Evaluating the Impact of Export Promotion Policy Incentives in the Ethiopian Manufacturing Sector

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Acknowledgments

Abstract

This paper evaluates the effectiveness of export promotion strategies in Ethiopia's manufacturing sector. The evaluation was conducted using both quantitative and qualitative techniques after developing a comprehensive theory of change (ToC) underlying the country's industrial policy. The data used for the quantitative technique were obtained from the annual surveys of Large and Medium Manufacturing Establishments, which had been collected over the period 2000-2015. Given the importance of political commitment and motivation for the success of industrial policy, impacts were evaluated with reference to the first Growth and Transformation Plan (GTP-I) in which the country set out ambitious targets and the means of achieving them. The qualitative data were collected through firm-level interviews using semi-structured interview guides prepared based on the ToC. The results of the quantitative analysis show that the government's intention to increase manufacturing's share in total merchandize export through improving the intensities and propensities of export sales of priority industries (textile, apparel, and leather and leather products) had only limited success. Policy appeared to have heterogeneous effects. Among the priority industries, only the textile industry has attained significantly higher sectoral export sales after the implementation of the GTP. At firm level, however, the export propensities of firms in all priority industries, with the exception of leather products, have declined over the GTP-I period. Footwear manufacturing firms revealed significantly higher export propensities than firms in other leather industries. The exceptional export successes at both sector and firm levels were attributed to the increased entry of foreign firms after GTP-I, as confirmed by the qualitative analysis. Firms

indicated that export-specific incentives have been inadequate for inducing export, while the domestic market offers better returns. Poorly designed incentives, limited government implementation capacity, and the limited capacity of individual firms were among the main reasons for low export success. The overall picture indicates the existence of complex structural problems and a lack of political commitment to policy implementation. Possible policy recommendations for addressing these constraints have been put forward at the end of the paper.

Introduction

Since the 1991 economic reforms, Ethiopia has tried different policy measures towards implementing its overarching national development strategy: Agricultural Development Led Industrialization (ADLI). Developing the private sector and subjecting the economic system to market disciplines were among the major aspects of these economic reforms. ADLI is based on the fact that over 80% of Ethiopians live in rural areas and the economy is dominated by agriculture in terms of output, employment and export earnings. The strategy envisaged economic transformation in which industry would eventually overtake agriculture in terms of its contribution to the overall economy. Following ADLI, four short-to medium-term plans have been implemented: the 'Sustainable development and poverty reduction program' (SDPRP) which was in effect between 2003 and 2005; the 'Plan for accelerated sustainable development and eradication of poverty' (PASDEP) which was implemented between 2006 and 2010; the first 'growth and transformation plan' (GTP-I), which ran from 2011 to 2015, as an extension of PASDEP; and the second 'growth and transformation plan' (GTP-II), which is currently in operation (2016-2020).

Despite these efforts, Ethiopia has remained a poorly diversified and industrialized economy. It has lagged behind comparable economies in terms of the manufacturing sector's contribution to GDP and export (World Bank, 2015). GTP-I set ambitious targets for Ethiopia with a vision of attaining medium-income status and becoming a hub of light manufacturing in Africa by 2025. Accordingly, greater emphasis has been placed on the manufacturing sector as the engine of economic structural transformation. The plan embraced more robust measures for the effective implementation of Ethiopia's

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industrial development strategy (IDS). The IDS places greater emphasis on industries that are labor-intensive, use agricultural inputs and are export oriented. According to these criteria, the textile and apparel, and the leather and leather products industries are among priority export sectors.

To this end, creating a sense of urgency among all sections of society was seen as a necessary condition for meeting the ambitious development goals of GTP-I. Recognizing the importance of enhancing good governance, strengthening democracy and eliminating rent-seeking, the government planned to bring about a fundamental change in the mindset of all actors and stakeholders, especially citizens, professionals, private investors and the leadership (MoFED, 2010). As a result of these efforts, better performances were expected over GTP-I in all sectors, including the manufacturing sector. However, the overall performance of the manufacturing sector has been disappointing. Manufacturing's contribution to export fell below its 2011 level and the gaps between export targets and the performances of the strategic export sectors (textiles, garments and leather) widened over the GTP-I period, despite the government's efforts.

The question of why policy measures have failed to produce expected outcomes has been of interest to both policymakers and researchers. Specific to export promotion strategies (EPS), the recent work of Gereeyesus and Demile (2017) is worth noting. However, their findings are more general and the problems they identify have long been recognized by policymakers, even before GTP-I. The large gap between targets and performance suggests overambitious expectations and the persistence of other binding constraints. Structural problems and poor policy design are also likely to have contributed. There may also be some time lag before the desired policy impacts materialize.

To further explore these issues, the current research aims to undertake a systematic evaluation of the EPS with reference to GTP-I. The EPS was expected to be more effective over GTP-I, primarily because of underlying political motives. Three main research questions have been formulated to assess this assumption. 1) Did the EPS have any significant effect on manufacturing export? 2) If so, which strategies contributed the most and why? 3) How can the EPS be more effective? To answer these research questions, we applied a more comprehensive technique, compared to other similar studies, in which we first developed a theory of change (ToC) to depict how the EPS could generate the expected outcomes. Then quantitative and qualitative evaluation techniques were applied using data obtained from annual manufacturing surveys, conducted between 2000 and 2015, and firm-level qualitative interviews. It should be noted, however, that the results reflect the impacts of the overall package of interventions rather than the impacts of export-specific incentives, which the data does not allow for. Framing the research problem in terms of the EPS is justified in view of the export orientation of Ethiopia's industrial policy and the fact that impacts are measured in terms of export performances.

The remaining parts of the paper are organized as follows. The second section provides an explanation of the ToC underlying the EPS. Sections three and four present the literature review and the methodology, including the data used and the modeling strategy. Section five presents the results of the quantitative and qualitative evaluation techniques. Section six is a combined discussion of the quantitative and qualitative results in view of the ToC. The final section concludes and puts forward major policy recommendations.

The theory of change behind Ethiopia's export promotion strategy

Ethiopia's industrial development strategy (IDS) favors export-biased industrialization in which selected priority sectors lead the industrialization process. The export promotion strategies (EPS) underscores the need to strengthen agricultural exports by focusing on high-value commodities and then diversifying away from agriculture to manufacturing. The limited size of local markets, the need to generate foreign exchange and the potential learning effects are the main justifications for export orientation.

Inputs and incentives

Before introducing export-specific incentives, it is important to deal with horizontal policy measures related to building favorable environments that can help to harness all the available private investment potential, and to build a strong foundation for industrial development. As Figure 1 depicts, the primary focus should be on taking all the necessary measures towards building production capacity. This involves the provision of basic inputs like land, energy, raw materials and capital. Accordingly, the government has set out directions to offer land in strategic locations and on favorable terms; develop qualified labor through an improved education system; facilitate the supply of raw materials; build a vibrant financial sector and invest in infrastructure (transport and telecommunications that lower the cost of business, and a reliable water and power supply that are essential for industrial activity).

The government's support in facilitating access to basic inputs (Figure 1) is aimed at reducing both production and transaction costs arising from underdeveloped human, physical and financial resources. Free training and technical support is provided by government institutions designated for this purpose. Special capacity-building institutions include, for example, the Ethiopian leather industry development institute (ELIDI) and the Ethiopian textile industry development institute (ETIDI). These institutes provide on-the-job training, technical support to firms installing advanced technologies, maintenance services and research and development (R&D) facilities. They also facilitate the transfer of selected technologies and undertake market research and situation analyses to help enhance the competitiveness of private enterprises. Quality and standards organizations also provide quality assurance services, primarily for products designated for export markets. Significant amounts of financial and human resources have been allocated to operationalize these institutions.

The industrialization strategy gives priority to attracting investors to the manufacturing sector. The government's control over land, the utility supply and the financial sector has helped to provide generous support to both domestic and foreign investors. The government's commitment to supporting private investment is demonstrated by the dynamism of its policymaking, particularly in terms of improvements to the rules and regulations. For instance, the current investment proclamation (Proclamation No. 769/2012) has repealed Investment Proclamation No. 280/2002 and its amendment, Investment Proclamation No. 375/2003. The corresponding regulations aimed at implementing the two proclamations have

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also been amended. Similarly, council of ministers regulation No.84/2003 – 'Investment incentives and investment areas reserved for domestic investors' – (and its amendment regulation No.146/2008) was repealed by regulation No. 270/2012. Export-related incentive schemes also underwent significant changes. Export Trade Duty Incentive Scheme Establishing Proclamation No. 249/2001 was repealed by the Revised Duty Incentives Schemes Proclamation No.543/2007, and has since been replaced by the current Export Trade Duty Incentive Schemes Proclamation No. 768/2012. The corresponding directives and implementation manuals have been revised accordingly.

In addition to general efforts to create an investment-friendly environment for the private sector, there are special incentives directed towards attracting investment to priority sectors and encouraging exporters. Investment incentives include generic support as well as specific incentives aimed at inducing export. Export incentives and other related support aim to help overcome identified export-related constraints. Domestic and foreign investors engaged in new enterprises or expansion projects in priority sectors, such as agriculture, manufacturing, agro-industries and construction, enjoy different financial and fiscal incentives – depicted in the ToC. All incentives and activities have been institutionalized through legal documents and implementation manuals – which can be considered as intermediate policy outputs. Improved availability of skilled labor; production factors at low prices, raw materials and finance; simplified bureaucratic procedures; and the expansion of infrastructure such as roads, railways, energy supply, sustainable water supply and ICT, make up part of the outputs. A brief description of the incentives and implementing institutions are given in Appendixes A1 and A2 respectively.

Outcomes & Impacts

The general investment incentives and activities aimed at solving key impediments to industrialization are expected to increase the number of investors in the manufacturing sector in general, and priority sectors in particular. More generous incentives have been extended to foreign investors, particularly in export-oriented sectors through industrial zone schemes. Basic support such as capacity-building, technical support, improving access to high-quality inputs and modern capital goods are believed to improve efficiency and productivity, which are crucial for competitiveness.

Effective implementation of export incentives increases export by reducing export-related constraints. Thus, productivity coupled with improved ease of exporting helps build export capability, which, in turn, translates into increased export entry and diversification. In other words, general investment support and export-specific incentives increase both the propensity and intensity of manufactured export, which, in turn, helps increase the share of manufacturing in GDP. Nevertheless, this paper only uses export propensity and intensity as key indicators for measuring the impacts of the EPS.

Growth in export revenue implies an improved stock of foreign exchange reserve. Modern capital goods and better-quality intermediate inputs can be imported using the currencies generated. This, in turn, is associated with improved access to advanced technology, modern management systems and technological upgrading. The resulting improvements in organizational and technological capabilities would re-enforce

plant-level capacity and improvements in both productivity and product quality, strengthening local manufacturing. This would then increase the share of manufacturing in GDP and the share of manufactured goods in total merchandize export – helping to bring about the desired structural change.

The cumulative impact of the strategy would be the development of a globally competitive industrial sector in Ethiopia. However, achieving the intermediate and long-term outcomes underlying this vision is dictated by the institutional settings that determine how such strategies are designed, implemented and enforced (Andrioni, 2016). Therefore, the Ethiopian government should first focus on developing state institutional arrangements that enable effective implementation by enhancing its leadership and organizational capabilities, improving its administration systems, creating an effective system for enforcing the rules of law, reducing rent-seeking and establishing productive Public-Private Partnerships (the bottom blocks of Fig. 1). In addition, a stable macroeconomic environment and security are considered crucial for attracting and promoting a sustainable flow of investment.

Fundamental context-specific political economy features shape a country's industrialization trajectory, affecting the sector-specific incentive structure and allocation of industrial policy-rents, both from the state and the private sector (Andrioni, 2018). However, building the required type of institutional framework, in line with these conditions, is far from easy for developing countries like Ethiopia, where the system is highly susceptible to manipulation by powerful groups pursuing their own interests (Khan, 2010). According to Khan et al. (2016), powerful organizations in an economy may distort the effectiveness of formal rules and rent allocation. However, as the economy

