Main Features of Micro and Small Manufacturing Enterprises in Ethiopia

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ETHIOPIAN DEVELOPMENT RESEARCH INSTITUTE
(EDRI)

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[1] For any query, the corresponding can be contacted on mulu.yesus@gmail.com

Ethiopian Development Research Institute (EDRI)

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About the Authors

Mulu Gebreeyesus (PhD): is a senior researcher at the Ethiopian Development Research Institute (EDRI) and coordinator of entrepreneurship and small business development (ESBD) research program. Between 2008 and 2014, he had been working as a senior researcher at the United Nations University (UNU-MERIT), Maastricht the Netherlands. Prior to this, he served as a Research Fellow and Head of Poverty and Sectoral Development Directorate at EDRI for the period 2006-2008. Dr. Mulu has published widely in the field of development economics and particularly competition and enterprises dynamics (investment, growth, entry-exit and productivity), the practice and impact of industrial policy, innovation and small businesses dynamics in developing countries. He holds a PhD in Economics from the Department of Economics, University of Gothenburg, Sweden in 2006.

Abebe Ambachew (MSc): is a researcher associate at the Ethiopian Development Research Institute (EDRI). He obtained his BA degree in Economics from Haramaya University and MSc in Economics from Addis Ababa University. He taught economics for more than a decade at Haramaya University and has good research experience and publications records on various issues. He is currently engaged in different research projects, with other fellows in EDRI, in the area of Micro, Small, and Medium Enterprise (MSMEs) development. His main research interest includes firm performance, enterprise development, and economic policy evaluation.

Tigabu Degu Getahun (PhD): is a Research Fellow at the Ethiopian Development Research Institute (EDRI). He is also a senior researcher at the Center for Development Research, University of Bonn starting from 2015. His main research interest includes gender, individual and household welfare, firm dynamics, labor, innovation, inter-sectoral linkages and green industrialization. Getahun has a long track record of quantitative and qualitative studies. He obtained PhD in development economics from university of Bonn, Germany and M.sc in economics from University of Copenhagen, Denmark and B.A degree in economics from Addis Ababa University.

Berihu Assefa (PhD): is a Research Fellow at the Ethiopian Development Research Institute (EDRI). His research undertakings mainly include industrial development: learning technology and better management skills from abroad, Micro and Small-scale Enterprises development, the implications of East Asian development for Africa, and trade policy analysis. He received his Masters and PhD Degrees in International Development Studies and Development Economics from the National Graduate Institute for Policy Studies (GRIPS), Tokyo in 2009 and 2013 respectively.

Girum Abebe (PhD): is a Research Fellow and the Director for Micro and Sectoral Research Center at the Ethiopian Development Research Institute (EDRI). He obtained Ph.D in Development Economics from the National Graduate Institute for Policy Studies (GRIPS) in Tokyo, Japan. He was a visiting scholar at the University of Oxford, Department of Economics, between January and March 2017. His main research interests are the applications of field experiments and behavioral economics to study the constraints that face enterprises and job seekers in developing countries. He has been actively engaged in field experiment designs, particularly in the implementations and impact evaluations of business and management skills training to young entrepreneurs and the impact evaluation of job search assistance schemes to young unemployed job-seekers.

Seid Hassen (PhD): is Research Fellow at the Environment and Climate Research Center (ECRC) in the Ethiopian Development Research Institute (EDRI). He leads the center's Sustainable Energy transition research theme. He holds a PhD in Economics from the University of Gothenburg in 2015. His research works emphasize on the application of microeconometrics and experimental economics to energy and agricultural economics. Dr. Seid has published in journals such as Energy and Resource Economics.

Haileselassie Medhin (PhD): is the Director of the Environment and Climate Research Center at the Ethiopian Development Research Institute. He is also a Research Fellow at the Department of Economics at the University of Gothenburg, Sweden. He earned his PhD in Economics from the University of Gothenburg in 2013. Dr. Haileselassie has published in top scientific journals such as the Journal of Environmental Economics and Management and World Development.

About the Ethiopian Development Research Institute (EDRI)

Founded in August 1999 as a semi-autonomous government development research institute, EDRI's primary mission is to conduct quality research on the development of the Ethiopian economy and disseminate the results to key stakeholders within and outside of Ethiopia. EDRI is sponsored by the Ethiopian government, ACBF, UNDP, IDRC-TTI and IFPRI/ESSP. For more information, as well as other publications by EDRI staff and its affiliates, see http://www.edri.org.et

Ethiopian Development Research Institute (EDRI)
P.O.Box 2479
Tel: 251115506068
Fax: 251115505588
Email: info@edri.org.et
Website: http://www.edri.org.et
Addis Ababa, Ethiopia

ABOUT THESE RESEARCH REPORTS

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Lists of abbreviations and acronyms

AA	Addis Ababa
ADLI	Agricultural Development Led Industrialization
BA	Bachelor of Arts
BDS	Business Development Services
BEd	Bachelor of Education
BSc	Bachelor of Sciences
CAPI	Computer-Assisted Personal Interviewing
CO2	Carbon Dioxide
CRGE	Climate-Resilient Green Economy
CSA	Central Statistical Agency
DK	Don't Know
EC	Ethiopian Calendar
ECRC	Environment and Climate Research Center
EDRI	Ethiopian Development Research Institute
EEA	Ethiopian Economic Association
EIA	Environmental Impact Analysis
EPRDF	Ethiopian People's Revolutionary Democratic Front
ESBD	Entrepreneurship and Small Business Development
ETB	Ethiopian Birr
FDRE	Federal Democratic Republic of Ethiopia
FeMSEDA	Federal Micro and Small-Scale Enterprise Development Agency
FeSMMIDA	Federal Small and Medium Manufacturing Industry Development Agency
FUJCFoSA	Federal Urban Job Creation and Food Security Agency
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GTP	Growth and Transformation Plan
HASIDA	Handicrafts and Small Scale Industries Development Agency
ICT	Information Communication Technology
IDRC	International Development Research Center
IEA	International Energy Agency
IGE	Imperial Government of Ethiopia

ILO	International Labour Organization
MFI	Micro Finance Institution
Mgmt.	Management
MoFED	Ministry of Finance and Economic Development
MOLSA	Minister of Labor and Social Affairs
MoT	Ministry of Trade
MSc	Masters of Science
MSEs	Micro and Small Enterprises
MUDC	Minster of Urban Development and Construction
NA	Not Applicable
NBE	National Bank of Ethiopia
NEPS	National Employment Policy and Strategy
NGO	Non-Governmental Organization
NPC	National Plan Commission
OA	Outside of Addis Ababa
OECD	Organisation for Economic Co-Operation and Development
OSH	Occupational Safety and Health
PASDEP	Plan of Action for Sustainable Development and Eradication of Poverty
PDRE	People's Democratic Republic of Ethiopia
PhD	Doctor of Philosophy
PMGE	Provisional Military Government Of Ethiopia
ReMSEDAs	Regional Micro and Small-Scale Enterprises Development Agencies
SACCO	Saving and Credit Cooperatives
SDPRP	Sustainable Development and Poverty Reduction Programme
SOEs	State-Owned Enterprises
SSA	Sub-Saharan Africa
TGE	Transitional Government of Ethiopia
TIN	Taxpayer Identification Number
TVET	Technical and Vocational Education and Training
UNDP	United Nations Development Programme
USD	United States of America Dollar
WEDP	Women Entrepreneurs Development Programme
WHO	World Health Organization
Yrs	Years

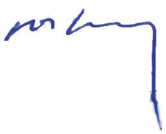
Foreword

The Ethiopian economy has seen remarkable growth over the last decade. In varying degrees all sectors contributed to the registered economic growth. Ethiopia has also made a big push in investment in infrastructure and human development. Cumulatively, this has contributed to increased employment, income, and poverty reduction. Regarding the structure of economy, smallholder agriculture and services are dominant sectors. The structural transformation of the economy through industrialization as envisaged in the industrial policy is yet to be realized. The current contribution of the industry sector to GDP is not more than 17%. Particularly, the current performance of the manufacturing sub-sector is much lower than expected (with 4% GDP share) and the government has given special emphasis for this sub-sector to gradually take the lion's share in country's industrial sector.

