 2 Industrial structure: firms and dominant industries, 1995–2017



Source: Own computation based on CSA (1994–2017).

Manufacturing of other non-metallic mineral products grew fast between 2005 and 2010, while apparel and textile firms experienced rapid growth between 2011 and 2016, which arguably mirrors the government's sectoral focus.⁹ These three industries together accounted for 55.2 percent of total registered manufacturing employment in 2016, down from 68.4 percent in 1996, suggesting some diversification across manufacturing industries, though primarily among those producing for the consumer market. For instance, employment in food products and beverages declined from 26 to 21.7 percent, while apparel and textiles declined from 35.7 to 15.1 percent (see Figure 2). Employment in the manufacturing of other non-metallic mineral products tripled from 6.7 to 18.4 percent, consistent with the expanding construction sector.

There was also employment growth in production for new consumer markets (such as furniture, chemical and plastic products). This suggests that growth in income and private consumption were key demand drivers. Overall, 80 percent of enumerated wage employment in manufacturing was in food products and beverages, other non-metallic mineral products, textiles and apparel, rubber and plastic products, wood and wood products, furniture, and chemicals and chemical products.

⁹ This trend has continued in 2018, and the workforce in the apparel and textile sector increased to more than 100,000, mostly in new industrial parks (TIDI 2018). Other non-metallic mineral products include the manufacture of cement and lime, glass and glass products, lime, and concrete, cement, and plaster articles (CSA 2017 based on ISIC Revision 3.1).

Firm size

In 2014/15, 29 percent of medium and large manufacturing firms accounted for more than 90 percent of employment in manufacturing (computation based on CSA data). Moreover, these medium and large firms accounted for 75 percent of manufactured value-added output (NPC 2018). The economic history of advanced economies and East Asian latecomers confirms the prominent role of internationally competitive large firms and the significance of policies that focus on developing ‘national champions’ (Chandler 2004; Penrose 1959; Amsden 1989, 2001). China is also following a similar industrial policy by building globally competitive firms (Nolan 2014). Larger firms play a pivotal role because of their typically higher productivity and exploitation of economies of scale, their tendency to create high-paying stable jobs, their technological capability, and their ability to compete in the export sector.

However, one of the key characteristics of the Ethiopian manufacturing sector remains the numerical dominance of small firms (Dinh et al. 2012; Lawrence 2005). This is in part the result of the conventional policy prescription that African countries should focus on the ‘dynamism’ of micro and small enterprises and the informal sector. This approach is reinforced by a ‘small is beautiful’ romanticisation and the inflated valuation of the role of ‘individual entrepreneurship’ and self-employment in economic development.¹⁰ Another aspect of this confusion is the ill-defined concept of ‘the missing middle’, which is supported by neither theoretical nor empirical evidence (Hsieh and Olken 2014; Söderbom 2011).¹¹ Ethiopian medium and large firms accounted for three-quarters of manufacturing output. The lesson is that Ethiopia needs to develop larger firms and national champions that reinforce and complement the development of vibrant smaller enterprises, which are linked to large firms and global markets through sub-contracting and spin-offs, thereby harnessing inter-firm learning.¹²

¹⁰ On entrepreneurship promotion in Africa, see Poole (2016); on the limited extent to which micro-enterprises ‘scale up’ successfully, see White et al. (2017).

¹¹ Hsieh and Olken (2014: 89) highlight that “middle-sized firms are missing, but large firms are missing too.... although a large literature seeks to explain the ‘missing middle’ of mid-sized firms in developing countries, there is surprisingly little empirical backing for existence of the missing middle.” Söderbom (2011) highlights that there is a significant gap between firms employing above 50 and those below ten workers.

¹² Gebreeyesus et al. (2018) show that from a survey of 8,174 firms (in Addis Ababa and other major cities) 6 percent were linked to large domestic firms and 3.5 percent to FDI firms through sub-contracting. Moreover, about 77 percent of jobs were temporary.