industrializes and diversifies, the emergence of powerful productive organizations could help improve the enforcement of formal rules; these organizations would be more productive, pay more taxes, fund political parties, create more jobs, and therefore start to have a greater influence on politicians and bureaucrats (Khan et al., 2016). This is represented in Fig. 1 by the feedback loop running from 'sustainable industry-led economic growth' in the 'impact' column, to the block in the bottom-right corner.
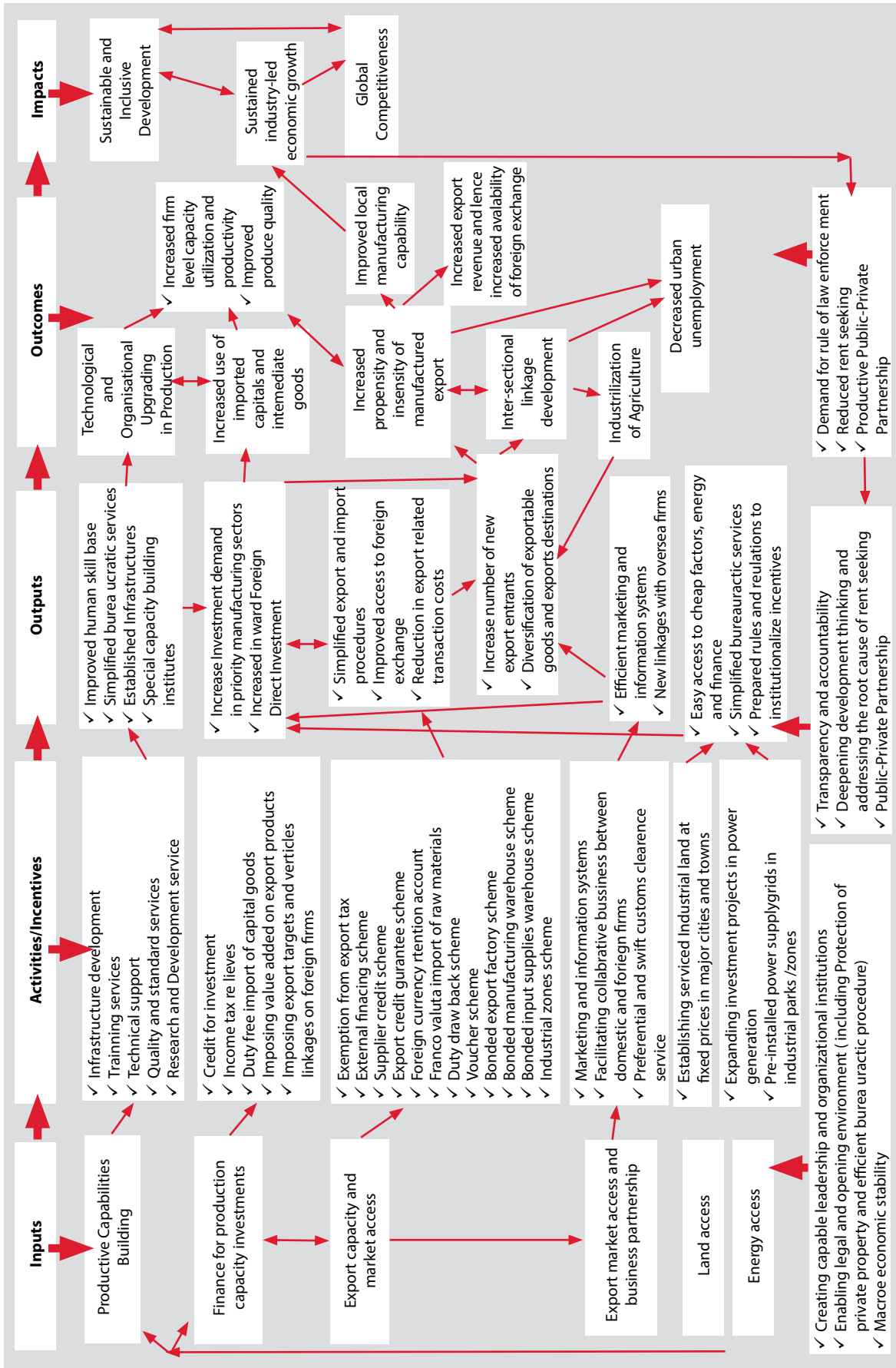
Assumptions and risks

The basic assumption is that Ethiopia can succeed in developing a labor-intensive sector that uses raw materials from agriculture. Export promotion incentives are based on this assumption and are designed to encourage firms to undertake costly investments and programs to take advantage of these incentives. The institutions responsible for implementing these incentives are all expected to play their part in building confidence in the government's commitment to live up to its promises. However, the literature documents potential difficulties in implementing these strategies and hence possible obstacles to realizing the expected outcome. The success of export-oriented industrialization in Asian countries is explained by a number of different factors including social and political conditions, prior development of infrastructure and local industrial capacity, external conditions, locational advantages and dynamic policymaking, among others (Kross, 2013).

In Ethiopia's context, the primary challenge in implementing the EPS relates to the government's limited capacity to effectively implement the strategy and play its role as a developmental state, given fragile social and political conditions. Secondly, the EPS assumes free access to large and dynamic

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Figure 1. Theory of change underlying Ethiopia's export-oriented industrialization strategy

Source: Based on Andrioni (2018)

external markets (especially the US and EU). Any restrictions imposed by foreign countries, will critically undermine the strategy. Thirdly, changes in the global production system would decrease the effectiveness of the industrialization strategy, which is based on Ethiopia's comparative advantages.

Fourthly, the EPS requires a sustainable supply of raw materials, cheap and convenient transportation, easy access to a seaport, and low shipping costs. The fact that Ethiopia is a land-locked country with underdeveloped infrastructure and limited institutional capacity, poses serious challenges to implementing the EPS. Fifthly, effective implementation of the EPS calls for an enabling internal environment, such as adequate infrastructure, competitive production and cost structures, strong capacity to support local production, favorable labor and regulatory conditions, and economic links with regional and global production networks. The experiences of successful countries indicate that effective implementation of an EPS depends on the capacity of government to build both the soft and hard elements of infrastructure, identify specific challenges and take counteractive measures (in a coordinated and dynamic manner), and develop a system that rewards developmental capitalists on the basis of performance.

Overview of empirical evidence

There is ample evidence in support of the argument in favor of promoting export-led growth: it has been shown to generate high growth rates, create new jobs, lead to higher labor productivity, introduce new organizational and managerial methods of production, and attract the flow of capital and technology into exporting nations (Asche, Neuerburg and Menegatti, 2012). A review of export-related studies by Zou and Stan (1998) shows that findings remain inconclusive owing to the multiplicity of export determinants, the diversity of ways in which the factors are measured, and the lack of a unified guiding theoretical framework for selecting the independent variables. The variables include macroeconomic fundamentals, sectoral variables and firm-level characteristics. Industrial policies are designed to affect these variables and other structural difficulties towards better outcomes.

Motivated by the success of countries in South and Southeast Asia, many countries in Latin America and Africa have tried to implement proactive industrial policies. But empirical evidence from these counties show that the outcomes have been less positive. Johnson et al. (2007) found that African countries have higher ethnic fractionalization, lower manufacturing export, higher exporting and importing costs and lower levels of technology absorption. Nevertheless, there have been some exceptions within and between the two different regions. The exceptional success of Mauritius is attributed to the adoption of effective policies, such as Export Processing Zones, and robust institutional arrangements (Frankel, 2010). Similarly, Mais and Amal (2011) highlight the importance of overseas market networks,

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institutional frameworks and innovation in accelerating the growth of corporate exports in Latin American manufacturing sectors, which later led to higher export performance.

Determinants of sectoral export performance

Determinants of export performance vary with differences in sectoral characteristics, which may be linked to differences in technological choice and country-specific capabilities or resource potentials. For instance, van Dijk (2002) demonstrated the sectoral heterogeneities of export determinants in his attempt to examine the factors affecting the export performance of Indonesian manufacturing firms. His results show that relative size, foreign ownership and age were important factors in determining the export performance of firms across all sectors. However, labor quality and research and development (R&D) activities appeared to have different effects on skill-intensive and scale-intensive industries. Skilled labor was found to have a significant positive effect on supplier-dominated or labor-intensive industries (food, textiles, clothing and wood), while it had negative effects on scale-intensive industries. R&D improved the export performance of relatively mature industries, while capital intensity had no impact on the export behavior of scale-intensive firms.

Van Dijk (2002) attributed the consistency of the inverse relationship between firm age and export propensity of firms in Indonesian manufacturing to the dominance of the impact of changes in trade and industrial policies. Wignaraja (2002) examined the effect of foreign equity, firm size, age, technology and human capital on the export behavior of apparel firms in Mauritius. However, with the exception of the

technological index and foreign ownership, all the remaining variables turned out to be insignificant in explaining export performance.

The concentration of a given sector has implications for the export propensity of firms in the sector. First, firms in more concentrated sectors tend to prefer the domestic market as they are more likely to benefit from monopoly rents. On the other hand, the larger the number of firms that produce similar products, the higher the level of competition for the existing market. This encourages firms to seek broader markets elsewhere, and, therefore, increases the likelihood of the sector to export. Van Dijk (2002) failed to document consistent results on the effects of market concentration in Indonesia. The effects appeared to be negative and strongly significant on the export performance of supplier-dominated industries, such as food and beverage, wood, textiles, leather, apparel, tobacco, paper and pulp, and furniture; while the results of a Tobit model analysis indicated a positive and significant impact on the export performance of firms in scale-intensive and science-based industries.

Secondly, there are likely to be more exporters in less concentrated sectors than in their more concentrated counterparts. This would positively affect the export performance of the sector due to learning or spillover effects. Fernandes and Tang (2014) developed a model that predicts the impact of signals from foreign market demand on export entry, and the performance of neighboring firms. Likewise, a study by Cadot et al. (2013) of four sub-Saharan African countries (Malawi, Mali, Senegal and Tanzania) shows that the probability of export entry, survival and sales, increases with the presence of other firms exporting the same product to the same country. They

also found that the learning effect is stronger when neighbors are domestic, rather than foreign.

In their extensive review of the literature on FDI spillover, Görg and Greenaway (2004) found mixed results for the impact of multinational firms on the export performance of domestic firms. In cases where there was a positive effect, the spillover from foreign affiliates tended to improve the decision of domestic firms to export rather than increase the export sales ratio. For the positive impacts, they identified three potential channels of spillover. The first relates to the fact that multinationals have better knowledge about foreign markets, which spills over to domestic firms through their export activities. The second, demonstration effects – learning superior production or management techniques from multinationals – helps domestic firms to compete more successfully in export markets. Finally, the competitive pressure exerted on domestic firms from multinational firms in both domestic and foreign markets, forces domestic firms to enhance their export. Alvarez and Marin's (2013) work demonstrates the positive roles multinational companies play in building the capacity and international competitiveness of domestic firms.

Firm-level characteristics

Firm size, productivity, capital-labor ratio, innovation, ownership, and age are among the most common potential determinants of export behavior at firm level. Exporting firms are generally much larger, on average, have higher value-added per worker, and incur higher labor costs per worker than non-exporters (World Bank, 2010; Bigsten and Gebreeyesus, 2009). Firm size, age and capital intensity were reported to have a positive significant effect on the export

intensity of Tunisian firms (Montassar, 2017). In some cases, the impact of firm size on export has a non-linear relationship. For instance, van Dijk (2002) reported that firm size helped export entry for Indonesian firms only up to a certain threshold, suggesting an inverted U-shaped size-to-export relationship. A similar U-shaped relationship was found in the case of Ethiopia, but between age and export propensity, where exporting appeared to increase with age, but only up to certain point, after which the relationship goes in the reverse direction (Siba and Gebreeyesus, n.d).

Export-oriented firms in most African countries appear to be more capital intensive than non-exporting firms, both at the mean and median levels, indicating the positive role of technology at the firm level (World Bank, 2010). However, the opposite is true for Kenyan and Moroccan firms, where capital intensities are higher among firms serving domestic markets than those of exporters. With similar implications for the role of technology in many countries in Africa, the use of imported inputs also increases developing countries' entry into global high-tech markets (Alvarez and Marin, 2013). Suárez-Porto and Guisado-González (2014) found that belonging to a corporative group, being in a sector with upper-intermediate technological intensity, and being large in size have a positive significant effect on the export intensity of Spanish manufacturing firms. Siba and Gebreeyesus (n.d) showed that firm size, capital intensity and state ownership have a positive significant effect on the export propensity of manufacturing firms in Ethiopia.

In support of the positive effects of technology, Alvarez and Marin (2013) and Rasiah (2003) found that export performance increases with improvements in the technological capacity of firms. Similarly, Rodil et al. (2016) and Suárez-Porto and

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Guisado-González (2014) found that firm innovation increases the odds of exporting. The latter study indicates that innovation increases export intensity through enhancing the productivity of firms. On the grounds that global competitiveness requires some threshold level of productivity, and the potential impact of 'learning-by-exporting', there appears to be more empirical regularity (Van Biesebroeck, 2005; Bigsten and Gebreeyesus, 2009; Haidar, 2012; Ahmad and Lee, 2016) regarding the positive relationship between productivity and export performance.

The case of export promotion policy

Empirical work on the impact of export promotion policies shows mixed results: the effectiveness of policy varies with local, context-specific conditions. The diverse degrees of success in different countries emanate from differences, not only in the way policies have been designed and implemented, but also in the way they are blended with other specific enabling conditions. Evidence also shows differences in the factors underlying the successes of early industrialized and newly industrialized economies (NIEs). According to Rodrik (2009) South Korea's and Taiwan's industrial development would not have been achieved without active government intervention in coordinating public and private investment, visionary political leadership and well-developed human capital.

It is more often than not that we see evidence of failures in most of the studies conducted in developed countries, not to mention LDCs. The studies include Görg et al. (2008), who explored the impact of a public grant support scheme on the export performance of Irish manufacturing firms; Girma et al. (2009), who examined the

impact of subsidies on a sample of German manufacturing firms; and Bernard and Jensen (2004), who studied the impact of state export promotion on a sample of US manufacturing firms. All of these studies found no significant relationship between export promotion policy and export performance. Unlike other existing studies, Schminke and Van Biesebroeck (2013) looked directly at the impact of the Belgian government's export promotion services on the propensity of firms to export. Their findings indicate that export promotion measures have significantly improved the export propensity of firms. They also found that export promotion was more effective in reaching destinations and raising export performances outside the European single market.

In the case of the Asian NIEs, the extent of success and the effectiveness of export promotion strategies differs widely from country to country. For instance, export subsidies were found to be relatively more successful in South Korea than in other Asian countries (Westphal and Kim, 1982). Preferential export finance and duty drawback schemes in particular (Mah, 2006), improved Korea's manufactured exports. Over and above policy strategies, Korea's success can be accredited to a strong administration, and a deep commitment and determination from the political leadership to improve economic wellbeing.

Albeit different in terms of extent, export promotion policies have failed to improve the competitiveness of manufactured goods in Africa and Latin America. However, Latin America has performed better than most sub-Saharan African (SSA) countries (World Bank, 2010). There are also differences among SSA countries, particularly in terms of utilizing preferential trading arrangements (PTAs) such as the EU's everything but arms (EBA) initiative and the US's African growth

and opportunity act (AGOA) (Staritz et al., 2016; Schneidman and Lewis, 2012; World Bank, 2010). In the case of Ethiopia, efforts to increase manufactured exports have been largely ineffective due to the limited capacity for policy implementation (Gereeyesus and Demile, 2017) and flawed policy design (Assefa, 2010). Nevertheless, there is evidence of better performances in textile and apparel export, which Staritz and Whitfield (2017) associates both with PTAs and general investment incentives. To date, empirical studies have yet to give a clear quantitative and qualitative picture of sectoral differences in policy impacts. This study aims to fill the gap.