As can be observed, this is key pillar of the growth and transformation plan (GTP). One of the key strategy to achieve these targets and build an industry-led economy is through promoting the development of Micro and Small Enterprises (MSEs). The Government of Ethiopia has been committed to the development of the MSE sector as it is stipulated in the MSE development strategy and other sectors' policies and strategies. Similarly, in the second GTP, MSE sector (specially the manufacturing MSEs) is given due emphasis in view of its strategic importance in generating employment as well as a learning platform for entrepreneurship and emergency of value adding, private sector that is willing and able to invest in manufacturing industries.

However, the timely revision of the sector's policy and strategy as well as its implementation process should be guided by a systematically generated, credible, and timely information. The sector suffers from lack of such information and I found this book as an excellent contribution to the development of the MSE sector produced at the right time to partly fill this gap. This book is prepared based on the survey data generated through deliberately designed original research to follow up the state of the micro

and small manufacturing enterprises in urban Ethiopia. It is based on rigorous analysis by experienced researchers in the field on scientifically generated fresh data from 8174 micro and small manufacturing enterprises in 10 largest cities of the country. The book covers a wide ranges of information on different aspects of the MSE development including on characteristics of enterprises and entrepreneurs; job creation, sales, marketing, investment, financing, competition and innovation activities or performances of MSES; the state of MSE workers and working conditions such as earnings, labor turnover, and occupational safety; greening MSEs which clearly shows the interaction of the MSEs with the physical environment; and the business environments as well as the major obstacles of the MSEs in different geographical areas. I enjoyed the interesting findings of the study under all these topics which are worth studying in such detail and I am sure readers will benefit a lot from reading this book.



Mekonnen Manyazewal
With the Rank of Minster
Executive Director of EDRI
Addis Ababa, 2018

Executive summary

The Entrepreneurship and Small Business Development (ESBD) research programme was started in July 2016 with the objectives of producing evidence-based knowledge through rigorous research and building a strong and integrated knowledge support system to underpin future policy analysis in small business development in Ethiopia, with a focus on micro and small firms in the manufacturing sector. In view of these broad objectives, between December 2016 and May 2017 a baseline survey was conducted of manufacturing MSEs operating in the 10 largest cities (Addis Ababa, Adama, Jimma, Bahir Dar, Gondar, Dessie, Dire Dawa, Jigjiga, Mekelle, and Hawassa), located in 7 regional states of the Ethiopia.

The survey adopted the national definition and defined microenterprises as establishments with up to 5 employees and small firms with employment of 6 to 30. Having constructed an exhaustive sampling frame, a census of small enterprises and a random sample of micro enterprises were undertaken. Our final database constitutes detailed information on 8174 enterprises, out of which 3310 (40.5%) are microenterprises, 4553 (55.7%) small enterprises and 311 (3.8%) enterprises in the medium-size category that employ more than 30 workers. Using face-to-face interviews with MSE owners/managers, we collected quantitative data with 14 modules, which covered a range of issues pertaining to MSEs. Follow up surveys will be conducted at two year-intervals and a longitudinal dataset will be created, aiming at better understanding the dynamics of MSE development in Ethiopia. This report presents major findings on MSE development issues based on the baseline survey, which we believed will inform and engage policy makers, practitioners, researchers and other stakeholders. This section tries to highlight the main findings by disaggregating the information into sub-sections.

Firms' and entrepreneurs' attributes

The survey shows uneven geographical distribution of the manufacturing MSEs in the 10 largest cities of Ethiopia, where Addis Ababa has the lion's share. For

example, when looking at the small MSEs based on the census, Addis Ababa alone accounted for about 67% of the 4553 small enterprises in operation in 2016/17. In terms of sectoral distribution, three sectors – namely furniture and wood working, food and beverage, and metal working workshops – are the most important sub-sectors, accounting for about 63.72% of manufacturing MSEs in the selected major cities in Ethiopia.

The MSE sector is dominated by young firms, of which about 60% of sample enterprises have been in business for no more than five years. About 95.7% reported they had established the business by themselves from scratch. This suggests that entrepreneurship, particularly in the manufacturing sector, is largely a recent phenomenon in Ethiopia, requiring a conscious strategy to promote start-ups.

With regard to enterprise location, about 57% operate outside their home in commercial and non-commercial areas. About one-fifth of the sample MSEs operate in industrial zones, with a large difference between Addis Ababa (28.7%) and regional cities (9.8%). While about 40% of the current working premises of sample MSEs are rented from the private sector, the government plays a critical role in supplying this facility through rental and leasing, for about a third of MSEs.

The majority (57%) of the sample enterprises operate in the form of sole proprietorship, followed by cooperative (14.5%). The survey showed that cooperatives are more likely than non-cooperative enterprises to get government support, commonly through the provision of work premises and skill training, which is considered as one advantage of being cooperative. However, 38% of cooperatives reported that the diverse interests of members was the main disadvantage of being a cooperative, leading to the risk of business termination or withdrawal of members. When comparing the current cooperative members with members during the initial period, their number declined by 29.5%. Generally, cooperative MSEs were found to be younger, driven more by necessity than opportunity, have slower employment growth rates, and less likely to hire permanent employees as compared to other forms of business.

The owner-managers of sample manufacturing MSEs are mostly adults, with the average age of about 38 years, male, married, and Orthodox Christian. Young adults (aged 18-35 years) have a share of 48% in terms of owning and managing enterprises, which is lower than the urban youth population distribution. The gender gap in owning/managing the MSEs looks substantial. About 81% of the MSEs were owned and managed by male, but less than a fifth by females.

With regard to human capital of the entrepreneurs, more than 97% have some formal education, out of whom about 33% completed high school, 17% TVET (Technical and Vocational Education and Training), and 12% first degree and above. The level of TVET graduates (17%) is very low in the context of the government efforts to massively produce TVET graduates in the hope of generating a large pool of entrepreneurs.