Firm ownership

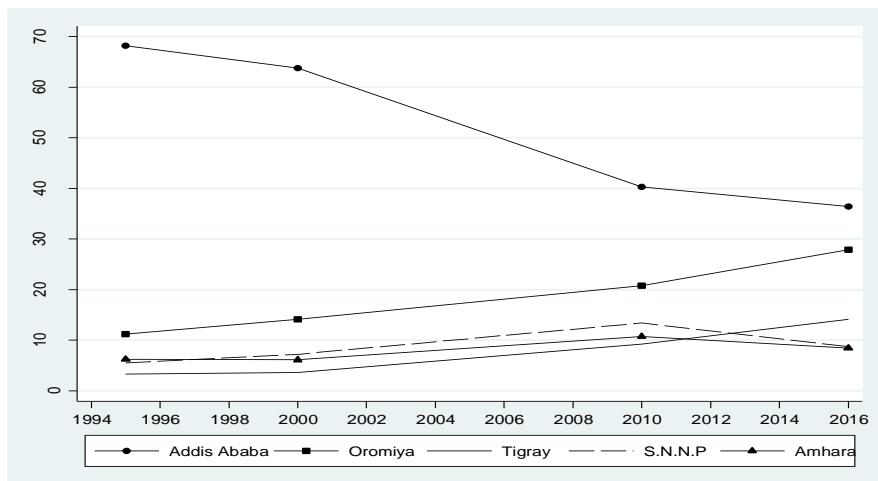
There have been shifts in corporate ownership as public enterprises were privatized and the government limited its participation to a few strategic areas. In 2014/15, the 141 public enterprises accounted for 4.5 percent of all firms but for 12.9 percent of employment and 28.6 percent of value added in manufacturing output. The number of public enterprises is expected to shrink further.¹³ Participation by foreign firms increased after 2011 and was estimated to account for 54 percent of capital outlay and employment (EIC 2018). The stock of manufacturing FDI between 2007/8 and 2016/17 rose to US\$14 billion (83 percent of the total FDI inflow), with more than 73 percent of this generated after 2011/12. The flow of domestic private investment into manufacturing has been slow, and especially marginal in export-oriented manufacturing.

Agglomeration patterns

Agglomeration and clustering enhance specialisation, inter-firm linkages, learning and innovation, and function on the basis of a combination of cooperation and competition (Marshall 1920; Jacobs 1969; Porter 1998; Oqubay 2019b). Agglomeration patterns exhibit both continuation and new trends: more than 64 percent of firms are concentrated around the capital, yet Addis Ababa has witnessed a sharp decline in the share of firms from 68 to 36 percent between 1995/96 and 2015/16. The highest increase in concentration of firms (from 11 to 28 percent) is in the Oromia region (primarily Addis Ababa-Adama corridor). A major increase from 15 to 31 percent was also observed in the Southern Nations, Nationalities, Peoples' Region (SNNPR), Amhara, and Tigray regions (see Figure3). This spread may be linked to the expansion of infrastructure and universities, increased urbanisation, and the emergence of hubs around the regional capital cities. The strategic location of industrial parks, and proximity to ports and railway networks are also likely to shape future patterns of agglomeration (Oqubay 2019b).

¹³ In 1989, public enterprises accounted for 50 percent of firms and 93 percent of total employment in the manufacturing sector.

Figure 3: Geographic concentration of firms, 1994–2017



Source: CSA (1994–2018)

Imported-input dependency

The ratio of imported inputs to total raw materials for the overall manufacturing sector has been 0.50, mostly uniform during the period of 1995/96 to 2015/16, underscoring the weak backward linkages in Ethiopia's manufacturing sector, despite the unevenness across industries. Imported-input dependency ratio increased by 75 percent in the leather and leather goods industry; by 57 percent in the manufacturing of food products and beverages; and by 38.5 percent in textiles and apparel production, suggesting weak backward linkages with agriculture and the weaknesses of existing industrial policy in developing verticality in these sectors (CSA 1994–2017). Nevertheless, the manufacturing of other non-metallic products enjoyed a 55 percent decline in the imported-input dependency, suggesting some improved domestic linkages. The imported-input dependency ratio also fell in fabricated metal products (a reduction of 53 percent), and more modestly in rubber and plastic products and basic iron and steel.