Data and methodology

As is the case in any evaluation, the issues of finding an appropriate methodology and relevant data were a major challenge. It is particularly difficult to measure all the important variables required for evaluating the different components of the ToC (Fig.1). Given these challenges, both quantitative and qualitative techniques were applied to evaluate the impacts of the broader industrial policy package (IDS) or export promotion strategies both at the firm and sector levels. A quantitative evaluation based on indicators of export performance can help measure changes following the implementation of the IDS along the ToC. However, explanations on why things have or have not happened and how they could improve may not be possible without qualitative evaluation. Therefore, this study uses both quantitative and qualitative data. The methodologies used in analyzing these data are presented in this section.

The quantitative evaluation technique

To conduct the quantitative evaluation, data was taken from the annual censuses of Large and Medium Scale Manufacturing and Electricity Industries Surveys (LMMIS) collected by the Central Statistical Agency (CSA) of Ethiopia. The surveys cover all enterprises that engage ten persons or more and that use power-driven machinery in their production. They cover both public and private industries in all regions of the country. The data collection processes for all the survey years are well documented in reports produced by the CSA (see for example CSA, 2012, 2013). The data was collected by interviewing enterprise managers based on structured interview schedules and under strict supervision. The CSA appears to be

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committed to producing high-quality data. It provides continuous and intensive training to its employees and enumerators, aided by the technical support of international organizations. Therefore, the data appears to satisfy minimum quality requirements and offer the opportunity to implement quantitative techniques for evaluating the impacts of Ethiopia's industrial policy.

The data constitutes detailed information on major characteristics including, ownership, year of commencement, number of establishments, number of persons engaged and employees, wages and salaries paid by major industrial groups, sex, nationality and occupation, paid-up capital, gross value of production, industrial and non-industrial costs, value added, operating surplus, quantity of production and raw materials consumed, fixed assets, investment and production capacity. The data used for this paper has been organized by pooling annual surveys from 2000 to 2015.

Establishments were grouped into industrial categories based on Rev. 3.1 of the International Standard Industrial Classification (ISIC) system. However, there are some inconsistencies in using the codes, where some categories have been merged due to changes that were made to the questionnaires in recent years. Incorrect codes have been relabeled according to the ISIC Rev.3.1 manual. Accordingly, there are now 110 four-digit industries in the pooled data. Similarly, 26 two-digit industries in the pooled data have been recoded and reduced to 17 major categories by merging similarly labeled classes. The firm-level data in each of the categories is presented Appendix A3.

The empirical modeling strategy

To evaluate Ethiopia's export promotion strategy (EPS), treatment effect models were

estimated using econometric techniques. However, due to the nature of the EPS and the data limits, it was not possible to examine firm-specific policy effects, where the export outcomes of beneficiaries and non-beneficiaries could be compared. Instead, the cumulative effects of different policy packages on priority export industries (treatment group) were compared to non-export priority industries (control groups). Firms in the export sectors are offered a broader range of incentives and hence should demonstrate better performances compared to those in other sectors. To evaluate whether the incentives are working, we applied the difference-in-difference (DID) technique by separating the data periods into pre-GTP-I (or pre-treatment: 2000-2010) and post-GTP-I (or post-treatment: 2011-2015) periods. The standard forms of the DID estimating equations are given by *(1)* and *(2)* with their respective outcomes of export sales at 4-digit ISIC industry-level and firm-level export propensity. Variables in the equations are defined in Table 4.1.

$$logexport_{jt} = \beta_0 + \delta_0 P_2 + \beta_1 \, expsec + \delta_1 \, expsecx \, P_2$$
$$+ \beta_2 f^{di}_{4d \, jt} + \beta_3 nofex \, 4dgt_{it}$$
$$+ \beta_4 HHI^4_{jt} + \beta_5 \, lnlp^4_{jt} + \beta_6 \, imint_{jt} + D^T \varphi + u_{jt} \quad (1)$$

$$exporter_{it} = \beta_0 + \varphi_0 P_2 + \beta_1 \, expsec + \varphi_1$$
$$expsecxP_2 + \beta_2 \, Foreign_{it} + \beta_3 \, lnlabp_{it} + \beta_4$$
$$lnsize_{it} + \beta_5 \, lnexper_{it} + \beta_6 HHI4_{jt} + D^T \varphi + e_{it} \quad (2)$$

where *'D'* represents sector and year dummies, *'b'* are coefficients; *'u'* and *'e'* are error terms; ϕ_1 and δ_1 are DID estimates; and the subscripts *'j'*, *'t'* and *'i'* denote industry, year and firm respectively.

GTP-I was selected as the treatment period in view of the crucial role of political commitment for policy implementation, and the fact that this period was one in which the government aspired to an 'economic miracle.' The ruling party intended to seize

the ensuing opportunity as a means of regaining public confidence, which had been deteriorating since the political crisis linked to the aftermath of the 2005 national election. To this end, the government vowed to use the experience gained during PASDEP to take all kinds of corrective measures to increase the share of manufacturing in GDP and export. Consequently, better manufacturing performances were expected in terms of both value added and export over the GTP-I period.

The main problem in DID estimation is the precondition that treatment and control groups should demonstrate parallel trends in the pre-treatment period. To see whether this assumption holds, we applied Mora and Reggio's (2012) model (MR), which is more flexible than the standard DID set of equations – *(1)* and *(2)*. This model allows us to identify treatments effects for any given assumption, and, test the pre-treatment parallel trend assumption between control and treatment groups. MR, however, requires a minimum of two pre-treatment and one post-treatment period – denoted as It. Fortunately, the data allowed us to implement the model by dividing the pre-treatment period into three (I_1: 2000-2003; I_2: 2004-2007; I_3:2008-2010) with one post-treatment period (I_4:2011-2015). During first period (I_1) Ethiopia had no formal industrial policy, while during the second (I_2) and third (I_3) periods the country implemented industrial policies in accordance with the two consecutive national development plans: SDPRP and PASDEP. The post-treatment period (I_4) corresponds to the implementation of the GTP-I, when greater emphasis was placed on the manufacturing sector.

According to Bertrand et al. (2004), when data from multiple years are used and outcomes are serially correlated, the DID estimates will be affected by biases in standard errors. In such cases, they suggested using heteroscedasticity and autocorrelation consistent standard errors. Accordingly, we used clustered standard errors at group level structure in all the estimation results. There is another potential problem specific to the firm-level equation *(2)*, which relates to the discrete nature of the outcome variable and the difficulty of controlling for firm fixed effect as the firm-level data is repeated cross-section. Among the techniques often used to deal with such problems is the two-step estimation procedure introduced by Heckman et al. (1997). We applied this technique as it gives a DID estimator of the average treatment effect on the treated groups, which accommodates covariates, including endogenous ones, and time-varying firm-specific effects.

Using this technique, the DID estimator is constructed by matching differences in pre-treatment and post-treatment outcomes for the treated group to weighted averages of differences in pre-treatment and post-treatment outcomes for the control group. The differences are matched on the probability of being treated, conditional on the covariates (the propensity score), and the weights are determined non-parametrically using local linear regression (Heckman et al., 1997). Thus, applying this technique in our case would help match firms of similar characteristics from export-oriented (treatment) and non-export-oriented industries (control). Then, the net policy effect of all the confounding factors are estimated in terms of export probabilities (outcome).

The qualitative technique

Given the limitations inherent in the econometric approaches, our evaluation

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Table 4.1: Definition of variables

logexport: natural logarithm of export sales at a four-digit industry at year 't' used as industry-level outcome.

export: dummy for exporter used as firm-level outcome variable, assuming value '1' if a firm engages in export in year 't' and '0' otherwise.

Treatment variable (expsec): dummy for the treatment group (government selected export-oriented industries: textile; apparel; and leather and products of leather).

Foreign direct investment (fdi_4d): the share of foreign firms' capital in the total current paid-up capital (proxy of FDI) of a four-digit industry year 't;'. Based on evidence given in the literature section we expected positive export spillovers from sectors with high FDI.

Average labor productivity of industry (lnlp4): natural logarithm of the ratio of gross value of production to total number of permanent employees of a four-digit industry in year 't'.

Firm-level labor productivity (lnlabp): a firm-level variable computed as the logarithm of the ratio of the firm's total value of production to the number of permanent employees at the end of a given year. The variable was included in the firm-level equation on the theoretical grounds that more productive firms are more likely to export than less productive firms.

Hirschman-Herfindahl Index (HHI4): a measure of industrial concentration at four-digit ISIC industry and computed as the summation of the squared value of each firm's market shares in their respective four-digit industries. It was assumed that firms in concentrated industries prefer operating in domestic markets rather than exporting. On the other hand, the higher the number of competitors in a given industry, the greater the incentive for firms to begin exporting.

Time of treatment (P_2): the time of policy intervention (dummy for years after GTP-I: assuming '1' for 2011-2015 and '0' for 2000-2011).

Number of exporters (nofex_4dgt): a sector-level variable to control the effect of the number of exporters on total export sales for a four-digit industry.

Share of imported raw materials (impint): variable representing sectoral import intensity, which was computed as the ratio of the value of imported input to the total inputs used in a four-digit industry in year 't'. Given the duty free import of inputs in Ethiopia and evidence on the export enhancing effect of higher use of imported inputs (Ahmad and Lee, 2016), industries with greater use of imported inputs were expected to export more.

Experience or age of a firm (lnexper): a firm-level control computed as the natural logarithm of the number of years since a firm started operation. Based on the literatures, it was expected that older firms have greater exporting probability due to capabilities earned through experience.

Firm size (lnsize): a firm-level variable to control for firm size computed as the natural logarithm of the total number of permanent employees of a firm. We expected that the higher the size of a firm, the higher is its exporting probability due to better capabilities and economies of scale.

Foreign: a dichotomous firm-level variable (or dummy for foreign ownership assuming value = 1 if foreigners' equity in a firm exceeds 50% and '0' otherwise). We expected that foreign firms have higher export propensity than domestic firms based on evidences in the literature and the conditions set by the Ethiopian government for foreign firms.

Non-zero export (nzeroexpi_4): a dichotomous sectoral variable representing the export status of a four-digit industry assuming '1' if the industry has positive export value in year 't' and '0' otherwise.

is complemented by a qualitative analysis based on interviews conducted with 12 large and medium leather product manufacturing firms. Firms were selected to include both exporters and non-exporters, domestic and foreign firms, and firms inside industrial parks (IPs) and those outside. The interviews were conducted using semi-structured interview guides designed to evaluate the potency of the government industrialization strategies embedded in the ToC (Fig.1). The interview included questions about the overall investment policy, export promotion strategies (EPS) and potential structural constraints – with a focus on the process of policy implementation and associated problems. The interview guides are given in Appendix A7.

Results and Discussion

The quantitative results

Before discussing the results of the econometric analysis, it is useful to give an overview of some of the stylized facts about the intermediate outputs of the industrial policy, as indicated in the ToC. The primary expected output was an increase in manufacturing investment and exporters. While there has been an increase in manufacturing investment, the dominant share has come from foreign investors (see Appendix A4). There has also been a dramatic increase in the number of exporters during the GTP-I period, following the increased entry of foreign firms. The food and beverage industry, and the leather and leather products industry have shown the largest increase (a doubling of 2010 levels), followed by the textile industry, with a 50% average increase in the number of exporters. In terms of the volume of sales, leather and leather products show the largest growth, jumping from below one billion Ethiopian Birr (ETB) in 2010 to over three billion ETB in 2013-2014. Textile exports also increased from below 300 million ETB in 2010 to about two billion in 2014, after which they declined to about 500 million in 2015. No similar increase was observed for the apparel industry, neither in terms of the number of exporters nor or the volume of sales. Overall exports to different destinations have increased, including a sizable growth in exports to other African countries after 2011.

The relative shares of leather and leather products, and of food and beverage products, in total manufactured export, increased to 42% and 33% in 2015 from 19% and 24% in 2010, respectively. On the other hand, the shares of textiles and apparels

declined to 9% and 0% respectively in 2010 from their 2015 levels – 21% and 25%. The furniture industry, which had zero export in 2010, generated about 14% of its total sales in 2015 from export while contributing about 7% of the overall manufactured export. In terms of export intensity, however, only the textile industry appeared to improve after 2011, while other strategic sectors showed variations over the years. Consumption of imported raw materials also increased for selected industries during the GTP-I period. The food and beverage industry registered the highest import intensity followed by leather. The import intensities of the textiles and garments sub-sectors were lower than that of the non-metallic mineral industries, which are not among the priority export industries.

The description above suggests mixed results, with some successes and some failures. Incentives did not seem to work as expected since the export intensities of sectors with the highest revealed comparative advantages had declined by the end of GTP-I, while some non-export priority sectors had begun to export. In the following sub-section, we apply robust analytical tools to assess the effectiveness of industrial policy.

Discussions of the industry-level econometric results

This sub-section discusses results of the econometric technique at sector (Table 5.1 and 5.2) and firm (Table 5.3) levels. Table 5.1 presents sector-level DID estimation results generated by applying the 'didq' stata module developed by Mora and Reggio (2015) to implement their own model (Mora and Reggio, 2012). The parallel trend tests we conducted on the three pre-treatment periods suggested that I2 and I3 are more relevant for computing the DID estimates; results corresponding to parallel-I $(q=1)$ and parallel-2 $(q=2)$ assumptions are presented in table 5.1. The logarithm of export sales aggregated at four-digit ISIC industry (logexport) was used as the outcome variable and only industries with positive export sales were included in the DID estimation. Results were generated in two steps under alternative parallel assumptions. Sectoral characteristics such as concentration, FDI, import intensity and number of exporters were controlled while estimating the fully flexible standard least squares model in the first step. The DID estimates are obtained as the solution of the equation in differences in the second step (Moran and Reggio, 2015). Thus results were obtained net of the confounding factors at the industry level.