Growth orientation and risk-taking behavior

Micro and small enterprise operators have diverse motivations and ambitions for setting up their businesses. As frequently pointed out in the literature, small enterprise formation is usually considered as a last resort to make ends meet and support one's livelihood. This is often true of the informal economy but less clear for enterprises in the formal sector. Using our sample data, we measure such attributes in the formal economy by considering entrepreneurs' motivation for setting up the businesses. We find that more than a third of entrepreneurs initiated their businesses seeking market opportunities. Further, about 38% of entrepreneurs considered "being own boss" as the main motivation that underlies their decision to set up their businesses. Unlike entrepreneurs who roam the informal sector, our results indicate that entrepreneurship was a conscious choice made by the vast majority of entrepreneurs in the formal manufacturing sector, seeking better profitability opportunities.

Consistent with the opportunity-seeking narrative, we also find that more than 55% of entrepreneurs strongly prefer running their own business to joining wage employment. Entrepreneurs also would want a very large monthly wage premium, ranging from 3806 Birr on average in regional cities to 13,496 Birr in

Addis Ababa (sample average is 9126 birr) to join the wage sector if an offer were made. In fact, in the entire sample, only 6% of entrepreneurs are actively looking for a wage job and only 5% stated that they have a plan to cease operation in the next five years. Not surprisingly, about 88% of the entrepreneurs have expansion plans and 90% think that their businesses have good growth potential. We also show that about 83% of our sample entrepreneurs operate a single businesses, 15% have two businesses and 2 % have three business. This indicates that lateral expansion is not very common among our sample of enterprises. These results taken together depict a positive picture of the small enterprise economy in Ethiopia. However, without alleviating the challenges faced by MSEs, it will be difficult to realize the growth ambitions of enterprises.

Job creation

The total sum of employment generated by the 8174 MSEs in our sample in 2016/17 was 72,584. However, the microenterprises in our database are based on a sample (only 17% of total population), while the small size enterprises on evaluated on a census basis. When we estimated the population of the microenterprises, we find that about 64,706 jobs were generated by the microenterprises in the 10 major cities. This increases the total employment created by the population of manufacturing MSES operating in the 10 largest cities to 113,705, out of which microenterprises account for about 57%.

The report also shows that most of the jobs created by the MSE sector are temporary positions – for example, about 77% in 2016/17. However, although the proportion of permanent employment is small relative to temporary positions, there has been improvement in terms of a shift towards permanent jobs, as is shown by the increase in the share of permanent employment from 17 percent in the initial year to 22.7 percent in 2016/17. Similarly, only about 16 percent of MSE firms have a written contract with their workers. These kinds of terms of employment will have implications for the quality of jobs created by MSEs.

The manufacturing MSEs predominantly employ male workers. For example, in 2016/17 nearly 80% of employees were male. This shows that the low

level of participation of women concerns not only entrepreneurship but also employment and calls for the attention of policy makers and practitioners in the gender field. In terms of human capital accumulation of workers, while overall human capital accumulation has shown slight improvement over time, it is quite apparent that most of the workers (more than 87 percent) in the MSE sector are high school graduates and below. TVET and college graduates constitute only 7 and 6 percent, respectively, in the same period.

Labor turnover, Earnings and Occupational Safety

The report also shows a high turnover of workers. About 3.55 employees left the average firm in the last 12 months prior to the survey, while 0.48 were fired due to various reasons in the same period. The firm-level average number of hired workers in the same period was only 4.8, making the net employment addition only 0.27 per firm per annum. According to the respondent firms, the most common (81%) reason for workers to quit their job of their own will is to look for a better salary.

The report indicates that on average MSE production workers receive a basic after-tax salary of ETB 2069 ETB (USD96) per month in 2016/17. However, since we do not have data on the number of dependents of each worker, we cannot comment on whether the sample MSEs offer sufficient earnings to permit the workers themselves and their dependents a level of consumption above the poverty line. But, as shown above, low pay is the major reason for high labor turnover, suggesting that the salary level is not sufficient to cover the rising living costs.

The gender-disaggregated analysis unveils a statistically significant earning difference between female and male production workers. The average monthly earning of male production workers is 20% to 25% higher than their female counterparts, depending on the year. We are not able to distinguish to what extent a skill gap between female and male production workers may explain this difference. But, when taken together with the low level of women's participation as entrepreneurs and employees, this requires the attention of policy makers in devising instruments to reduce gender inequality.

Regarding working conditions at the factory, our data shows that there had been an average of 1.6 work-related accidents in the surveyed enterprises within 6 months prior to the survey month. Our survey data also provides evidence that about a third of the sample enterprises have not made their workers aware of the general occupational safety and health issues in the factory. This is harmful for both workers and enterprises and hence calls for policy action.

Marketing and supply linkages

The survey shows that MSEs in the manufacturing sector supply their main product to a large number of customers and are less likely to depend exclusively on one or few customers. We observed that more than 50% of the MSEs have over twenty customers for their main product, while only about 23% of the MSEs have five or fewer customers for such a product. In the absence of exclusive customers, the MSEs are obliged to deal with a large number of customers. Sub-contracting practices are limited, as only about 6% of the MSEs are currently subcontracted to other firms. Among those MSEs which are currently subcontracted to other firms, the majority (about 87%) are subcontracted to domestic firms, while 25% are subcontracted to the government. Only 3.5% of such firms are currently subcontracted to foreign firms. Such an absence of sub-contracting arrangements limits the scope of learning of the MSEs.

The report also presents the sources of productive inputs for the MSEs. The majority (about 87%) have domestic private enterprises as their main sources of productive inputs. Only about 9% and 4% of the MSEs have state enterprises (SOEs) and other sources (e.g., FDIs, non-commercial entities and direct imports), respectively, as their sources of productive inputs. With regard to methods of marketing, the majority of the MSEs (89%) rely on their clients, suppliers, or relatives/friends as their main avenues of disseminating marketing information. In fact, 57% of the entrepreneurs stated that clients are their main channels of marketing information. Other methods of distributing marketing information, such as other producers, advertisement in the media, business associations and trade fairs, serve a relatively small (about 10%) proportion of the businesses as the main channels of such information.

Competition, technology and innovation

Our survey data discloses that the main source of competition for the manufacturing MSEs currently are formal domestic manufacturing firms. Less than a tenth of sampled enterprises in the ten study cities identified imports and informal domestic firms as their main competitor. Providing quality products and offering competitive prices are the first and second major means of competition by the MSEs. On the other hand, forward contracts, advertisement and credit sales are sources of competition for very few MSEs.

The data also shows that about three-fifth of the sampled enterprises had made an important improvement or change to their business within two years prior to the survey year. About a quarter of the sampled enterprises had introduced a new production process and/or new product group. For the vast majority of these firms, the increasing competition from the formal domestic sector is the primary motive to introduce new production processes and product groups. Our disaggregation of the innovation data by the location of enterprises uncovers that significantly more MSEs operating in the capital city made important changes in their businesses and engaged in process and product innovation, compared with MSEs operating in the regional cities. Increasing the quality of products, installing new machinery, increasing the variety of products, and introducing better product design were the dominant innovation practices reported by enterprises.