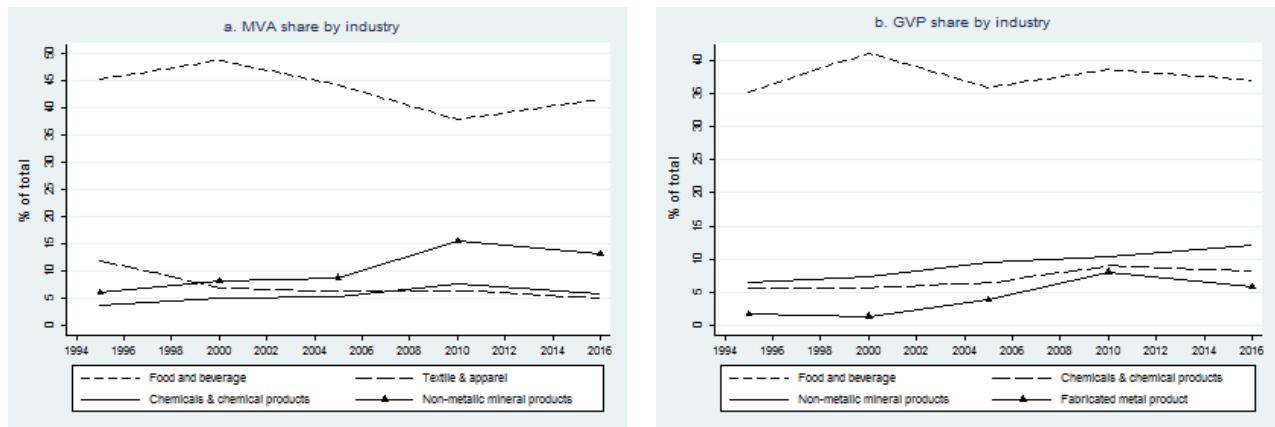
Manufactured value added (MVA) and gross value of production (GVP)

Food products and beverages, non-metallic mineral products, and apparel and textiles accounted for about 61 percent of manufacturing value added throughout 1995–2016, with no fundamental shift, although there were uneven shifts across specific sectors. Of particular importance, manufacturing value added in export-oriented industries (such as leather and leather goods, and textiles and apparel) has remained very low (see Figure 4).

Four sub-sectors drove the growth in the gross value of production in manufacturing after 2005: food products and beverages, other non-metallic mineral products, chemical and chemical

products, and textiles and apparel. There was, nonetheless, some diversification, with other non-metallic mineral products, chemical and chemical products, and rubber and plastic products rising from 15.9 to 28.4 percent of manufacturing production. Textile and apparel production, together with leather and leather products, shrank from 24.2 to 8 percent (CSA 1994–2017).

Figure 4 Sectoral share of MVA and GVP, 1995–2017



Source: Own computation based on CSA (1994–2017).

Manufacturing activities more associated with exporting—like textiles and apparel and leather and leather goods—have declined in significance within the manufacturing sector in terms of employment share, share of gross value of production, and share of manufacturing value added. At the same time, domestically oriented activities—above all, cement and related products—have increased their contribution to output, value added, and employment. This emphasises the weakness of industrial policy in generating dynamic growth in export-oriented industries.

In sum, the industrial structure of Ethiopian manufacturing has not changed dramatically. This may appear disappointing given the commitment by the Ethiopian government to an active industrial policy. Nonetheless, there are important departures and emerging shifts in terms of the contribution of the manufacturing and industrial sector. For instance, in the apparel and textiles industry the economic drivers (for instance, the role of FDI), and employment (with very fast growth since 2015) have been changing. The cement industry has undergone fundamental shifts during 2005–15. Driven by a strong domestic market, the brewery industry has also undergone considerable expansion.

Table 1 Summary of key indicators on manufacturing growth

1) Annual growth rate of output (%)			
	2005/06–09/10 PASDEP	2010/11– 14/15 GTP I	2015/16–16/17 GTP II
Manufacturing	10.0	15.1	17.9
Construction	11.1	27.7	22.85
Industry	10.1	19.8	19.65
GDP	11	10.1	9.45
2) Contribution to annual GDP growth rate (% of total) (a)			
Manufacturing	0.4	0.6	1
Industry	1.1	2.3	3.1
GDP	11	10.1	9.45
Note:			
3) Exports, capital formation (% of GDP)			
Exports-total (% of GDP)	12.5	12.8	7.85
Imports—total	32.5	30.3	25.75
Capital formation	25.6	36.1	38.75
Domestic saving	9.8	19.3	23.5
Private consumption	79.5	71.5	65.75
Government consumption	10.7	9.2	11
	2014/15	2015/16	2016/17
Manufacturing exports (of GDP)	0.6	0.5	0.5
Merchandise exports (of GDP)	4.7	4	3.6
4) Employment annual growth rate (%)			
	1998-2005	2005-2013	1998-2013
Manufacturing	5.4	3.0	4.8
Mining	58.9	14.9	68.3
Construction	13.5	10.6	17.4
Industry Total	8.68	5.2	8.2
Total	3.8	4.4	4.7
5) Sectoral employment (% of total)			
	1998	2005	2013
Manufacturing	4.4	4.9	4.5
Mining	0.1	0.3	0.4
Construction	0.9	1.4	1.9
Industry	4.5	6.6	6.8