Table 5.1: Sector- level DID estimation results from Mara and Reggio (MR) fully flexible model Outcome variable: logexport

Treatment	q=1	q=2	H0: q=q-1	p-values	H0: Common Pre-dynamics	p-values
Expsec	0.640	0.076	0.564	0.358	0.846	0.358
	(0.531)	(0.939)				
Textile	1.732**	1.979	-0.247	0.746	0.105	0.746
	(0.739)	(1.357)				
Apparel	0.741	-0.279	1.020	0.372	0.799	0.372
	(0.969)	(1.936)				
Leather	-0.778	-1.128	0.350	0.684	0.165	0.684
	(0.753)	(1.336)				
Footwear	-1.982**	-1.450	-0.532	0.410	0.678	0.410
	(0.785)	(1.143)				

No. of obs. = 263 Robust Standard Errors in parenthesis; *** p<0.01; ** p<0.05; * p<0.1

The first column of table 5.1 shows treatment sectors, with the first row indicating results corresponding to the dummy (expsec) for the treatment group comprising of all strategic export sectors (textile, apparel and leather manufacturing), while the remaining rows depict results generated for each of the separate treatment sectors. There are three treatment industries and 14 control industries for two-digit ISIC classes in the first row. In the rest of the rows there are 16 control industries and one treatment industry. The footwear sub-sector (last row) was treated separately due to differences in the export policy for less value-added and finished leather products. Separating the DID estimates by sector was used to examine the potential differences in the impacts of the EPS. Columns $q=1$ and $q=2$ show the DID estimates corresponding to parallel-1 and parallel-2 assumptions of the MR model. The fourth and fifth columns present tests of the equality of estimates under $q=1$ and $q=2$. The p-values in the fifth column suggest that there is no difference between the consecutive estimates. The test statistics reported in the sixth column are Wald tests for the null hypothesis of common pre-treatment trend or tests for the simultaneous equivalence of Parallel-1 $(q=1)$ and parallel-2 $(q=2)$ assumptions. The p-values in the last column are equal to the ones in the fifth column, as expected. The bottom-line is that all the p-values (tests) affirmed the parallel trend assumptions in all the estimates. Therefore, it is safe to use the DID estimates for inferences.

Referring to results under $q=1$ (standard model), there is a very small and insignificant DID estimate (0.640). The estimate is even lower (0.076) under the $q=2$ assumption, where a linear time trend is included in the estimating model. The results suggest that the Ethiopian

government's EPS did not have any effect on the export performance of export-oriented manufacturing industries. In other words, there is no difference in export performance between export-oriented and non-export-oriented industries. However, there seems to be heterogeneities in policy effects among the industries within the group. When the textile industry is taken as a treatment, the estimated effect is higher (1.73) and significant at less than 5% level. In contrast, the EPS had no significant effect on apparel and leather industries as their respective DID estimates are very small, despite differences in their signs. Within the leather industry, the export performance of the footwear sub-sector fell significantly in the post-treatment period as compared to the control sectors.

However, there is concern about the potential endogeneity of sectoral export decisions even within the export-oriented sectors, because the above results were generated from truncated observations of industries with non-zero export. Changes in the sectoral classification over the data collection period, means there are differences in the number of four-digit industries between pre- and post-treatment periods, reducing the number of control and treatment industries. This could affect the estimates, calling for the need to apply an alternative method as a robustness check. The best alternative, under such circumstances, is the semi-parametric approach introduced by Heckman, Ichimura and Todd (1997). This approach combines a matching technique with DID to accommodate unobserved determinants of non-treated outcome and entry of firms into the treated industries, thereby allowing the estimation of better parametric approximations to the average treatment effect of the treated conditional on selected control variables.

To this end, the 'diff' stata module (Villa,

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Table 5.2: Sectoral DID estimates from semi-parametric estimation technique

Outcome var.: logexport	Cont.	Treat.	Before Diff(T-C)	Cont.	Treat.	After Diff(T-C)	DID
Expsec	11.089	12.388	1.299	12.733	14.699	1.966	0.667
	[287]	[45]	(2.47)	[201]	[34]	(1.843)	(1.097)
Textile	12.081	10.098	-1.983**	14.477	14.299	-0.179	1.804***
	[307]	[24]	(0.79)	[207]	[19]	(0.768)	(0.439)
Apparel	17.58	12.16	-5.42**	19.86	14.44	-5.42**	0.000
	[123]	[7]	(2.235)	[0]	[5]	(2.235)	(.)
Leather	17.34	16.92	-0.42	18.88	17.25	-1.63***	-1.21
	[60]	[14]	(0.828)	[121]	[10]	(0.329)	(0.861)
Footwear	12.214	14.751	2.536*	13.408	15.421	2.013	-0.524
	[27]	[7]	(1.274)	[50]	[5]	(1.806)	(1.24)

- Means and Standard Errors are estimated by linear regression
- Clustered Std. Errors are in parentheses; Number of observations in brackets
- Inference: *** p<0.01; ** p<0.05; * p<0.1

2016) was applied to obtain the DID estimates presented in table 5.2 – which are comparable to the standard model. Results were generated in two steps; standard errors were clustered in two-digit ISIC industrial classes to control the potential problems of serial correlation. Similar to the standard setting, treatment periods were divided into pre-treatment (2004-2010) and post-treatment (2011-2015) only. Data for the first three years (2000-2003) were excluded due to weak parallel support. The propensity score matching in the first step was conditioned on dummy for non-zero export sectors, sectoral productivity, industry concentration (HHI4), FDI, import intensity, and year fixed effects. The number of exporting firms in a 4-digit industry, year and industry fixed effects were also controlled while computing the DID estimates in the second step so that the resulting estimates could be attributed, solely, to the policy effects.

Table 5.2 indicates that export sales of export-oriented industries were slightly higher than those of the control industries, both in the pre- and post-treatment periods. Despite the insignificance, policy had a positive effect in raising the export sales of export-oriented industries (expsec). However, the effects appear to be heterogeneous across the industries within the group. Among

the three separate industries, only textiles show a significant increase in export sales after GTP-I. The DID estimate *(1.8)* suggests an approximate *500% [= exp (1.8) -1) ×100]* increase in the average expected export sales for the textile sector, above that of the control groups in the post-treatment period. The alternative DID estimates in Table 5.2 for the broad treatment group (expsec) and the textile industry are very similar to those reported in Table 5.1, suggesting robustness of the estimates.

No significant policy effects were observed for the apparel and leather industries. The average expected log export of leather in general and footwear industries in particular declined. However, it is important to note that the mean log export of the footwear industry was higher than that of the control groups, both in the pre- and post-treatment periods, while the reverse is true when the broader leather industry is the treatment group.

From the above analysis, we can generalize that government policy had no significant effect in improving the export performance of the export-designated industries. However, industry-specific results indicate that policy had a positive effect only on the export performance of the textile industry. The

average expected export sales for the leather industry declined despite the absolute increase and the statistical insignificance of the estimate. The apparent differences in the findings within the priority export sectors imply the effects of other external and internal factors beyond policy incentives. The significant improvement in the average expected export sales of the textile industry after controlling crucial confounders, such as number of exporters and FDI, indicate that the industry's increased export intensity could be attributed to the special support given to the industry. Support from the textile industry development institute (TIDI) and initiatives like benchmarking and the twinning program would be the obvious suspects. The PTAs and the increased participation of foreign firms also contributed.

Discussions on the firm-level econometric results

The Ethiopian government aims to encourage new export entrants, to increase the contribution of manufacturing in the share of the country's exports. This section will present an analysis of the impacts of policy on firms' export propensity using firm-level data. It would be useful, first, to have a look at the transition matrix of exporters and non-exporters by sector and by year, as presented in appendix A8. The transition matrix indicates a high level of export exit for the priority export industries. The highest level of export exit over 2004-2006 was observed in the apparel sector (45.5%), followed by the textile (18.5%), and food and beverage sectors (12.8%). It was even higher over 2007-2010, where only 25% of apparel exporters, 50% of food exporters and 60% of leather product exporters in 2010 retained their export status from 2007. Between 2012 and 2015, only 50% of textile and 60% of apparel exporters remained in the export

market, while the rest ceased exporting. Leather and leather product manufacturers experienced the lowest level of export exit over the same period, followed by the food and beverage industry. Conversely, the apparel and textile industries experienced the highest levels of export entry, while the food and beverage sector experienced the lowest. This descriptive view indicates very low levels of export entry and export survival in the priority export sectors. The formal evaluation of the impacts of policy measures is discussed below.

Given the data structure (repeated cross-section) and the binary nature of the outcome variable, we applied a semi-parametric approach, already introduced in the preceding section, to produce the results presented in Table 5.2. Similar to the above analysis, the 'diff' stata module developed by Villa (2016) was applied to implement the technique, dividing the data period into two (pre-treatment: 2004-2010; and post-treatment: 2011-2015), after excluding data for 2000-2003 – for which the common trend assumption appeared to fail. The estimation was also conducted for the areas of common support identified in the first stage of the estimation process. The DID estimates were checked by testing the equality of the distribution of covariates between the treated and control groups in the pre-treatment period. The corresponding test on the broader treatment group is given in appendix A9 (and others are available on request). The main estimation results are reported in Table 5.3; the first row shows the results for all the sectors (expsec), which are then shown separately in the subsequent rows.

It should be noted that the export propensities of firms in all the export-oriented industries were significantly higher than those of the firms in non-export industries, both in the pre-

Table 5.3: Firm-level DID estimates from semi-parametric estimation technique

Treatment sectors			Before			After	DID
	Cont.	Treat.	Diff (T-C)	Cont.	Treat.	Diff (T-C)	
Expsec	0.023	0.219	0.196***	0.016	0.223	0.206***	0.01
	[9760]	[1172]	(0.037)	[9676]	[1027]	(0.036)	(0.025)
Textile	0.06	0.199	0.139**	0.145	0.247	0.102*	-0.037
	[10495]	[306]	(0.05)	[10228]	[288]	(0.052)	(0.043)
Apparel	0.016	0.153	0.136***	0.121	0.222	0.101***	-0.035***
	[10656]	[272]	(0.021)	[10489]	[179]	(0.025)	(0.005)
Leather	0.043	0.267	0.223***	0.067	0.317	0.250***	0.027***
	[9051]	[593]	(0.016)	[9875]	[563]	(0.016)	(0.008)
Footwear	0.066	0.10	0.034	0.087	0.182	0.094***	0.060***
	[8090]	[442]	(0.022)	[8837]	[389]	(0.017)	(0.008)

- Means and Standard Errors are estimated by linear regression
- Clustered Std. Errors are in parentheses; Number of observations in brackets
- Inference: *** $p<0.01$; ** $p<0.05$; * $p<0.1$

treatment and post-treatment periods. The last column of the Table (5.3) shows the DID estimates for each of the treatment groups. Similar to the previous analysis, the expsec value (when all export-oriented industries are grouped together in one treatment group) indicates that the EPS had no significant effect on the export entry of firms. In the worst case, the export propensities of firms in the textile and apparel sectors fell below that of their comparators by about 3.7% and 3.5% in the post-treatment period. However, only the effect on the apparel sector was found to be significant – at less than 1%.

In contrast, the EPS had a strong positive effect (.027) on the export propensity of firms in the leather industry. In effect, this means that the expected mean improvement in export entry was about 2.7% during the GTP-I period, compared to the counterfactuals. However, this estimate cannot be taken at face value due to changes in export policy for the industry over the period. A 150% export duty tariff was imposed on semi-processed hides and skins, while all finished leather products have been entitled to a 100% export duty waiver since 2012. Policy provided strong support for the export of value-added goods, while discouraging the

export of raw and semi-processed goods. On this count, the positive effect of policy on the leather industry as a whole can be attributed to finished leather goods. Indeed, if we restrict the treatment group to the footwear sub-sector (and hold all other variables constant), the impact was more than twice as large (6%). This is also supported by the export trends of finished leather goods following the implementation of GTP-I, in terms of both intensive and extensive margins (Appendix A6).

Given the crucial importance of building firm-level capacity for the overall improvement of sectoral export performance, it is important to know how effective the export promotion policies have been. To this end, interviews were conducted with firms producing footwear and other leather goods. The results are presented in the following section.

Qualitative results: the case of the leather and leather products industry

The firm-level interviews were conducted with eight domestic and four foreign firms producing leather and leather products.

All of the foreign firms interviewed produce only for export and have an estimated 70% share of Ethiopia's total shoe export. Domestic firms are generally oriented towards local markets but with differences in the proportion of the products they supply. Two firms sell all of their products locally, while the remaining six firms export 5-80% of their total product.

The role of Investment incentives

Generally speaking, nine of the 12 interviewed firms found investment incentives adequate for attracting new investment. However, many of the firms (5), while appreciating the principles underlying the policies, reported problems with their implementation. Three firms perceived incentives to be inadequate for attracting investors. In terms of the firms' initial investment decisions, eight firms, including all the foreign firms, reported that Ethiopia's industrial policy played a significant role in motivating their entry. Investment policy had no significant effect on the initial investment decisions of four of the eight interviewed domestic firms. However, the fact that all of these firms started operation before 2010, means that their responses have no bearing on the effects of the new investment regulations. Responses obtained from the four foreign firms are more useful, not only because they entered Ethiopia after 2010, but also because they enable a comparative view of Ethiopia's policy against global experiences.

All of the foreign shoe and leather producers considered Ethiopia's investment incentives to be useful to their businesses. In addition to the investment incentives designed to attract foreign firms, the attractions include cheap labor and raw materials, and the PTAs such as the EBA and the AGOA. For instance, one

of the interviewed firms, the Huajian women's shoe factory from Guangdong, China entered Ethiopia in 2011 motivated by the preferential trade agreement between Ethiopia and the US and the EU; efforts to avoid a trade war with China; cheap labor; cheap leather; a 'plug-and-play' facility in the East Economic Zone built by China in Dukem; and the tax holiday provided by the Ethiopian government (Fu, 2012). Later in 2015, the Huajian group moved to its own industrial park, built on 138 hectares of land in Lebu, Addis Ababa.