Investment and finance

Some of the key observations from the descriptive report on investment include: first, average firm investment in fixed assets declined from Birr 238,246 in 2014/15 to Birr 152,876 in 2016/17. This is so because major investments in fixed assets usually happen initially – fixed investments that happen after the initial year are usually on expansion projects, which require smaller amounts than the initial investments in fixed assets. Second, an enterprise located in Addis Ababa invests more in total fixed assets than an enterprise located in other major urban areas in Ethiopia. Third, while enterprises located in Addis

Ababa tend to invest more in land, buildings and other capital goods (such as factory shades), enterprises located in other major urban areas tend to invest more in machinery and equipment. This could be due to the fact that it is relatively easier for firms located in regional cities to access land and working space at a lower cost than their counterparts in Addis Ababa. On the contrary, access to land and working space for enterprises located in Addis Ababa is quite limited simply because the demand is so high and the supply is quite scarce.

The descriptive analysis shows that MSEs' credit access is very much limited. Above 70% MSEs had no access to credit from any of the potential external sources; thus, they rely on their own funds. Of the enterprises that had access to loans, two-third reported having loan access from MFIs, while only about 15% from commercial banks. About 40% of the medium-sized enterprises had access to investment loans, while only 22.5% of micro firms had similar access. This suggests that formal banking has not been accessible by micro and small firms.

About 61% of enterprises have never applied for formal loans, mostly because of 'lack of collateral'. About 46 percent of the rejected loan applicants reported that their formal loan application was rejected because they could not provide the required collateral and 20% mentioned the absence of a guarantor (or joint liability group). This shows that high collateralization is not only a barrier to applying for credit but also a major reason for rejection of loan applications.

Capacity utilization

Capacity utilization measures the extent to which the productive installed capacity of an enterprise is being used. The survey results show that capacity utilization is generally low. The average capacity utilization rate across all size categories and locations is 54.5 percent. However, as an enterprise gets larger in terms of size, its capacity utilization seems to improve. For example, while an enterprise in the Micro size category has an average capacity utilization of 49 percent, it is 63 percent for a firm in the medium size category. Firm that are located in Addis Ababa have better capacity utilization rates than firms located in other cities. When firms were asked to identify the key constraints leading to their capacity underutilization, lack of working capital (57%) and insufficient demand for their products (21%) stood out as the main reasons.

Access to Business Development Services

Out of the total of 8174 entrepreneurs in our sample, 3847 (47%) have attended some sort of training. A larger proportion of entrepreneurs (43%) have received training after establishing their businesses than before establishment (23.4%). Entrepreneurs in Addis Ababa and those with larger firms are more likely to receive training than small firms or those located in the other 9 cities. Government agencies and TVETs are the main training providers.

Among the different types of training that entrepreneurs received after establishing their businesses, technical skill training (74%) and Kaizen training (62%) were the more common ones. Marketing management training and entrepreneurship training were less common. Surprisingly, only a few enterprises (about 12%) have received any business extension or counseling services. Moreover, we found that only about 11.3% of the female entrepreneurs running MSEs in the manufacturing sector have received female-targeted support services. These support services have been mainly delivered by the Women Entrepreneurs Development Programme (WEDP), a joint programme between the World Bank and the Ethiopian government.

Business Practices

In terms of business practices, we found that a large proportion of the businesses (about 70%) do visit their competitors in order to observe what prices and products the latter charge and offer. Customers' demand assessment has been practiced among the majority (74%) of the MSEs within the sector. The majority of the MSEs (more than 80% of them) have also made price and quality comparisons between their own suppliers and the suppliers of their competitors. Moreover, we find that 44% of the businesses set sales targets for the next fiscal year. Similarly, about 40% of the enterprises do make comparisons on sales achieved against the targets set on at least a monthly basis. In addition, we found that more than half of the MSEs in the manufacturing sector have annual profit and loss statements, while more than 45% of these enterprises have a strategic plan for their companies.

Greening of MSEs

The greening aspect of micro and small enterprises has not been given enough emphasis from policy and research perspectives. This baseline survey attempted to assess MSEs' greening awareness and practices in terms of their knowledge of environmental laws and compliance with the laws, liquid and solid waste management practices, energy efficiency and conservation measures, and greenhouse gas emission reduction strategies. The survey shows that 82% of the sample enterprises have not done any environmental impact assessment. A large proportion of the enterprises are fairly confident of their knowledge regarding environmental legal requirements, which implies that knowledge is not an issue. More than 80% of all enterprises do not have wastewater treatment facilities and 90% of the enterprises surveyed use electricity as a source of energy for their enterprises activities. 80% of the enterprises turn off lights when rooms are not in use and unplug machines when they are not in use. More than 75% of the enterprises use energy efficient light bulbs. Few enterprises use fossil fuel and traditional energy sources such as biomass fuels. Most of the enterprises do not participate in GHG reduction actions. Along with promoting the expansion of enterprises for their economic contribution, government authorities should give due attention to greening aspects of such enterprises, through research and policy.

Challenges for Operation and Growth of Business

The MSEs were asked to rate among some of the most common challenges within the sector to the daily operation and growth of their company. In order of importance, the lack of adequate working premises, lack of access to credit, and shortage of power supply have been ranked as the three most important obstacles that call for the attention of all stakeholders working on MSE development.

1. Introduction

1.1. Background and Justification of the Research Programme and the Baseline Survey

With more than 94.3 million inhabitants, Ethiopia has the second largest population in sub-Saharan Africa (SSA) (CSA, 2017). Similar to many other SSA countries, the agriculture and urban informal sectors are respectively the first and second largest sources of employment in Ethiopia. More than 80 per cent of the population resides in rural areas, relying on subsistence agriculture for livelihood. On the other hand, the informal sector, which is also the mainstay of micro and small enterprises (MSEs), absorbs the largest proportion of urban employment.

Since the early 2000s, the Ethiopian government has initiated and implemented successive development plans[2] and sectoral strategies to transform the economy and create more and better jobs. Poverty reduction through employment generation was the core objective in these development plans and sector strategies. Sustaining broad-based and pro-poor growth was envisaged to achieve the poverty reduction objective. In 2009, a National Employment Policy and Strategy (NEPS) document was prepared to coordinate and guide the cross-sectoral intervention needed to improve employment and its poverty outcomes in Ethiopia.

The previous and present development strategies give due emphasis to the role of Micro and Small Enterprises (MSEs) for the creation of employment opportunities and poverty reduction, particularly in urban areas. Accordingly, the MSE sector was identified as a priority sector for multifaceted government support. A full-fledged MSE Development strategy was formulated in 1997 and institutionalized a year later by the establishment of the Federal Micro and Small-Scale Enterprise Development Agency (FeMSEDA) and Regional Micro and Small-Scale

[2] These development plans are the Sustainable Development and Poverty Reduction Program (SDPRP) 2002/03-2004/05, the Plan of Action for Sustainable Development and Eradication of Poverty (PASDEP) 2005/06-2009/10, and the ongoing Growth and Transformation Plans.

Enterprises Development Agencies (ReMSEDAs). The strategy was revised in 2011 with renewed interest and far more ambitious targets (FDRE, 2011). The vulnerable segments of the society, particularly women and youth, have been given priority in the employment generating schemes. The strategy is packed with various promotion and support packages, including facilitating access to markets, provision of technical and entrepreneurial training, and improving access to finance and working premises.