Source: Compilation based on ERCA (2018); CSA (1994–2017); NBE (2018b); NPC (2016, 2018); and National accounts (MOFED and NPC 2017).

Note: The manufacturing and industry sectors contributed 1.1 percent and 4.4 percent respectively. Services and agriculture contributed 4 and 2.5 percent.

4. Explaining the performance of Ethiopian manufacturing: A paradox?

A quandary for policymakers and researchers is the weak performance of the Ethiopian (and sub-Saharan African) manufacturing sector, which has been slow to transform and become an engine of structural change, in spite of Ethiopia's active industrial policy.¹⁴ There have been three common arguments to explain the weak performance of manufacturing throughout sub-Saharan Africa in recent decades, none of them wholly satisfactory (Lawrence 2005). One—the ‘dependency’ argument—implies that resources flow from poor to rich economies at the expense of the former and that developing countries cannot industrialize in the new global economic order. The main dependency is on advanced or even intermediate technology, under the domination of global corporates that determine where investment goes. This view suggests that international capital in advanced economies is tightly controlled by global value chains, run in the interests of ‘systems integrator’ producer or buyer firms in advanced economies.

This perspective rejects the importance of attracting FDI and is wary of integration into the global economy, anticipating at best that African economies are consigned to a restricted, dependent position in international production and that a weak domestic bureaucratic bourgeoisie, in the absence of a strong domestic capitalist class, will merely kowtow to the interests of foreign capital.¹⁵ On the other hand, this perspective generalizes that protection and import substitution are required. Such a view rejects the possibility (and evidence) that latecomers can catch up on the basis of latecomer advantage, as suggested by the economic history of late industrializers. Empirical evidence from the late twentieth and early twenty-first centuries, above all from east Asian (including China) and increasingly south-east Asian economies, shows that developing countries can succeed in industrial catch-up. China has successfully inserted itself into the global production and market network and is upgrading its position through global exports, FDI inflows, and technological knowhow (UNCTAD 2013; Rodrik 2012; Dicken 2015; Nolan 2014; Lin and Oqubay 2019).

Another view that gained currency in the 1990s (backed by international donors) was the neopatrimonialism perspective, which argues that African countries cannot industrialize or industrial policy cannot succeed because of inherent backwardness, bad governance, and patronage. This pessimistic view portrays lack of rapid industrialization as an ‘African

¹⁴ On manufacturing as engine of structural change, see also Kaldor (1967), Thirlwall (2013), Pasinetti (1981, 1993).

¹⁵ See Hymer (1976: 212) on hostility to direct investments in ‘underdeveloped’ countries.

problem'.¹⁶ This argument lacks a theoretical basis, while empirical evidence from Ethiopia and elsewhere prove the opposite (UNECA 2016).

A more dominant conventional explanation championed by the IFIs and many neoclassical economists identifies an excess of state interventions, ‘policy syndromes’, and price distortions as the culprit for slow growth and lack of structural change. Proponents of this view have seen the answer to Africa’s industrialization and export promotion as economic liberalization, minimal role of the state, and dismantling of the state apparatus and industrial policy. In the 2000s and 2010s, supporters of this argument promoted privatization of SOEs, liberalization of the banking sector, and reduction of public expenditure (said to ‘crowd out’ the private sector: IMF 2015) in Ethiopia. But as observed in many countries in Africa and elsewhere, the promise of unbridled liberalization failed to materialize. Instead, unbridled liberalization has often led to ‘premature’ deindustrialization and difficulties in sustaining rapid growth.