However, the foreign firms complained about the constraints on implementing the investment incentives. Problems with customs clearance processes, the high cost of trade logistics, and inadequate infrastructure have undermined the competiveness of exporters (World Bank, 2012) over and above the expected benefits of the incentives. Moreover, the interviews with foreign firms reveal disappointment with the low productivity of workers in Ethiopia. A lack of skills, a poor working culture, high turnover, and the low learning capacity of workers have constrained productivity. Domestic firms also report the adverse impact of the shortage of hard currency, frequent power outages, political instability, and difficulties in using state of the art technologies. These problems were also identified by the Ministry of Industry (2016).

The role of export promotion incentives

Export promotion policies are aimed at accelerating structural transformation through an increase in Ethiopia's exports. They are expected to induce new entry and encourage exporters to increase their export intensities and extensities – according to the ToC (Fig.1). Following GTP-I, more incentives have been added, and directives and guidelines have been revised to encourage

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improvements in export performance for the priority sectors, with a particular focus on value-added activities. However, incentives have either been poorly implemented or inadequate and, as such, have failed to spur export growth in manufacturing.

One of the expected outcomes of export incentives is to make export entry easier for potential exporters. When asked if incentives have been useful in assisting export entry, all the domestic firms interviewed (holding all other variables constant) responded 'no'. The question was of little relevance to foreign firms, who had plenty of experience before coming to Ethiopia; export entry was, therefore, relatively straightforward for them. Similar to domestic exporters, however, foreign firms have often found it difficult to retain their market positions since moving operations to Ethiopia. All the domestic exporters interviewed (six current and one ex-exporter) found it difficult to start exporting, mainly due to the lack of connections with foreign buyers and poor competitiveness in terms of both product and price.

The efforts of individual firms, customer orders driven by web-based promotions, and participation in trade fairs and exhibitions contributed the most to domestic firms' export entry. This indicates that government support and incentives had little effect on initial export decisions. However, it would be wrong to entirely dismiss the government's role, though marginal – at least in facilitating participation in trade fairs. Firms were constrained by poor access to market information, poor technical and managerial skills, a shortage of raw materials, the mismatch between lower product prices in foreign markets and higher production costs, the limited supply of skilled manpower, and the inability to fulfill buyer's requirements in terms of delivery time and quality standards.

Firms had a hard time complying with international standards due to both internal and external capacity constraints. The external constraints are linked to suppliers and government bureaucracy. They blame leather suppliers who lack the capacity and willingness to supply the required quality materials on time. On the government side, firms were frustrated by the lengthy bureaucratic processes for importing and exporting. However, problems with the supply of raw materials, foreign currency and product price were the most serious, and common, bottlenecks for all domestic exporters. For instance, General Leather Goods PLC., which started exporting in 2004, was forced to cease exporting in 2010 owing to the reasons mentioned above. The other six domestic exporters still in operation have experienced a decline in exports.

Among the foreign firms, New Wing and Huajian reported an increase in exports since entering Ethiopia, while Oliberte Ltd. and George Shoes reported a declining trend. New Wing stated that the increase in exports was largely a result of the firm's own efforts and increased demand for their goods in existing markets. The manager was adamant that the government's export incentives had only a marginal effect on the firm's increase in exports. The fact that the Huajian group moved from a rented facility in the Eastern Industry Zone to its own Industrial park in 2015 is suggestive of the growth in its exports and its intention to expand further.

All the domestic firms have experienced a declining trend in exports, while for foreign firms there have been both increasing and decreasing trends. In terms of the declining trends in exports for Oliberte Ltd and George Shoes, their responses refer to the period of public unrest in Ethiopia since 2015. For instance, George Shoes had expressed a plan to increase its exports by over five-

fold right after commencing operations in 2014, which is at odds with their recent performance. The firm's manager appeared to blame frequent employee turnover despite the relatively good benefit packages they provide. Oliberte's manager associated the company's declining exports with a poor supply of leather (in terms of both quantity and quality).

Questions related to the effectiveness of export-specific incentives were among the most illuminating. Almost all the interviewed firms were aware of the existence of export incentives. However, they appeared to be more familiar with the voucher schemes, duty drawback schemes, export duty waivers, industrial zone schemes, and foreign currency retention accounts. The bonded export manufacturing warehouse scheme, the bonded export factory scheme, the bonded input supplies warehouse scheme and the extra years of income tax exemption, were less popular. All current exporters reported using at least one of the schemes. Duty free importing and exporting was seen as the most useful incentive by four of the eight exporters, including Huajian and Oliberte Ltd. Two firms ranked voucher schemes as the most useful incentive, while the remaining two, including George Shoes, were hesitant to rank any incentives as useful.

However, all the respondents reported difficulties in implementing the incentives they had used. Although the voucher schemes were the most frequently used incentive, they found the time it takes the Revenue and Customs Authority (ERCA) to refund vouchers (usually two to five years) to be unacceptable. Moreover, most of the interviewees expressed frustration with the long bureaucratic procedures they experienced while dealing with the incentives.

Effectiveness of implementation

In terms of implementing export incentives, only three of the interviewed firms saw government institutions as being effective, while the remaining firms described them as less effective (6) or totally ineffective (2). ELIDI, the Ministry of Industry (MoI) and Commercial Banks were reported as providing relatively good support for export businesses. Contrary to expectations, the ERCA was ranked as the worst institution by all firms. Almost all the interviewed firms were pessimistic about improvements to the ERCA's lengthy bureaucracy. In terms of the effectiveness of the government's monitoring and evaluation (M&E) of policy implementation, three of the four interviewed foreign firms gave positive responses. In contrast, five out of the seven domestic firms did not see the benefits of M&E. They thought M&E was conducted only for the sake of reporting purposes.

The commitment of leading officials in charge of institutions at the forefront of implementing export incentives is perceived to be acceptable by almost all of the interviewed exporters. However, all of the firms say the problem is at the lower levels of the bureaucracy. According to the interviewees, there is wide gap between those in leadership positions and lower-level workers, which stifles any commitment at the top. A manager of one foreign firm complained bitterly that officials pretend to be committed by talking a lot, but fail to take any action. Only two of the nine firms responded positively to the question about whether there has been any change in the government's political commitment over the GTP period, while the majority (seven firms) did not find any change.

In terms of human resources, a lack of skilled labor, a poor working culture, a high turnover, job safety and other work-related disputes remain issues of concern. Firms also reported a limited supply of raw materials from local producers. The quality of locally sourced materials are poor. Moreover, firms also complained about foreign currency constraints, customs bureaucracy and high transportation costs when they wanted to import inputs. When asked whether they had ever been consulted by the government, all the firms but one answered, 'Yes.' However, these consultations were considered pointless by almost all the firms, in the sense that their input was never used and consequently nothing improved afterwards. In areas where government organizations are less effective in supporting private businesses, private institutions such as the leather and leather products industry association (LLPIA) and the chamber of commerce (CoC) could play a useful role in facilitating collaboration between private companies and government institutions. Strengthening public-private partnerships (PPP) is important for supporting policy implementation (as indicated in the ToC). However, PPP has yet to be effective in Ethiopia's case – none of the interviewed firms found either the LLPIA or the CoC supportive in solving their problems. Most of the problems were perceived to be beyond the capacity of these organizations.

Differences between foreign and domestic firms

The problems of raw material supply, foreign exchange and export price do not seem to be as serious for foreign firms as they are for domestic firms. This could be mainly due to the fact that foreign firms have relatively better access to raw material supply, make better use of external financing schemes and franco-valuta[1] import of inputs, better technology and scale economies. On the other hand, the lack of motivation among employees, frequent absenteeism, and high turnover are not as much of a threat to domestic firms, as they appear to be for foreign companies. This is because domestic firms are more used to the working culture of local workers.

Differences between firms in and outside industrial parks

Ethiopia has constructed Industrial Parks (IPs) in different parts of the country aimed at easing entry deterrents. They have built ready-for-use 'plug & play' premises and facilitate coordinated production along value chains. Following this, many foreign companies have installed their plants in the IPs. Firms in IPs enjoy extra incentives: income tax exemptions, one-stop government services, expedited and easy entry for expatriate personnel and their families, and better customs facilitation – whereby imported raw materials are transported straight from the customs post to the factory through a bonded export factory scheme. Therefore, firms located inside IPs are assumed to be in a better condition, and find it easier to conduct their production and export activities, than firms outside the IPs.

Of the four foreign firms interviewed, two firms were in IPs (*Huajian* in its own private IP and George Shoes in Bole Lemi1) to see if IPs are indeed useful. Compared to the two other foreign firms outside the IPs, they appear to have enjoyed more attention and support from the government. However, their views on the policy support are very different. Huajian appeared to be fairly satisfied with all the incentives. In particular,

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1. Franco-valuta refers to the import of goods without the use of bank methods of payment

the firm described the duty free and one-stop service within the park as the most useful incentives. The manager of George Shoes, on the other hand, did not seem to appreciate the privileges of being in the park, including the one-stop service. He explained that incentives such as duty free imports and exports mean little as they are common to all firms. Rather, it is a productive working culture, stability, cheap and fast transportation, and efficient bureaucracy that are more important. Low labor productivity, and the high cost of transportation and logistics were more of a concern for the manager than incentives. Problems relating to the high turnover of employees, transportation, foreign currency and the language barrier were also raised by Huajian's manager. In contrast, two foreign firms outside the IPs were frustrated by frequent power interruptions, a lack of firm-specific support, lengthy bureaucratic procedures and political instability.

Discussions on the combined findings

Both qualitative and quantitative results indicate gaps between the realized outcomes and policymaker's expectations. The ToC (Fig.1) describes the necessary conditions for private businesses: basic production resources, technical support, access to finance, market information, research and development, training, and infrastructure, among others. Policy documents have promised to provide the necessary enabling conditions and generous investment incentives.

Among the overall investment incentives, access to land at favorable lease rates, access to bank loans, fiscal incentives and duty free import of fixed capitals and materials were considered highly attractive to the interviewed firms. However, they do not have the same effect on domestic and foreign investors. The general investment incentives, as well as the cheap resources and labor that foreign companies seek, have attracted greater amounts of foreign manufacturing investment. Thus, as per the ToC, activities aimed at attracting FDI have contributed to the realization of the intermediate outcome: increasing the shares of manufacturing in employment (see Appendix 4).

On the other hand, the incentives have fallen short of encouraging value adding domestic investors to the manufacturing sector, with only marginal contributions to employment. Rather, incentives have been misappropriated through informal networks between government officials and rent-seeking private investors. Aided by the country's land policy,[2] excessive abuse of investment incentives has led to the eviction of thousands of farmers

2. The policy dictates that land is the property of the Ethiopian government and the general public.

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around the major towns, which sparked violent youth protests in different parts of the country. In addition, institutions and officials in leadership positions lacked either the commitment or capacity to provide support for promoting investment, and coordinating different actors in charge of implementing policy incentives. For instance, the facilitation of the supply of raw materials, marketing and linkages, customs clearing, technical support and sustainable utility supply, among other factors, illustrated in the ToC, remains disappointing.

Export promotion policy (EPS)

The expectations that incentive packages are adequately attractive to potential exporters and that all responsible institutions have the capacity to implement the incentives, were not fulfilled. In practical terms, incentives have not been able to compensate for the cost disadvantages that domestic producers face in international markets and have failed to motivate them to export. The ToC has not been adequately supported. Aided by the investment incentives, FDI contributed the most to the growth in Ethiopia's textile and leather sectors. In addition to the PTAs and the duty free import incentives, the Industrial Park scheme has played an important role in attracting FDI and, in turn, improved export.

The heterogeneity of results in the econometric analyses can be attributed to the different impacts of policy changes on the behavior of firms and sectors. For example, the immediate impacts of policy change on the leather industry's exports involve both negative and positive elements. Firstly, the overall export revenue from the leather and leather products industry decreased due to the fact that the largest proportion of the sector's exports constitutes raw and semi-processed hides and skins. On the other hand, it has increased the export of value-added products through increasing

the quality and availability of leather for manufacturers of finished leather and leather products. According to Brautigam, McMillan and Tang (2013) the policy change helped increase foreign firms' exports because of their capacity to upgrade their machinery for producing finished leather goods. In contrast, smaller local tanneries were forced to stop or greatly reduce their exports as they were not able to upgrade their technologies. Therefore, the net outcome of the tax adjustment for overall sector exports depends on the magnitude of the two opposing effects.

Unlike the sectoral analyses, firm-level quantitative results indicate that firms in the leather industry in general, and footwear manufacturing in particular, have better export propensity, indicating positive policy effects. Increased entry of foreign footwear firms seems to have contributed to increased export propensity during the GTP-I period. Interviewed foreign firms have been licensed exclusively for export and they accounted for the largest share of Ethiopia's shoe exports, following GTP-1 implementation as they entered after 2010. Hong Kong's New Wing and the Chinese Huajian group entered Ethiopia in 2011, while the Canadian Oliberte Ltd and the Taiwanese George Shoes Factory started operations in 2012 and 2014, respectively. Given these companies are large and export-oriented, and the firm-level data is repeated cross-section, the export propensity of firms in the footwear sub-sector after GTP-I is likely to be higher than that of the preceding period.

Among the eight domestic firms interviewed, only Modern Zege Leather Products PLC started exporting in 2012. All the remaining domestic exporters began long before GTP-I. Domestic firms showed more interest in local markets than in exporting. One of the firms, which started operation with the intention of exporting over 50% of its product, has ended up with only about 10% export.

Some firms are exporting just for the sake of securing foreign currency that they can then use for importing raw materials. This partly explains why firm-level export propensity in the leather industry improved over the GTP-I period, while industry-level export sales declined (after controlling for the effects of foreign affiliation and other confounding factors at both firm and industry levels).

The current incentives and support given to exporters are negligible compared to the costs and difficulties involved in exporting. It is very difficult to induce exporting when the local market is more rewarding and exporting entails high costs. However, the improvements in exports following the construction of IPs and the entry of foreign firms, point to areas that can be scaled-up. The growing interest of foreign firms in industrial parks suggests the need for developing a well-blended use of the IP scheme and attracting FDI. There have also been interesting developments since 2013, which marked the beginning of an increase in exports to other African countries (Appendix A6). This is worth scaling-up as it would help build the capacity needed to compete globally.