The strategy has been translated into medium-term development plans and due attention is given to its implementation. For example, in the first growth and transformation plan (GTP) (2010/11-2014/15), the country had a target to create about 3 million jobs through the promotion of MSEs (MoFED, 2010). At the end of GTP I and eve of GTP II, the government of Ethiopia reported that more than 7 million permanent and temporary jobs had been created by MSEs ((NPC, 2015; FeMSEDA, 2016), although some dispute this number as inaccurate. In order to strengthen the role played by MSEs, it is also envisaged in GTP II to extend the overall support that the government is providing to this sector.

The role of MSEs in Ethiopia is anticipated to go beyond generating employment for the urban unemployed. Rather, the sector is at the center in paving the way to create an industry-led economy. In line with the vision of being a leading country in Africa in light manufacturing industries by 2025, the manufacturing MSEs have been given great emphasis. As a result, the federal implementing agency has been restructured, which resulted in the replacement of FeMSEDA with two separate federal agencies: the Federal Small and Medium Manufacturing Industry Development Agency (FeSMMIDA) and the Federal Urban Job Creation and Food Security Agency (FUJCFoSA). FeSMMIDA is accountable to the Ministry of Industry and is mandated to foster small and medium manufacturing enterprises (FDRE, 2016a; 2016b).

Despite the unparalleled attention given to MSEs in the development course of Ethiopia, there is a huge knowledge gap regarding the performance and current state of the sector. Except for administrative reports, there is

no systematic evidence about how much and what type of employment has been generated in the MSE sector during the last decade's spectacular economic growth in the country. The administrative reports, primarily those released by CSA and FeMSEDA, have a number of limitations and thus neither of them is dependable as far as the state of MSEs is concerned.

Neither the macro-level administrative reports nor the previous attempts at micro-level case studies on MSEs have produced sufficient information on issues that are important to academia and policy makers. Most of them focused on only a few aspects of the sector, with limited geographical scope, and therefore are difficult to depend on (MUDC, 2013; Rijkers et al, 2010; Haile and Batra, 2016; Lashitew, 2017). As a result, little is known about the level, type and nature of employment that MSE generates; the circumstances in which the small business entrepreneurs are operating; their overall business practices; and to what extent the massive entrepreneurial schemes underway have created dynamic entrepreneurs willing to take risks to grow big and thrive. Further, despite the country's efforts to promote green and inclusive growth, no information is available regarding the occupational safety of MSE workers, or on green operations or environmental friendliness of manufacturing enterprises. The lack of research on MSEs in Ethiopia is aggravated by the absence of a reliable and sector-representative dataset.

Therefore, the Ethiopian Development Research Institute (EDRI) initiated a long-term research programme – namely, Entrepreneurship and Small Business Development (ESBD) – which aims to fill the existing gap in knowledge generation and dissemination regarding small business development in Ethiopia. The research focuses on MSEs engaged in manufacturing. This research programme was commenced in July, 2016. The core objectives of the research programme are:

(i) to conduct rigorous research and produce evidence-based knowledge and impact evaluation that can be used to improve the existing policies and practices of the government and all other relevant actors

(ii) to build a stronger and more integral knowledge support system and database within the country to underpin future policy analysis in small business development.

The research programme identified medium-term detailed activities and work programmes that cover 2016 to 2019. The availability of reliable data is crucial in conducting sound research and particularly monitoring. One of the major planned initial activities of this project was, therefore, collection of baseline data, taking a sample of 8,000 manufacturing MSEs from the 10 largest cities in Ethiopia (Addis Ababa, Adama, Jimma, Dire Dawa, Jigjiga, Mekelle, Bahir Dar, Gondar, Dessie, and Hawassa). The programme aims to form longitudinal data by conducting a follow up survey every 2-3 years.

The baseline survey was conducted between December 2016 and May 2017, and generated detail information on a total of 8174 manufacturing MSEs. The survey was based on a census of small manufacturing enterprises (with employment of 6-30) and a random sample of micro enterprises (with employment of 1-5). In terms of size distribution, the data consists of 3310 (40.5%) micro enterprises, 4,553 (55.7%) small enterprises, and 311 medium-size enterprises (>30 employment), where current employment exceeded 30 at the time of our survey. Geographically, Addis Ababa has the lion's share of MSEs (55%) and the rest are distributed among the nine other regional cities.

This survey is different from the previous ones in at least the following aspects.

- By utilizing different sources, the survey is comprehensive and based on a complete sampling frame, which includes MSEs formed with and without FeMSEDA's support[3].
- The geographical coverage is wide, consisting of the 10 largest cities, representing five regional states and two city administrations.
- The size of the sample is adequate to detect the characteristics of different sub-groups.

[3] Many other fragmented studies undertaken on MSEs in Ethiopia are based on the FeMSEDA list only. This causes a clear systematic exclusion of firms that do not have any attachment with the agency.

- The thematic areas the survey addresses and the depth of the information it contains are extensive.
- This study was designed not only to take a snapshot of the data but also to undertake follow-up surveys and construct rich panel datasets.

This survey report provides the basic facts and figures on the MSE sector with brief discussions on the implications. It is, thus, of a descriptive nature. A further analysis is ongoing based on certain thematic areas, which is reported separately. The present survey report is designed to provide insights on the current state and challenges of the manufacturing MSEs sector in Ethiopia and to have wide appeal to a broad audience that includes policy makers, practitioners, development partners and academia. This report is presented with appropriate comparison of results based on enterprise's size, location, and other attributes. As far as comparison of results based on location is concerned, the main body of the report mostly compares cities based on two categories- Addis Ababa and regional cities. Interested readers can also refer appendix A for additional results disaggregated by the ten cities.

1.2. Objective of this survey report

The aim of this research report is to highlight the main findings of the baseline survey. More specifically, this research report has the following objectives.

- Understand the basic characteristics of entrepreneurs and their enterprises
- Identify characteristics and constraints of dynamic entrepreneurs
- Evaluate the job creation role of MSEs and their working conditions, including occupational safety
- Examine the firms' access to market and financial services
- Identify the business development supports to and business practices of firms
- Understand the MSEs' experience with energy and water consumption, disposal of wastes, and other environmental issues

- Identify the major constraints hindering MSEs' development in Ethiopia.

1.3. Limitations of the study

Our data set is representative of the micro and small enterprise population in the 10 largest sample cities. As noted earlier, we conducted a census of all small businesses and sampled micro enterprises randomly in all these cities. There are, however, some limitations that should be noted in discussing our results. First, our data consists of only formal enterprises that are registered with relevant authorities at different layers of the government and hence we cannot draw any inferences about the informal economy and how it operates.

Second, we restricted our population to mainly micro and small enterprises. Enterprises of self-employment (i.e., with no employed worker) as well as with above 50 workers are excluded from the survey. About 4% of our sample consists of enterprises that employ between 31 and 50 workers and hence could be classified as medium sized. Throughout the analysis, we refer to survey data drawn from these firms in order to suggest some comparisons with micro and small firms, but we cannot make valid inferences about the conditions of medium-sized enterprises because we did not design our survey to collect representative data on them.