A more convincing explanation, at least for the recent Ethiopian experience, has to begin from the specifics of the country’s context. Any realistic explanation has to take into account the long civil war that devastated an already frail economy and derailed economic development, especially when combined with the neglect of agriculture under the Derg (see above). The manufacturing sector in Ethiopia accounted for less than 5 percent of GDP while Africa’s average level was above 10 percent in the 1960s (UNCTAD-UNIDO 2011; Lawrence 2005; Dinh et al. 2012). The volatile geopolitics of the Horn of Africa had continued to impose constraints on Ethiopia’s economic development and war with Eritrea in the late 1990s further complicated the geopolitical reality. These constraints—a weak starting point even by comparison with much of the rest of Africa and a difficult regional political environment—are significant; and undoubtedly mean that the challenges of industrial policy in the twenty-first century are particularly acute. But they are insufficient as an explanation for the disappointingly slow industrialization of recent years.

Unlike in many countries, Ethiopia’s industrial policy has been relatively coherent rather than unplanned. An initial focus on rapid growth through agricultural revival and expansion ought to have been conducive to the subsequent growth of manufacturing. Gross fixed capital formation increased from 26.6 to 39 percent, while gross domestic savings rose from 9.3 to 24.1 percent between 2001/02 and 2016/17. The focus on infrastructure development and education (especially the expansion and reform of vocational and technical

¹⁶ See Oqubay (2015: 249–52).

education schools and universities) was vital for the expansion of manufacturing. The industrial development strategy and successive post-2005 five-year plans focused on specific priorities. For instance, the expansion of productive capacity through expansion of small enterprises in combination with medium and large firms, and active promotion of FDI and the Ethiopian state's investment in strategic industries to deepen structural transformation were among these priorities. But still the performance has been underwhelming.

Despite what is arguably an unusual degree of coherence in industrial policy, the design and execution of this policy has continued to exhibit many weaknesses. There was inadequate application of reciprocal control mechanisms to enhance performance and change the behavior of industrialists across sectors. Incentives had been partially misused with little monitoring or discipline, especially in the services sector, such as the hotel industry. Weak capabilities in project design and implementation, as well as misguided procurement practices, have hobbled some strategic large-scale projects, such as sugar and fertilizer production, and this in turn has made it more difficult to achieve import substitution and export earnings targets in GTP I and II.¹⁷ Furthermore, industrial policies have been uneven across selected key sectors and often not wholly based on well-researched industry-specific studies.

Much research remains to be done fully to understand what has gone wrong with industrial policy in Ethiopia. In addition to these factors, it is worth highlighting a few other key issues, beyond the scope of this paper, that appear relevant. First, it may be that there is too little shared appreciation among officials of the scale of the challenge of catching up with advanced industrialized economies: beyond cutting red tape here or tweaking incentives there. The challenge of building a capitalist society was a fundamental one that required productive capabilities to be generated among enterprises, stimulating development of an industrial or capitalist wage labor force, and inculcating an understanding of the dynamics of the global economy among policymakers. Second, the reforms undertaken during the initial phases after the end of rule by the Derg in 1991, were relatively 'soft', i.e., the measures taken to revive agriculture, to develop a more sustainable approach to macroeconomic balances, and so on were not sufficient.

However, subsequent policy efforts focusing on structural change have pitched officials into more difficult policy territory, and at a time when there has been a greater proliferation of contending interest groups. Third, the fundamental significance of generating foreign exchange, as part of broader structural change, employment creation, and poverty reduction,

¹⁷ NPC (2016) and UNDP (2017).

was not necessarily something equally appreciated at all levels of government. There was evidence of tension between this objective and other ideas and interests at regional levels and within parts of the federal government. Fourth, the government made a string of policy experiments, some more successful than others, but it had not yet distilled these further to work out how best to overcome the tilt of incentives that still favored domestic investment in relatively low-productivity commerce and services sectors. This requires the selection and enforcement of specific policy interventions, which depend on monitoring capacity, on the focus on the generation of foreign exchange, linkage stimulation, and employment-generating capacity. As suggested earlier in this paper, part of the explanation for the relatively disproportionate outcomes thus far of Ethiopia's industrial policy in some export-oriented sectors may lie in the very small number of large-scale, export-oriented Ethiopian firms.