Conclusion and recommendations

With the intention of evaluating the effectiveness of the Ethiopian government's export-oriented industrial policy, this study examined changes in the export performances of priority industries after the implementation of GTP-I. Unlike similar studies conducted in Ethiopia, this research has developed a comprehensive theory of change underlying the country's industrial policy against which different outcomes were evaluated. The quantitative analysis was conducted using annual manufacturing censuses for Ethiopian large and medium establishments spanning the period 2000-2015. Impacts have been estimated using the difference-in-difference (DID) technique, both at firm level and industry levels. Results of the quantitative analyses have been supplemented by information gathered through firm-level interviews.

Interviewed firms (domestic and local) found the investment incentives attractive enough to new entrants. However, they did not find export promotion incentives useful in inducing and increasing export. The high cost of production, lack of information and linkages with overseas markets, capacity constraints in satisfying standards and low foreign prices are among the major export barriers. Lengthy bureaucratic processes, a lack of raw material supplies, acute shortages of foreign currencies, poor logistics and transportation problems were also among the most serious bottlenecks. With respect to domestic workers, a lack of adequate skills, high worker turnover, poor work culture and, hence, very low productivity appeared to have contributed to dismal export performance.

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Quantitative analyses show that policy incentives did not seem to have generated the expected result, in view of the differential impacts they had on equally supported sectors. It is difficult to associate the increased export sales of the textile sector. Similarly, the improvement in the export propensities of firms in the leather products industry was mainly attributed to entry of foreign companies. This was confirmed by the fact that entry of five of the 12 interviewed firms coincided with the GTP-I period, among which four were large sized foreign shoes companies exclusively licensed for export. On the other hand, interviewed domestic firms tended to be more local market-oriented, while some of them occasionally export just to get preferential access to foreign currencies required to import materials.

Generally, except for the IP scheme, export incentives have not been effective in increasing export. The construction of IPs, attractive investment incentives coupled with the PTAs have contributed to the entry of foreign companies and hence export. However, interviewed firms complained about the increasing cost of production and transportation related to the problems discussed. Poor implementation and the inadequacy of incentives have persisted despite the pledges made by the government to change the situation over GTP-I. Firms also attested an absence of practical improvement in the political commitment towards promoting export. The government itself has repeatedly admitted the deepening of rent-seeking behavior, instead of the desired outcome of gearing private investors towards value creation (NPCE, 2016). This indicates the prevalence of rent misallocation and the difficulty of building the required institutional environment towards effective implementation of incentives. It appears to be a signalling problem linked to political

settlements and the impact of informal power networks, which renders formal institutions ineffective (Khan, Andreoni and Roy, 2016).

The following are a summary of interviewees' suggestions on measures to be taken to increase export:

- Solve problems associated with access to foreign currency. Exporters believe that there is no special treatment for them as there are cases in which importers of ordinary consumption goods such as *jolly juice*, receive preferential treatment

- Improve access to raw materials through securing an adequate supply of foreign currency, reducing transportation costs, directly importing and distributing of essential raw materials by the government, and providing special support to domestic production of raw materials with the required quality standards

- Reduce bank interest for exporters to a meaningful amount, because, it is insignificant compared to other investors' entitlement.

- Make government support prompt and flexible with minimum bureaucratic difficulties. The support interviewees mentioned includes provision of additional land for expansion, financial support and legal protection from corrupt officials

- Create market linkages both locally and globally. The government has to give financial and technical support to exporters to promote their products and strengthen participation in trade fairs

- Provide technical and legal support towards building exporters' capacity to satisfy foreign buyer's requirements in

terms of quality, quantity and time of delivery

- Give strong and sustainable assistance from production to export. The support should be given only for a limited time until firms develop their production and technological capacity and improve their competitiveness

- Improve the availability of skilled workers

The government has to make fundamental changes if policies are to have an impact. The following directions are worth considering.

Policy recommendations

- Limitations in the local manufacturing base should be addressed, and available potential has to be harnessed. In addition to general support, issues to be considered should include:

  o more pragmatic measures to encourage new domestic investors by reducing the risks involved in manufacturing investment

  o strategies to upgrade micro and small enterprises to medium and large manufacturing enterprises have to be implemented with greater commitment and coordination, to enhance the participation of domestic firms

  o encouraging cooperative unions to invest in priority areas as they are likely to be less risk averse.

- Revise the design of export incentives in a way that compensates for the extra cost of exporting and ensures that returns from exporting are at least as good as those from the domestic market.

- Improve communication and coordination among policy implementing institutions

and establish effective communication and follow-up between higher-level and lower-level bureaucrats. In this way, lower-level workers in each implementing institution will be more motivated to share in the organizational mission and work towards the same aim.

- Tackling bureaucratic obstacles, though crucial, is one of many issues the government must pay attention to if the problems facing the manufacturing sector are to be mitigated. Capable bureaucrats have to be assigned to all policy implementing institutions and provided with an attractive benefit packages and result-oriented rewards.

- The key strategy is to get the political settlement right and reform the government's policymaking machine so that policies are designed and implemented effectively. This means recruiting bureaucrats on the basis of their capacity and commitment rather than political criteria. There should also be an effective monitoring and evaluation system that helps correct errors and strengthen successes. This includes instituting mechanisms that would hold bureaucrats accountable for their deficiencies while rewarding good performance.

- Efforts underway to reduce the costs of transportation and logistics have to be strengthened, and other cost reduction mechanisms have to be sought.

- Provide distinctive policy incentives and support to exporters in a way that adequately compensates for the extra costs and efforts involved in export processes.

- Establish more pragmatic platforms for skills development for local workers in view of the quality and levels required by international standards.

- Improve the working culture and productivity of local workers so that they attain the standards required by existing foreign companies as well as nurture potential entrants.

- Improve the production capacity of local input suppliers in terms of technology, quality, timely delivery and operational flexibility.

- Support innovation and learning-oriented initiatives among domestic companies to help mitigate the current lack of exporting capacity.

- Provide effective and genuine support for production and exporting processes by establishing regular consultations with private firms and undertaking subsequent evaluations of their performances.

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Appendix

Appendix A1. Incentives

Financial incentives
• Loan amount of 70% out of total fund needed for investment in cash from Development Bank of Ethiopia (DBE) against 30% equity contribution. Besides, DBE extends loan with an interest rate of 8.5% and grace period of 5 years.
• DBE and other domestic banks provide services like co-financing, loan buyout, working capital and international loan repayments out of Ethiopia to the private sector.
• National Bank gives Export credit service and export credit guarantee scheme to help reduce the risks related to export
• Exporters are given with preferential access to foreign currency through schemes such as external financing, supplier credit, franco-valuta, and foreign currency retention accounts. The last one allows exporters to retain and deposit their export proceeds in a bank account up to 20 % of their foreign exchange earnings for future use.

Fiscal incentives
• Investors enjoy 100% exemption from payments of customs duties and other taxes levied on import of capital goods, such as plants, machinery, & equipment, and construction materials. They can also import spare parts worth of 15% of the total value of imported investment capital goods free of duty
• According to regulation No. 270/2012, any investor who directly exports at least 60% of his/her goods or who supplies production or service inputs to an exporter is allowed to enjoy two extra years of income tax exemption in addition to the one permitted for any new investment depending on the location of the investment.
• Regulation No. 312/2014 amended regulation No. 270/2012 by adding more generous income tax exemption for investors located in industrial zones. Establishments in industrial zones located in Addis Ababa and special zones of Oromia regional state are given income tax exemption of 10 years while those in other locations are entitled to 15 years of grace period.
• Besides, the regulation entitles exporters for 2 to 4 extra years of exemptions from income tax provided they export at least 80% of their goods or supply inputs to exporters.
• An investor who has incurred loss within the period of income tax exemption shall be allowed to carry forward such losses for half of the income tax exemption period after the expiry of such period
• Duty draw back (DDBS) scheme (: it offers investors an exemption from the payment of customs duties and other taxes levied on imported and locally purchased raw materials used in the production of export goods. Duties and other taxes paid are drawn 100 % at the time of export of the finished goods.
• Voucher scheme: beneficiaries of the vouchers scheme (producer exporters, indirect producer exporters and raw material suppliers). A voucher is a printed document having monetary value which is used in lieu of duties and taxes paid on imported raw material.
• Bonded export factory Scheme (BEFS): scheme that enables legible manufacturer to import raw materials free of duty to be used exclusively for production of exportable goods inside a factory under the control of the Ethiopian Revenues and Customs Authority
• Bonded export manufacturing warehouse Scheme (BEMWS); means a warehouse under joint control of the Ethiopian Revenue and Customs Authority and the factory concerned, where raw materials
• Imported free of duty for use in the production of goods destined exclusively for export as well as goods produced using such raw materials are stored;
• Bonded input supplies warehouse Scheme (BISWS); means a warehouse under the joint control of the Ethiopian Revenues and Customs Authority and the supplier concerned, where raw materials and accessories imported free of duty by a licensed supplier are stored until such time as they are sold to producers;

- Industrial zone Scheme (IZS): scheme that allows beneficiary of industry zone (an area set aside for industry which is equipped with the necessary infrastructural facilities). IZS has been introduced as a tool of EPS one year after the launching of GTP-I through the Proclamation No. 768/2012. It has been upgraded to Industrial park since 2015 following the introduction of Industrial parks proclamation No. 886/2015.

  Among the last five export promotion incentive schemes, the BEFS, BEMWS and the BISWS have been designed to accelerate exports through enhancing customs clearance procedure. IZS was anticipated to promote inflow of FDI and export through reducing transaction costs and sharing the burden of overhead costs.

Other export-related measures include:
• Exempting all export products of Ethiopia from export taxes with the exception of few products (e.g. semi-processed hides & skins)
• Marketing and information systems and creation of collaborative businesses between domestic and foreign firms are given through export promotion agency, chamber of commerce and ministry of foreign affairs through its diplomatic mission
• Exporters of priority sectors are given preferential and swift customs clearance service by the customs authority
• Exemption from customs duty of locally purchased raw materials on fast refund bases
• Investors who invest in priority areas such as textile and apparels, leather products and agro processing to produce mainly export products are granted land for their investment necessary at reduced lease rate.
• Imposing value added on export products (example leather and products of leather sector)
• Imposing export targets and vertical linkages on foreign firms

Appendix A2

Major implementing institutions (extracted from legal documents, directives and the ERCA's (2017) customs guide)
Ministry of Industry (MoI): In addition to its role in designing and implementing industrial policy, MoI issues Duty drawback authorization letter, issues & renews export trade duty incentive scheme Certificate, issues and renews 2nd Schedule Certificate, approves of raw material supply contract agreement. It also prepares important rules and regulation; provides technical support; and coordinates benchmarking and twining programs. It does benchmarking with the help of international institutions. For instance, it introduced best practices of Italian footwear firms to the Ethiopian footwear industry in collaboration with United Nations Industrial Development Organization (UNIDO); benchmarking for the apparel sector was supported by Chinese Institute.
National Bank of Ethiopia (NBE): Facilitate external financing such as venture capital, financing of transaction such as imports of raw materials for export goods manufacturing and financial cover of exports before being paid. Specifically, it registers sales contract agreement; issues Export Bank Permit; issues foreign currency Approval; issues Bank import permit for Letter of Credit (Open L/C) and advance Payment; and approves Purchase order for Cash against document (CAD).
Development Bank of Ethiopia: Responsible to provide finance to investment projects in the priority areas, and provision of export-related credits at conventional rates.
Ministry of Trade: Issues import and export release Permits; issues business license based on its assessment about where the request is in line with the commercial registration and business licensing proclamation. Facilitate business activities, communication networking, trade information and awareness creation through information flow, business services such as promotion, marketing, contacts to marketing chains and trading services.
Ethiopian Revenue and Customs Authority: Facilitate all import and export activities and provide required support to implement the incentive packages given to the priority sectors.

Ministry of Finance and Economic Development (recently renamed as Ministry of Finance and Economic Cooperation): Formulates, monitor and evaluate economic policies; Lead and coordinate every issues of planning and financing of national development, and prepare economic indicators. With respect to the industrial policy, the Ministry is empowered to issue directives for the proper implementation of Proclamations and regulations.
Ethiopian Investment Agency[recently called Ethiopian Investment Commission (EIC)]: serve as nucleus for matters of investment and promote, coordinate and enhance activities thereon; initiate policy and implementation measures needed to create a conducive and competitive investment climate; negotiate bilateral investment promotion and protection treaties with other countries; Issues, renews and cancels investment permits; monitors implementation of investment proclamation, provide investment incentives, provide advisory, information and technical support to investors; collect compile, analyze and disseminate any investment related information; register export-oriented non-equity based collaboration agreements made between domestic investor and foreign enterprises; and Issues Customs Duty Free permission letter.
Special capacity-building institutes (such as Leather Industry Development Institute and Textile industry Development institute): Undertake capacity-building, manpower development, skill transfer and training, Technology support and applied research facilities; and facilitate exchange of technical information, experiences and practices for their respective sectors,
Export steering committee (chaired by the PM): handles the newly introduced export level targets.
Ethiopian Conformity Assessment Enterprise (ECAE): ensures conformity of import and export products with accepted standards. Accordingly, it issues Laboratory test and inspection reports.
Ethiopian Radiation Protection Authority (ERPA): Issues Pre-Import and Import Release Permit related to Import of radiation emitting equipment and machinery.
Other additional institutional arrangements in favor of exporters include, creating consultation forum between the exporting community and government and the establishment of national exporters association. Regular meetings with such associations and individual exporters are set to be held in order to address difficulties experienced during actual operation. Regulations backing the implementation of investment and export incentives have been improved several times since they were introduced. Specific targets have been set to further improve service times such as shortening customs clearance times, reducing time taken to get a business license and simplifying procedures to access land for businesses.