Third, our sample is exclusively drawn from enterprises in the 10 largest urban areas and hence our results are only applicable to the urban context. Further data is required to draw inferences on rural enterprises and enterprises operating in other smaller cities not covered by our study. Fourth, some of the behavioral and skill measurements are based on hypothetical games and hence may not fully reflect behaviors and choices in real world settings; the usual limitations of non-incentivized behavioral elicitation experiments apply.

1.4. Organization of the survey report

The remaining part of the report is organized as follows. The next chapter provides an overview of Ethiopia's MSE development policies and strategies and the sector structure and performance. Chapter 3 presents the survey methodology, including sampling design, data collection and processing. This chapter also highlights the features of different sources of enterprises' list sources in the country and the lack of a national database as well as its implications. Chapter 4 is the main part of this report and presents the major findings of the survey results in 11 sub-sections. Finally, the report closes by presenting summaries and preliminary conclusions.

2. Overview on the structure of the Ethiopian economy and MSE development policies and strategies

2.1. Overview on the structure and performance of the Ethiopian economy

Ethiopia envisages becoming a lower-middle income economy by 2025. The country has experienced a robust growth rate over the last decade (2006/07-2015/16), averaging 10.2% per annum (see Figure 2.1). This growth experience is not only continuous and broad-based, but also much higher than the regional average, which was estimated to be 5.4% from 2003/04-2014/15 (World Bank, 2017a).

When we see the structure of the Ethiopian economy, it is dominated by the service and agricultural sectors. As shown in Table 1, the leading role of agriculture in contributing to GDP has been overtaken by the service sector since 2010/11. In 2015/16, for instance, the GDP shares of the agriculture, industry, and service sectors were reported to be 36.7%, 16.7%, and 47.3%, respectively. Thus, the service sector is becoming the dominant sector, despite the country's recent ambition towards industrialization. The share of the industry sector in GDP has been growing slowly. It rose to 16.7% in 2015/16 from its level of 10.2% in 2009/10.

Table 1: Value added of major sectors, share in GDP in %

Sector	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2009/10-2015/16 Average
Agriculture and allied activity	46.1	44.4	43.1	42	40.2	38.7	36.7	41.6
Industry sector	10.2	10.4	11.4	13	13.8	15	16.7	12.9
Manufacturing	3.9	4.0	4.1	4.3	4.6	4.8	-	4.3
Large- & medium-scale[4]	2.5	2.6	2.7	3.1	3.4	3.7	-	3
Small & cottage industry	1.4	1.4	1.3	1.2	1.2	1.1	-	1.3
Service sector	43.7	45.2	45.9	45.5	46.6	47	47.3	45.9

Source: compiled from NBE (2017) and EEA (2016)

[4] This data is based on the CSA's definition, where large- & medium-scale enterprises are defined as firms engaging 10 or more persons and using power driven machinery, while those firms engaging fewer persons are considered as small and cottage.

The industry sector is dominated by the construction sub-sector, while the role played by the manufacturing sector remained stagnant over the last decade. As shown in Table 1, in the last seven years, the average contribution of the manufacturing sector to GDP was only 4.3%. Of this, the large- and medium-scale industries having 10 or more persons engaged had the lion's share (on average, 3% of the total GDP), while the role played by small and cottage industries was limited to 1.3% of the total GDP (Table 1).

However, it should be noted that this information was generated from the CSA studies based on its own definition of small-scale versus large- and medium-scale industry. This size class categorization of small or large and medium is not in line with the official definition of the country. CSA defines small as an establishment with fewer than 10 employees. Therefore, the data presented in Table 1 regarding the GDP share of small and cottage industries does not represent the role played by micro and small enterprises with up to 30 employees, as defined nationally. To our knowledge, there is no study or national report that has estimated the GDP share of MSEs based on the national definition as stipulated in FDRE (2011). Taking this into consideration, we argue that the difference in GDP share between large and medium businesses and MSEs may not be as large as presented in Table 1.

In a nutshell, Ethiopia's economy exhibited double digit growth in the last decade or so, but the pace of structural transformation remained slow. The industry sector is in its infant stage, with a small contribution to the economy, both in terms of GDP and employment. The role of MSEs is believed to be significant, particularly in terms of employment generation in urban areas. However, the exact figures are not yet known, largely due to a lack of data that is consistent with the national definition of MSE.

2.2 Evolution of MSE policies and strategies in Ethiopia

2.2.1. MSE Policies pre-1991

In the imperial era (ending about 1974), the Ethiopian economic system was market-led. The then-government introduced some incentives, such as tax relief, access to land and buildings, and provision of public utilities, in order to encourage micro and small enterprises (IGE, 1966). However, the main focus of the industrial policy of the imperial regime was to promote large-scale manufacturing, which was dominated by foreign nationals. As a result, the development of MSEs was retarded.

When the Dergue junta took power in 1974/75, the majority of private sector enterprises (particularly medium- and large-scale) were nationalized. The role of the private sector was systematically eroded as the government introduced a single license rule and capital ceiling for investment by proclamation No.76/1975 (PMGE, 1975). This shrunk the private sector into micro and small-scale enterprises.

In 1977, the government established the Handicrafts and Small-Scale Industries Development Agency (HASIDA) by Proclamation No. 124/1977, with the objective of boosting the economy through the development of cooperatives in small business activities. HASIDA managed to form many service and producer cooperatives; however, it did not bring the desired outcome, as many cooperatives were bankrupt and closed.

The regime was forced to amend its economic policy from command to a mixed economic system in the last two or three years of the Dergue period, when the Council of States promulgated two declarations. The first one was the Small Scale Industry Development Special Decree No.9/1989, which allowed the establishment of small-scale enterprises by business organizations, individual entrepreneurs, and cooperatives (PDRE, 1989). By replacing the previous legislation (Proclamation No. 76/1975), this decree raised the capital cap of small enterprises from Birr 500,000 to 2-4 million

and also allowed the participation of Ethiopians in the Diaspora. The second was the Special Decree on Investment, No.17/1990, through which the government declared the total removal of the previous restrictions on the number of licenses to the private sector, and investors were allowed to invest in an unlimited number of business activities (PDRE, 1990).

However, these reform programmes were too late to rescue the economic downturn of that period, as the Dergue regime was toppled in May 1991 and replaced by the Ethiopian People Revolutionary Democratic Front (EPRDF) regime. In sum, the policy environment of this era was not enabling for MSEs.

2.2.2. The EPRDF Regime period (post-1991)

i. The early-stage general reform programmes

After overthrowing the Dergue regime, the EPDRF came to power and formed the transitional government of Ethiopia in 1991. In 1992, Ethiopia embarked on a liberal economic policy, which is deemed to be a favorable condition for investment and for private sector and enterprise development. In order to implement this policy, the transitional government enacted a number of proclamations and regulations. For instance, by Investment Proclamation No.15/1992, the government made the first attempt to relax the investment climate and encourage private investment. In this proclamation, the regional governments were also mandated to establish their respective investment offices to promote, supervise, and regulate investment activities (TGE, 1992). Again, by Proclamation No.41/1993, Industry and Handicrafts Bureaus were established in regional states to replace HASIDA (TGE, 1993). The government has continued its commitment to create an enabling environment for investment and thus has issued additional proclamations and amended the previous ones[5].