5. A bias for hope: Late industrialization in the early 21st century

Achieving *Vision 2025*, a plan to make Ethiopia the leading manufacturing hub in Africa, requires an annual manufacturing growth rate of 25 percent and an increase in manufacturing's share of GDP to 20 percent by 2025.¹⁸ The evidence above suggests the economy may fall short of this ambitious target. And as discussed, there are plenty of reasons to be sceptical about the prospects for success. Nonetheless, the evidence also suggests that Ethiopia's commitment to structural transformation in recent years may be starting to bear fruit. The government has also developed the beginnings of a sharper policy focus. First, it encouraged investment in new productive capacity, especially in priority manufacturing activities (in light manufacturing, basic wage goods and import substitution, and strategic new industries such as new energy). Light manufacturing industries are acknowledged to be export oriented, labor intensive, linked to agriculture, and involve tradable goods.¹⁹

Second, a new approach to hub development, agglomeration, and clustering was deemed essential, with the focus on building sustainable, specialized parks that apply a plug-and-play model.²⁰ The major departure occurred during GTP II when the government decided on a comprehensive industrial hubs strategy, with the aim of developing 25 industrial parks, of

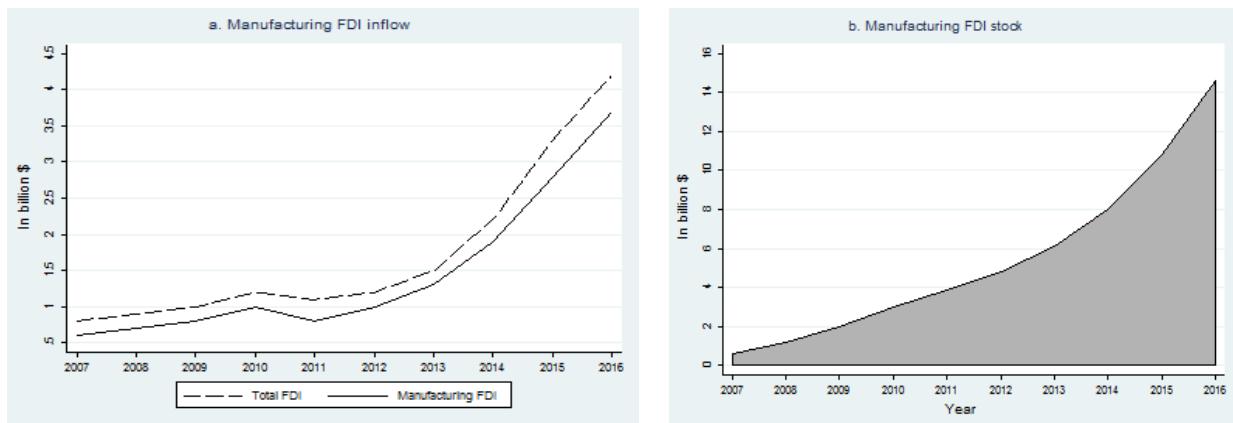
¹⁸ See the industrial development plan of GTP II (Ministry of Industry, 2017, unpublished).

¹⁹ See Dinh et al. (2012).

²⁰ Green industrialization and climate change, understanding and insertion into the global value chain, and accelerated technological advances and increased servicification are important international trends that should be incorporated into the design of industrial policies. See also UNCTAD (2013); Schmitz (2007); Rodrik (2012); World Bank (2018); and ADB (2017).

which some were operational by December 2018.²¹ Ethiopia's unique model of hub development and industrial parks has been based on systematic learning (from South Korea, Singapore, China, Vietnam, Mauritius, Nigeria, and a review of the brief experience in Ethiopia) (Oqubay 2019b). Learning by doing was supported through piloting and experimenting at Hawassa Industrial Park (FDRE 2015; Llobet and Mihretu 2017; Oqubay 2019b).

Figure 5 FDI and manufacturing FDI inflow, 2007–2017 (in US\$)



Source: NBE and EIC (2018a)

There are positive indications of the effect of this new strategic approach. The quality and volume of FDI inflow has shown very rapid growth and change. FDI almost quadrupled to US\$4.2 billion in 2016/17 from US\$1.1 billion in 2011/12. Manufacturing drew in more than 80 percent of FDI during this period (see Figure 5). McKinsey's survey (2017) shows that about two-thirds of all Chinese firms in Ethiopia were engaged in the manufacturing sector, which is twice the average of Chinese firms' engagement in Africa.²² In the export-oriented apparel and textiles sector, the contribution of FDI firms has grown in recent years and accounts for about 70 and 60 percent of exports and employment respectively (TIDI 2018).