Appendix A3

### Number of firms in 2-digit industries by year

Industry	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Food and beverages	213	219	266	272	294	213	334	346	439	484	498	577	541	602	628	769
Tobacco	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Textile	33	31	34	36	38	38	42	41	25	44	39	41	62	78	65	72
Wearing apparel	25	24	29	32	35	28	31	32	34	37	46	36	33	22	27	77
leather products	52	52	52	56	62	60	60	72	75	80	103	119	119	135	124	96
Products of wood	16	14	21	17	20	18	21	33	49	44	47	67	57	84	86	78
Paper products	7	5	7	7	7	9	12	12	19	18	22	27	12	18	20	29
Printing & publishing	56	46	66	66	66	68	74	81	92	87	90	87	92	99	103	123
Chemical products	39	36	41	45	45	51	52	64	70	69	87	69	83	130	110	97
Rubber and plastic	27	27	37	39	42	47	63	64	80	82	130	101	117	140	139	201
Other non-metallic miner	77	81	96	111	119	66	139	273	454	557	437	376	472	500	611	528
Basic iron and steel	7	10	11	10	13	13	14	13	14	15	37	37	25	35	34	55
Fabricated metal products	50	50	61	73	73	73	99	57	93	109	138	130	157	162	150	178
Machinery and equipment	13	7	7	9	9	6	9	4	3	4	15	6	1	10	14	29
Primary batteries	1	1	1	1	1	1	2	1	1	1	2	1	1	1	5	8
Vehicles, trailers, parts	9	6	6	7	7	8	10	42	14	12	10	7	7	11	8	9
Furniture	113	112	147	157	165	63	190	203	271	304	256	252	349	357	277	361
Total	739	722	883	939	997	763	1,153	1,339	1,734	1,948	1,958	1,934	2,129	2,385	2,405	2,718

Source: Authors' computation based on LMMIS data

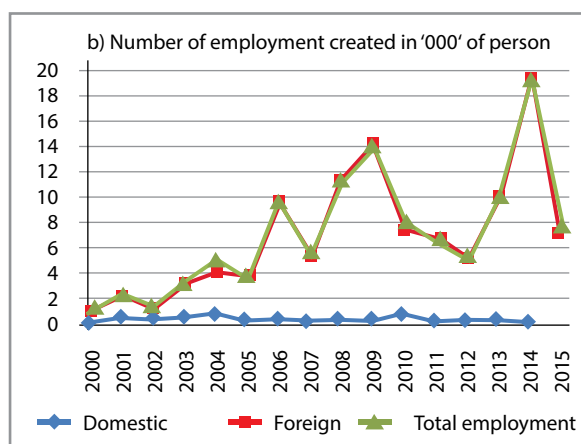Evaluating the impact of export promotion policy incentives in the Ethiopian manufacturing sector

Appendix A4 Trends of manufacturing investment and export

A4.1: Trends of capital investment and permanent employment creation by year and source
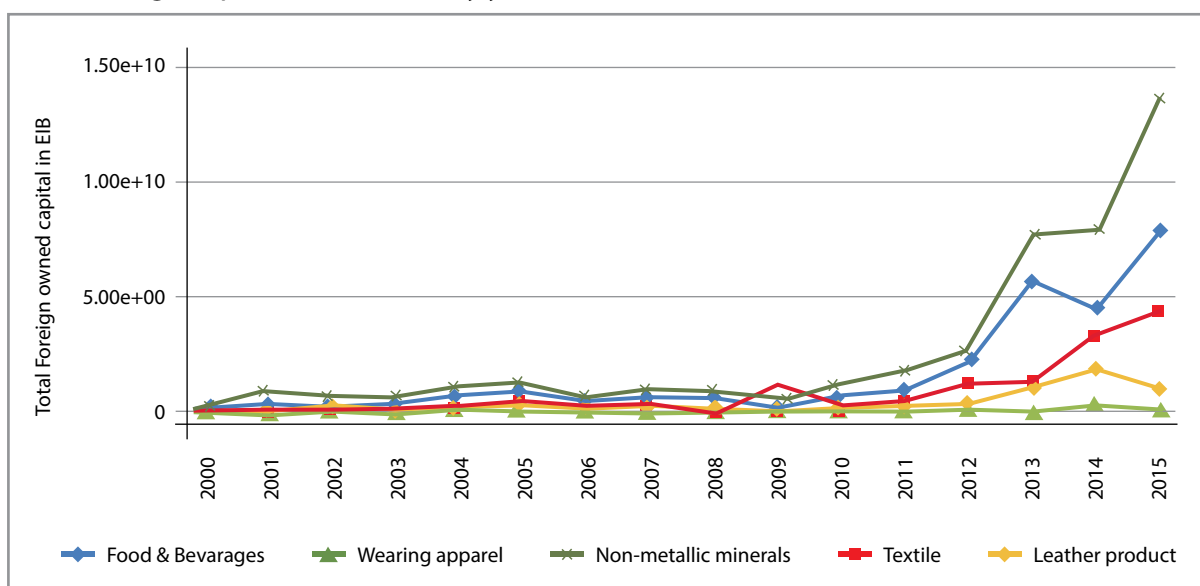
A4.1 a

a) Capital invested in '000' of ETB

A4.1 b

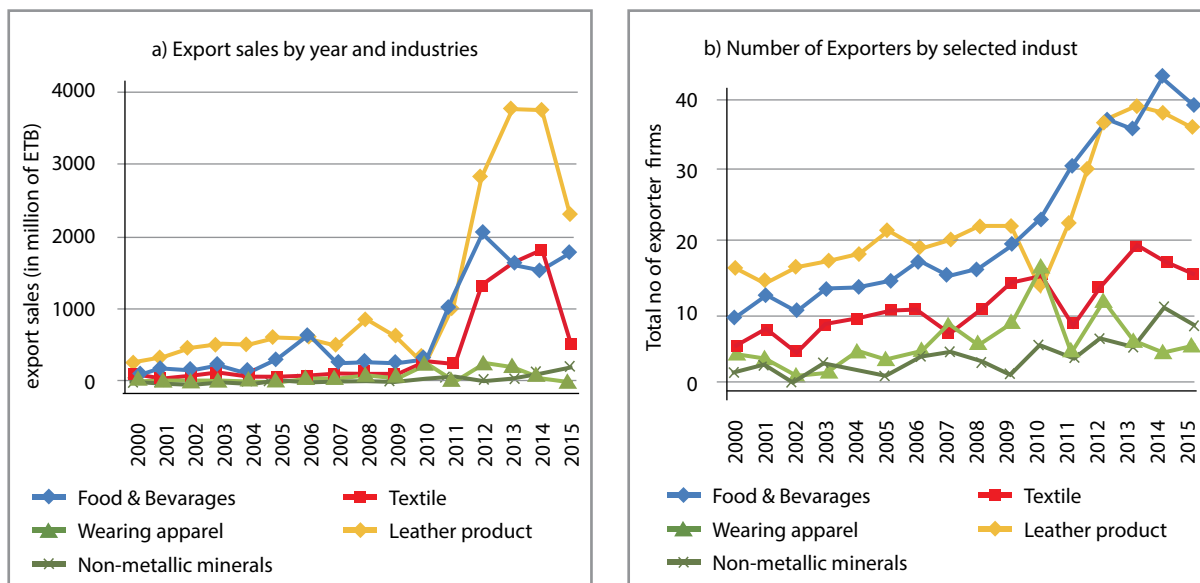b) Number of employment created in '000' of person
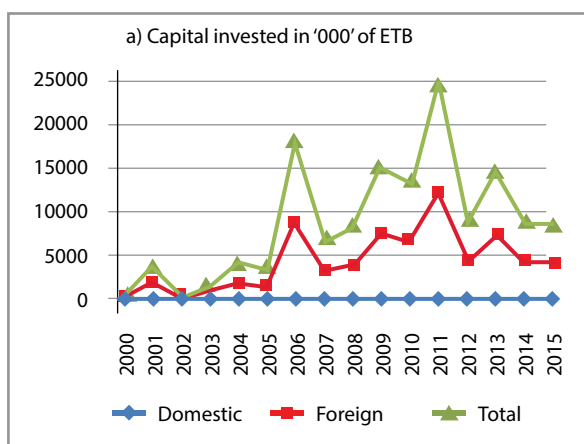
Source: Ethiopian investment Agency

A4.2: Foreign capital investments by year and selected industries

A4.3: Export sales and number of exporters by year and selected industries

a) Export sales by year and industries

b) Number of Exporters by selected indust
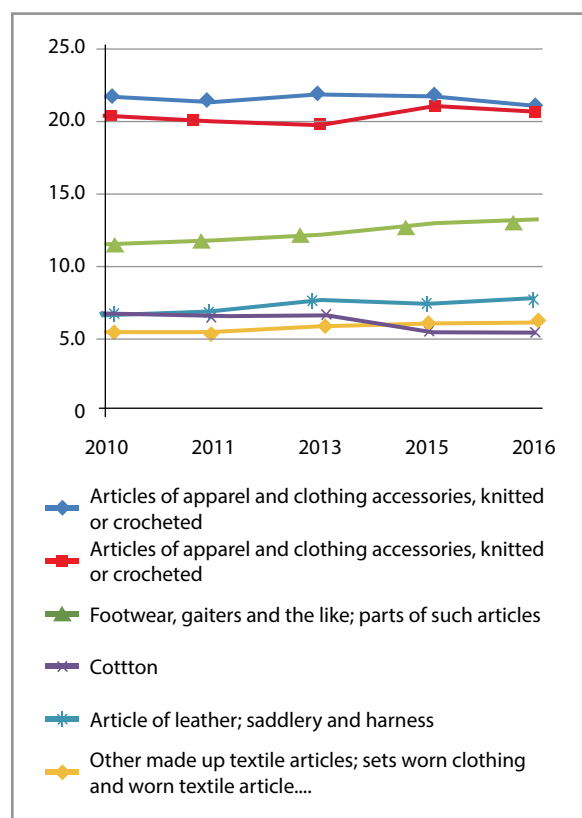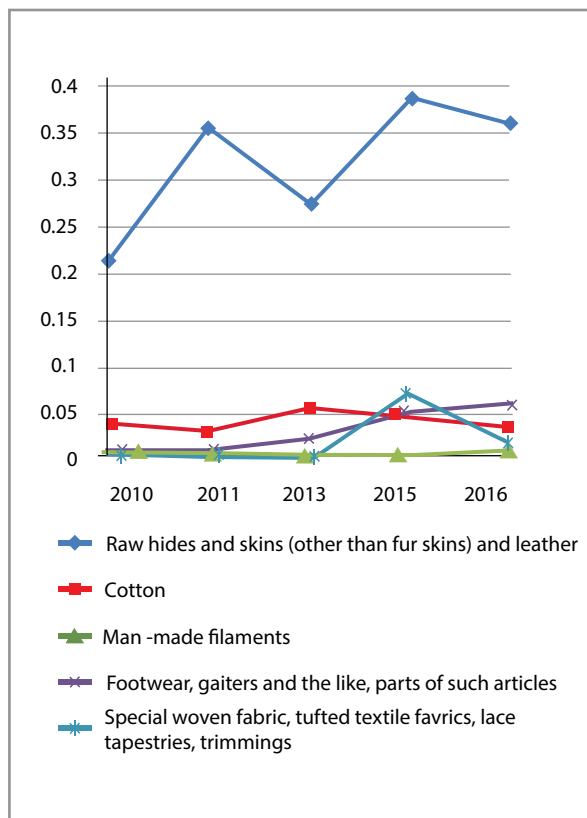
Source: A4.2 and A4.3 were computed based on LMMIS

Appendix A5: Values (in Billions of ETB) and Regional destinations of Ethiopia's manufactured export
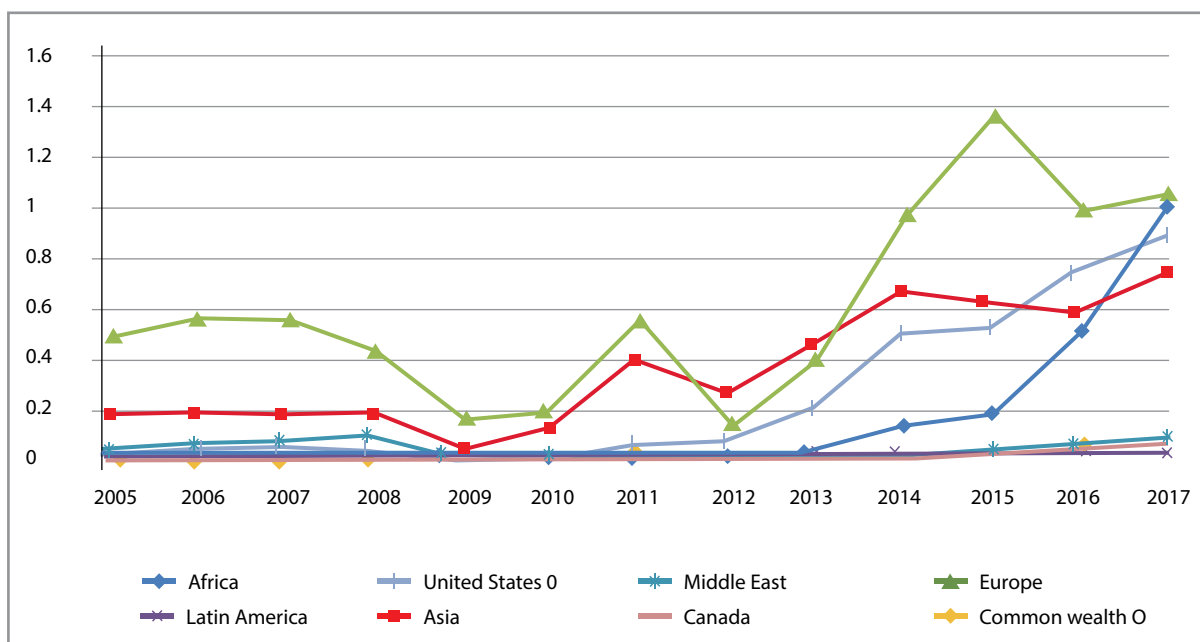
Source: Authors' computation based on ERCA data

Evaluating the impact of export promotion policy incentives in the Ethiopian manufacturing sector

Appendix A6: Intensive margin (a) and Extensive margin (b)

Source: Authors' computation based on UN-comtrade database

Note: product based Intensive margin (IM) and Extensive margin (XM) were Computed following Hummels and Klenow's (2005) as:

$$IM^i = \frac{\sum_{K^i} X_K^i}{\sum_{K^i} X_K^W} \; and \; XM^i = \frac{\sum_{K^j} X_K^W}{\sum_{K^W} X_K^W}$$

where IM^i is the static intensive margin (i's market share in what it exports); K^i is the set of products exported by country i; X_K^i is the dollar value of i's exports of product k to the world; and X_K^W is the dollar value of world exports of product k; K^W is the set of all traded goods; and XM^i is the (static) extensive margin which measures the share of the products belonging to i's portfolio in world trade.