Despite these encouraging reforms and better policy environment, the effort has not been too fruitful in fostering MSEs, as stated in MUDC (2013).

[5] See Gebreeyesus and Ambachew (forthcoming) for a detailed review of the policy and institutional evolution of MSEs in Ethiopia.

This may be the case because neither the full-fledged strategy nor the administrative organs dedicated to MSE development were in place until the mid-1990s.

When Ethiopia adopted Agricultural Development Led-Industrialization (ADLI) as its overall development strategy in 1995, MSE development had started to be one of the important elements to which the strategy paid due attention (MUDC, 2013). With the aim of improving access to finance and counseling services to MSEs, the licensing and supervision of microfinance institutions (MFIs) was promulgated (Proclamation No.40/1996) just a year after ADLI came into being (FDRE, 1996). This gave rise to 35 (MFIs currently operating in different regions of the country, with a primary target of youth, micro entrepreneurs, and other financially underserved segments of the population (NBE, 2017). Empirical evidence also affirms that MFIs have played a significant role in the establishment and further development of MSEs (World Bank, 2015). Having made all these arrangements, the country introduced its first full-fledged MSEs development policy in 1997.

ii. The 1997 MSEs Development Policy

The Ethiopian MSEs development strategy formulated in 1997 – namely 'the Federal Micro and Small-Scale Enterprises Strategy' (FMSES) – has served as the basis for regional strategies (FDRE, 1997). In this strategy, the level of paid-up capital was used to categorize businesses into the micro and small classes, regardless of their sector type. Those small business enterprises with a paid-up capital not exceeding Birr 20,000, excluding high-tech firms, were categorized as micro, while those with a paid-up capital between 20,000 and 500,000 were defined as small enterprises[6].

The role that could be played by MSEs was well acknowledged by the 1997 strategy. Accordingly, the sector was described as the national home of entrepreneurship, providing the ideal environment to enable entrepreneurs to exercise their talents. The MSE was envisaged to "generate employment and more equitable income distribution, to activate competition, exploit niche markets, enhance productivity and technical change, and through all

[6] However, this definition has been changed in the latest strategy of the sector issued in 2011. This is discussed in the next section.

of these stimulate economic development" (FDRE, 1997, p. 9). The strategy's primary objective was to create an enabling environment for small and micro enterprises. The strategy identified target groups for support and clear criteria for prioritizing MSEs. A number of possible areas of support to be provided by the government, including financial assistance, training, markets, and infrastructure, were highlighted in the strategy.

In 1998, the Federal Micro and Small Enterprises Development Agency (FeMSEDA) was established by the Council of Ministers of Ethiopia, Regulation No.33/1998 (FDRE, 1998), to coordinate implementation of the strategy. This structure stretched down to regional, zone, and woreda (district) levels. Since then, the establishment, support, coordination, and information provisions of the MSE sector have been significantly improved. Sectoral policies and strategies designed after the release of the MSEs development strategy have incorporated these basic ideas, as well as the role that could be played by MSEs. In this respect, the Ethiopian industry development strategy (FDRE, 2002) and the Ethiopian urban development policy (FDRE, 2005) are notable.

Similarly, the role to be played by the MSE sector started to be explicitly acknowledged in medium-term plans such as the Plan for Accelerated and Sustained Development to End Poverty (PASDEP) and subsequent Growth and Transformation Plans (GTP). Clear and ambitious targets were set for the MSE sector in GTP I and encouraging results were registered (MoFED, 2010; NPC, 2015).

iii. The 2011 revised MSE development strategy and current developments

With a focus on achieving the five-year targets set for GTP I and further strengthening the development of MSEs, the government revised the MSE strategy in 2011 to address both the framework for providing support to MSEs and methods of implementation (FDRE, 2011). In addition to strengthening the major points highlighted in the 1997 strategy, the 2011 revised strategy has made the following major improvements.

The revised strategy has come up with a new definition of MSEs, disaggregated by industry and service sectors. The new definition has taken into account both paid-up capital and employment in enterprises. This is presented in Table 2. Accordingly, when ambiguity is encountered between manpower and total assets, total assets are used as the primary yardstick.

Table 2: The current definition of MSE in Ethiopia introduced in 2011

Level of the enterprise	Sector	Human power	Total asset
Micro enterprise	Industry	≤5	≤Birr 100,000 (USD 6,000)
	Service	≤5	≤ Birr 50,000 ($3,000)
Small enterprise	Industry	6-30	≤Birr 1,500,000 million (USD 9,000)
	Service	6-30	≤Birr 500,000 ($30,000)

Source: FDRE (2011)

The strategy emphasizes that the TVET institutes play a critical role for the development of MSEs, through acting as an extension service to industry, so that human resources and technological development can be realized. It widened the scope of target groups by including job creation for new university and TVET graduates in addition to the usual emphasis on the poor, women, and less skilled people. Furthermore, the 2011 revised strategy has categorized the development level of enterprises as startup, growth, and maturity. The supports to be given to MSEs are envisaged to be specific to their level of development, at least in principle.

In order to revitalize the sector, the 2011 revised strategy emphasizes human resource and technology development, market development, and finance or credit service support systems. Developing the entrepreneurial ability and technical, managerial, and marketing skills of MSE operators through training was identified as the main area of human resource development support.

Currently, the country is implementing the second five-year growth and transformation plan (GTP II), which was introduced in 2015/16 to run until 2019/20. In this plan, the MSE sector (especially manufacturing MSEs) was given due emphasis in view of its strategic importance in minimizing

urban unemployment and achieving the vision of being a leading country in Africa in light manufacturing industries by 2025. Clear and ambitious targets have been set for MSEs to achieve by the end of GTP II.

In order to effectively implement this plan and incorporate the urban food security and job creation agenda, the government has reorganized the former federal agency (FeMSEDA) into two separate agencies. The first, called the "Federal Small and Medium Manufacturing Industry Development Agency (FeSMMIDA)," was established by Council of Ministers Regulation No.373/2016 and is accountable to the Ministry of Industry. The other agency, the "Federal Urban Job Creation and Food Security Agency (FUJCFoSA)," was established by the Council of Ministers Regulation No.374/2016 and is accountable to the Ministry of Urban Development and Housing.

The objective of FeSMMIDA is to "accelerate the expansion of small and medium manufacturing industry in order to lay a broad base for the development of large scale industry, maintain equitable distribution of wealth and accelerate the transformation of agricultural-led economy to industry led economy; and strengthen, assist and coordinate institutions that provide support to small and medium manufacturing industry sector" (FDRE, 2016a). As one can understand from this objective, and as stipulated in FDRE (2016b), the development of manufacturing micro enterprises as well as micro and small enterprises of non-manufacturing sectors is the mandate of FUJCFoSA. It should be noted that ensuring urban food security through productive safety and job creation programmes are additional tasks given to the FUJCFoSA. Both agencies have their own councils composed of high government officials as a high governing or policy making body.

Generally, the current MSE development policy and strategy as well as the attention it gets from the government and other development partners seem to be enabling. The majority of the problems encountered by MSEs emanate from failures to fully implement the strategy and support frameworks. However, the current changes in institutional arrangements and the wider scope assumed by FeSMMIDA and FUJCFoSA may necessitate some revisions to the 2011 MSE development strategy.