²¹ More than 50,000 direct manufacturing jobs were created by 2018. The list of industrial parks includes fifteen federal-level export-oriented specialized parks that aim to attract high-quality productive investment, four regional agro-industrial parks that focus on fostering linkages between agriculture and manufacturing, and six private industrial parks.

²² See also World Bank (2012); Lin and Oqubay (forthcoming).

6. Conclusion: enduring constraints

By early 2018, there was inadequate evidence to fully assess the effectiveness of these policy responses. The three strategic issues below required comprehensive and long-term attention. First, as Ethiopia embarks on late industrialization, building an industrial workforce has become a strategic issue of concern (EIC and IPDC 2017). Firms and industrial associations have developed joint initiatives to develop and upgrade workers' skills in collaboration with government agencies and development partners, which has led to some positive results. High absenteeism and labor turnover eroded attempts to develop labor force skills in order to increase productivity (Gebrechristos 2018). Labor sourcing and supply has been constrained by lack of well-developed labor market institutions to recruit and train workers, low wages, weak industrial relations, rapidly increasing living costs, and lack of affordable housing in host cities. Moreover, human resource issues related to personnel management and communication have also been cited as potential constraints in firms observed (Enterprise Ethiopia 2017–2018; World Bank 2015). Oya highlights that building an industrial workforce is uneven, protracted, and requires wider state intervention. Based on the historical account of the UK and continental Europe, Thompson (1967: 90) underlines that it may take several generations to perpetuate and 'institutionalize' industrial work discipline.

Second, an equally important strategic issue for Ethiopia's industrialization is the development of domestic industrialists and linkages (Hirschman 1958; Rweyemamu 1973; Iliffe 1983). There has been little participation by domestic firms in highly competitive export-oriented manufacturing for a number of reasons. There has also been a lack of access to long-term industrial financing for domestic firms due to the limited capacity of public banks and the lack of interest by private banks in such financing. The political economy constraints favored investment in more profitable sectors and speculative activities rather than in export-oriented manufacturing. Despite an industrial policy that has in some respects been prepared to 'get prices wrong' in order to encourage accelerated manufacturing activity, relative prices in the Ethiopian economy clearly still deflect investors away from manufacturing.

Accelerating learning within the global economy is as critical as relaxing constraints on the balance of payments. The hope was that industrial parks would facilitate this, by promoting production linkages and learning from the interaction between domestic and foreign firms. But these learning outcomes did not instantly materialize (UNCTAD 2013; Rodrik 2012; Ohno and Oqubay 2019). Moreover, additional support schemes and incentives (such as government cost

sharing and loans) designed to promote skills and productivity were not entirely translated into action.²³

Third, Ethiopian manufacturing needed a breakthrough in export performance.²⁴ Export-led industrialization and import substitution should be seen as complementary (Amsden 1989) rather than mutually exclusive.²⁵ In addition to an overvalued exchange rate and inadequate institutional support for exporters, the lack of internationally competitive export logistics and trade facilitation, especially important given that Ethiopia is landlocked, became key binding constraints on export-led industrialization. The construction and operationalization of the new national railway network and construction of the Grand Ethiopian Renaissance Dam are part of the strategic responses that will ultimately determine the success of Ethiopia's late industrialization. So too are the recent investments by Ethiopian Airlines to expand its freight terminal and to foster integration into global logistics networks.

Finally, industrial policies needed to go beyond the obvious manufacturing sector, since their key aim is to promote a faster shift of people and resources into high-productivity economic activity, which increasingly also involves some services and some agriculture (Cramer, Sender, and Di John 2018).

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²³ Various studies highlight industrial finance, access to land and electricity, supply of inputs and raw materials, business climate, shortages of foreign exchange, and trade logistics as binding constraints, as well as entrepreneurial skills and worker skills (WB 2015; CSA surveys 2017).

²⁴ Economic history and the structuralist development perspective suggests manufacturing as engine of structural change and the strategic role of exports in international learning and constraints on balance of payments (Kaldor 1967; Thirlwall 2013; Pasinetti 1981, 1993).

²⁵ In addition to export expansion, the opportunities for import substitution are substantial considering that 87 percent of imported goods were raw materials and semi-finished inputs (17 percent), consumer goods (30 percent), and capital goods (40 percent) (NBE 2018b).

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