Appendix A7: Qualitative interview guides

Part I. Exporters' interview guide

A. Firm's general profile

1) What is the ownership status of the firm? (Public, private, joint venture)_____

2) What is the legal form of the firm (sole proprietorship, partnership, PLC, Share Company, Cooperative)?_____

3) When did your firm start operation (in E.C.)?_____

4) Number of permanent employees: Male_____; Female_____; total_____

5) Nationality of the owner_____

6) Nationality of the top manager_____

7) Educational status of the top manager (maximum level attained) _____

8) Experience of the top manager in the sector_____

9) What is/are the main product(s) of the firm? (Describe estimated percentage of each if the firm produces more than one product)_____

10) Market destination of the major product: Domestic _____%; Export _____%

11) Source of the raw materials in percent: Domestic _____%; Import _____%

B. Historical background of the firm's export activity

1) What is the main product of the firm's export?

2) When did the firm start exporting (year in E.C.)?

3) How often do you export the product? (for example daily, weekly, monthly, quarterly, biannually, or annually)

4) What is the main country of your firm's export destination? Describe if there are more countries of destination.

5) How did you start exporting? (Based on interaction with foreign suppliers of goods, government suggestion, shortage of domestic demand, affiliation with foreign firms)

6) How do you evaluate the ease of entry to export market? What are the most difficult problems hindering entry to export market? List according to their severity (eg. Lack of information about the potential demand, international quality requirement, financing problem, bureaucratic process, cost of production, transport).

7) What is the trend of your export since you started exporting? (Increased, decreased, stopped exporting….) elaborate each in relation to the following questions

   i). What are the main reasons for stopping or decreasing export? (Selling to domestic market generates higher benefit than exporting, difficulty to compete due to price, difficulty to compete due to poor quality of products, etc.)

   ii). What factors contributed to the increase in exporting? Explain (in relation to for ex. improved capability due to firm's own effort; increased demand for the goods in existing destination, opened new destination; improved government policy support; combination of firm's own effort and government policy support; NGO's support, Foreign countries' trade agreement such as AGOA and EBA initiatives, …………..)

8) What benefit did you get from exporting? (eg. Growth in profit, developing managerial skill, improved capacity utilization, learned better production skills, improved access to better quality inputs, improved capacity for innovation, improved Productivity, no benefit at all, etc.)

Evaluating the impact of export promotion policy incentives in the Ethiopian manufacturing sector

9) What is the firm's future export plan? (Increase volume, reduce volume, stop, diversify market destination, etc.). Explain what motivated your plan be it positive or negative

10) What type of support do you expect from the government to increase your firms export sales?

C.   Evaluation of the current overall investment incentives

1) Is the government industrial policy adequate to attract investment in manufacturing? Why and why not? _____

2) How do you evaluate the role of industrial policy in the initial investment decision of this firm? (Significant role, some role, had no effect). If policy had no effect in your investment decision what motivated you to enter the sector?

3) Are the general investment incentives useful from your company's point of view (Yes/No)? Elaborate your answer with examples

4) What are the major challenges faced doing your manufacturing business?

5) Are the general investment incentives adequate to overcome the major problems in doing business in your sector (Yes/No)? Elaborate your answer with examples

6) Do you know that 'leather and leather products' manufacturing industries are among the government's top priority sector (Yes/No)? If your answer is yes, how did you come to know (through ways like: reading policy documents, heard from the government, practical support etc.)? Elaborate your answer with examples (or manifestations)

7) Do you think that the policy principles (promised support) and actual practices match (or are the policies being implemented effectively)? (Yes/No). If your answer is 'No', give any example from your observation or experience.

8) What major problems did you observe in implementing the investment incentives?

D.   Export-specific policy incentives

1) Do you know about the special support the Ethiopian government provides to exporters of manufactured goods (Yes/No)? Explain the type of supports you have ever known. Which one do you think or found to be more useful? explain

2) Have you ever made any effort to use the export-specific policy incentives (Yes/No)? Give reasons for your answer

3) If you used any of the export incentives, which one did you find more useful? Explain your answer with example (in terms of adequacy, ease of using, benefits obtained and so on)

4) What difficulties did you encounter in using any of the export promotion incentives? List down the difficulties according to their level of importance with respect to each incentive schemes (refer to footnote 1)

5) Have you ever been consulted by the government about problems encountered in exporting in general and using the policy incentives in particular (Yes/No)? If yes, do you think that your feedbacks are taken by the government as inputs for solving problems? Explain your answer with examples.

6) How do you evaluate the effectiveness of the government institutions in charge of implementing the policy incentives based on your experience while dealing with them? (Not effective, less effective, acceptable, highly effective). If the institutions are not effective or less effective, what do you think is/are the possible reason (s)? (capacity limit with human resources, poor infrastructure, difficult bureaucratic process, poor commitment of employees, rent-seeking behavior, poor coordination of supporting institution etc.)

7) How do you evaluate the commitment of high-level government officials in charge of implementing the policy incentives from your experiences? (Poor commitment, low commitment, acceptable, highly committed). If the officials' commitment is poor or low, what do you think is/are the possible reason (s)? (Fine-tune reasons in relation to problems with the political system, lack of knowledge or capacity limit, difficult bureaucratic process, poor interest for work, rent-seeking behavior, other form of conflict of interest etc.)

8) Which government institution has been the most supportive for your firm's export activities? (eg ELIDI, MoI, Ministry of foreign affairs, National bank, customs and revenue authority etc.)

9) Is there effective monitoring and evaluation system by the concerned government institution regarding the implementation of export policy? Explain your answer with examples.

10) Have you observed any improvement in the government's political commitment in implementing export incentives after the commencement of the first growth and Transformation Plan (GTP-I) or after 2011 G.C. compared to the years before? If there is any improvement, what aspects have been improved? (Dealing with government bureaucracy, input supply, access to market, technical support, skill improvement, information flow, access to finance, access to foreign exchange etc.)

11) How important is leathers and products of leather association in solving export-related problems? If you find it important, how?

12) Is there any significant role played by chamber of commerce or any other trade association in facilitating export activities? If you found them important, how?

13) What suggestions do you have for the government if the current export-related bottlenecks have to be tackled and there would be better engagement in export market?

Part II. Interview guide for Non-exporters (100% domestic sellers)

A. Firm's general profile

1) What is the ownership status of the firm? (Public, private, joint venture)_____

2) What is the legal form of the firm (sole proprietorship, partnership, PLC, Share Company, Cooperative)? _____

3) When did your firm start operation (in E.C.)?_____

4) Number of permanent employees: Male_____; Female_____; total_____

5) Nationality of the owner_____

6) Nationality of the top manager_____

7) Educational status of the top manager (maximum level attained) _____

8) Experience of the top manager in the sector_____

9) What is/are the main product(s) of the firm? (Describe estimated percentage of each if the firm produces more than one product)_____

10) Market destination of the main product: Domestic _____%; Export _____%

11) Source of the raw materials in percent: Domestic _____%; Import _____%

B. Evaluation of the current general investment incentives

1) Is the government industrial policy adequate to attract investment in manufacturing? Why and why not? _____

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2) How do you evaluate the role of industrial policy in the initial investment decision of this firm? (Significant role, some role, had no effect). If policy had no effect in your investment decision what motivated you to enter the sector?

3) Are the general investment incentives useful from your company's point of view (Yes/No)? Elaborate your answer with examples

4) What are the major challenges faced in doing your manufacturing business?

5) Are the general investment incentives adequate to overcome the major problems in doing business in your sector (Yes/No)? Elaborate your answer with examples

6) Do you know that 'leather and leather products' manufacturing industries are among the government's top priority sector (Yes/No)? If your answer is yes, how did you come to know (through ways like: reading policy documents, heard from the government, practical support etc.)? Elaborate your answer with examples (or manifestations)

7) Do you think that the policy principles (promised support) and actual practices match (or are the policies being implemented effectively)? (Yes/No). If your answer is 'No', give any example from your observation or experience.

8) What major problems did you observe in implementing investment incentives?

9) How do you evaluate the effectiveness of the government institutions in charge of implementing the policy incentives based on your experience while dealing with them? (Not effective, less effective, acceptable, highly effective). If the institutions are not effective or less effective, what do you think is/are the possible reason (s)? (capacity limit with human resources, poor infrastructure, difficult bureaucratic process, poor commitment of employees, rent-seeking behavior, poor coordination of supporting institution etc.)

10) How do you evaluate the commitment of high-level government officials in charge of implementing the policy incentives from your experiences? (Poor commitment, low commitment, acceptable, highly committed). If the officials' commitment is poor or low, what do you think is/are the possible reason (s)? (Fine-tune reasons in relation to problems with the political system, lack of knowledge or capacity limit, difficult bureaucratic process, poor interest for work, rent-seeking behavior, other form of conflict of interest etc.)

11) Which government institution has been the most supportive for your firm's export activities? (such as Investment commission, Leather Industry Development Institute, Ministry of Industry, National bank, customs and revenue authority etc.)

12) Have you observed any improvement in the government's political commitment in supporting the leather industry after the commencement of the first growth and Transformation Plan (GTP-I) or after 2011 G.C. compared to the years before? If there is any improvement, what aspects have been improved? (Dealing with government bureaucracy, input supply, access to market, technical support, skill improvement, information flow, access to finance, access to foreign exchange etc.)

13) Do you think that sectoral associations like 'leathers and products of leather association' and 'chamber of commerce' are important in facilitating your business? (Yes/No). If they are important, elaborate

14) What suggestions do you have for the government if the leather industry has to develop better?

B. Firm's product market Decision

15) Apart from serving the domestic market, did this firm have any plan to export its product when it was established? (Yes/No). If it had no export plan, why?

16) If the firm had a plan to export, why has it not started yet? (You may think of reasons like due to planed time of exporting, problems with searching oversea buyers, complacence with domestic market etc.)

17) Has the firm ever exported or tried to start exporting? (Yes/No) If the answer is 'yes', what problems did you face?

18) Even if the firm has never tried exporting, what do you think are the most difficult problems hindering entry to export market? List according to their importance (eg. Lack of information about the potential demand, international quality requirement, financing problem, bureaucratic process, cost of production, transport etc.)

19) Do you know about the special support the Ethiopian government provides to exporters of manufactured goods (Yes/No)? Explain the type of supports you have ever known. Which one do you think or found to be more useful? Explain

20) If the firm has a plan to export in the future, what type of support do you expect from the government to help you realize the export plan?

Appendix A8: the transition matrix depicting exporters and non-exporters by periods

		2004-2006		2007-2010		2012-2015	
		Non-exporter	Exporter	Non-exporter	Exporter	Non-exporter	Exporter
Food & Beverages	non-exporter	99.2	0.8	98.6	1.4	98.3	1.7
	Exporter	12.8	87.2	50	50	26.1	73.9
Textile	non-exporter	97.5	2.5	79.2	20.8	92.5	7.5
	Exporter	18.5	81.5	31.6	68.4	50.0	50.0
Apparel	non-exporter	92.4	7.6	76.6	23.4	85.0	15.0
	Exporter	45.5	54.6	75	25	40.0	60.0
Leather & leather products	non-exporter	96.2	3.9	95.71	4.3	95.8	4.2
	Exporter	7.7	92.3	40	60	14.3	85.7

Appendix A9: balancing test between covariates conditioning firm-level DID estimates

Number of observations (baseline): 13030 [Control: 11581; Treated: 1449]

t-test at period = 0

Weighted: Variable(s)	Mean: Control	Mean: Treated	Diff.	t	Pr(T>t)
export	0.056	0.252	0.196	5.300	0.000***
lnexper	3.045	3.046	0.001	0.000	0.9964
lnsize	4.073	4.188	0.115	0.300	0.7692
lnlabp	10.862	10.809	-0.054	0.170	0.8681
Foreign	0.069	0.058	-0.011	0.560	0.5853
HHI4	0.149	0.137	-0.012	0.330	0.7448
Year_2	0.000	0.000	0.000	.	.
Year_3	0.087	0.090	0.003	0.410	0.6862
Year_4	0.100	0.100	0.000	0.010	0.9905
Year_5	0.105	0.108	0.003	0.280	0.7791
Year_6	0.101	0.099	-0.002	0.190	0.8499
Year_7	0.100	0.103	0.003	0.340	0.7409
Year_8	0.114	0.114	0.000	0.070	0.9447
Year_9	0.108	0.104	-0.004	0.290	0.7727
Year_10	0.128	0.126	-0.002	0.140	0.8867
Year_11	0.156	0.155	-0.001	0.040	0.968

Notes

The Global Development Network

The Global Development Network (GDN) is a public international organization that supports high quality, policy-oriented, social science research in developing and transition countries to promote better lives. It supports researchers with financial resources, global networking, and access to information, training, peer review and mentoring. GDN acts on the premise that better research leads to more informed policies and better, more inclusive development. Through its global platform, GDN connects social science researchers with policymakers and development stakeholders across the world. Founded in 1999, GDN is currently headquartered in New Delhi.

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