3. Survey methodology: sampling design, data collection, and processing

3.1. Data and sampling

The focus of this survey is on micro and small manufacturing enterprises. We adopt the national definition and distinguish the micro enterprises as establishments with up to 5 employees and small firms with employment of 6 to 30 people. Our data is a combination of a representative sample of micro enterprises (given their sheer number) and a census of small firms. The survey covers the 10 largest cities in Ethiopia based on their population size[7]. These cities are Addis Ababa, Adama, Jimma, Dire Dawa, Jigjiga, Mekelle, Bahir Dar, Gondar, Dessie, and Hawassa.

Due to lack of a national business directory or database, we assembled a list of micro and small enterprises from different sources (federal, regional, and city-level government agencies) to frame our population. See subsection 3.3 for further detail on our efforts to compile the list of enterprises from different government agencies and the limitations of each in handling the list.

The population frame for these enterprises in Addis Ababa was created mainly by combining three separate administrative lists. The first list was compiled by the Bureau of Labor and Social Affairs through physical visits to enterprises located on the main streets of Addis Ababa. This was prepared for the purpose of studying employers and their labor-related characteristics in Addis Ababa. The second list was compiled from the Addis Ababa Trade and Industry Bureau, which has a record of all businesses that are registered at the bureau level. The third list was obtained from the Addis Ababa Urban Job Creation and Food Security Agency (formerly the Addis Ababa Micro and Small Enterprise Development Agency), which conducted a census of all businesses that received some sort of state support.

[7] Since there was no accurate data on enterprise population for all cities of the country, human population was taken as a criterion to select big cities. In doing so, we assumed that the size of human population of a city is directly proportional to its enterprise population.

Having combined these lists together, further cleaning was conducted to: 1) remove firms that employ more than 50 workers from the labor data or that have paid-up capital of more than 1.5 million birr, according to the trade data; 2) drop duplicated firms in the three data sets; 3) remove enterprises that are operating in non-manufacturing sectors from the list. Table 3 reports the population and sampling distribution of manufacturing MSEs. As can be seen in this table, our final sampling frame for Addis Ababa constitutes a total of 16,004 micro and small manufacturing enterprises. Of these, 3,298 of them were small, while the remaining 12,706 were micro enterprises.

Table 3: Population and sampling distribution of MSEs

City (Sub City)	MSE Population		Sample MSEs surveyed	
	Small	Micro	Small	Micro
Addis Ababa (sub cities)				
Addis Ketema	373	1090	373	141
Akaki Kaliti	406	1177	406	86
Arada	229	739	229	58
Bole	361	1791	361	162
Gulele	298	1144	298	100
Kirkos	191	840	191	76
Kolfie Keranio	229	2426	229	247
Lideta	125	520	125	59
Nifas Silk Lafto	738	1626	738	121
Yeka	348	1353	348	145
Addis Ababa Total	**3,298**	**12,706**	**3,298**	**1,195**
Sample (%)			100	9.4
Regional Cities				
Adama	121	531	121	140
Bahir Dar	252	948	252	314
Dessie	89	384	89	147
Dire Dawa	126	447	126	118
Gondar	126	737	126	211
Hawassa	316	806	316	143
Jigjiga	60	120	60	44
Jimma	146	480	146	148
Mekelle	330	2449	330	850
Regional cities Total	**1,566**	**6902**	**1,566**	**2,115**
Sample (%)			100	30.6
Grand total	**4,864**	**19,608**	**4,864**	**3,310**
Sample (%)			**100**	**16.9**

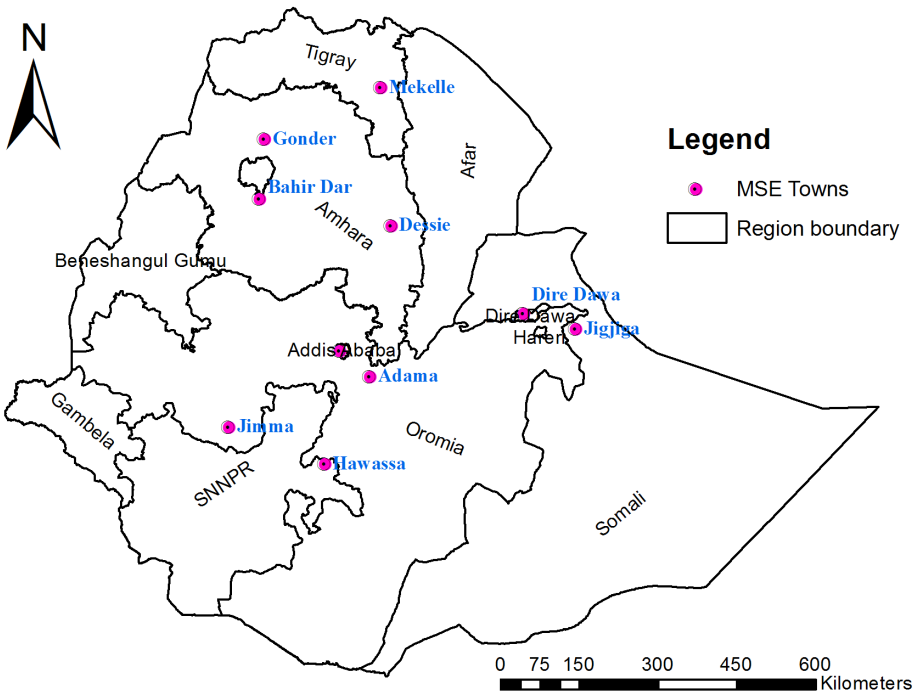
The frame used for the nine regional cities was based on an approach similar to that used in Addis Ababa. The only exception was that there was no administrative data at the regional Bureaus of Labor and Social Affairs and thus the sampling frame was constructed using the Regional Micro and Small Enterprise Development Agencies (ReMSEDA) and the Trade and Industry Bureau of each region. This exercise provides us with a list of 8,468 micro and small enterprises, of which 6,902 are micro and 1,566 are small size firms.

Combining all micro and small enterprises from Addis Ababa and the other 9 regional cities, we obtained a total population of 24,472 registered manufacturing MSEs. Of these, 19,608 (about 80%) are micro and the remaining 4,864 (about 20%) are small enterprises. We then made a decision to conduct a census of all small firms. Accordingly, all 4,864 small size firms were surveyed; of these, 3,298 were from Addis Ababa and 1,566 were from the other nine cities in the regions. Because of the sheer number of micro enterprises, we used a random sampling method to select the micro enterprises to be surveyed.

As shown in Table 3, Addis Ababa accounts for 65.4% of the total population of manufacturing MSEs in our database. We, therefore, differentiate Addis Ababa from the rest of the regional cities in our sampling of the micro enterprises. About 36% of our micro sample was drawn from Addis Ababa, while the remaining were from the regional cities. However, the sample size within the two categories (i.e., Addis Ababa and the remaining nine cities) was determined using the population distribution of micro enterprises as a sampling weight. We used cities (and sub-cities in the case of Addis Ababa) to stratify the sample and sample size. A simple random sampling technique was then used to draw the sample of micro enterprises from each city (and sub-city in the case of Addis Ababa). Accordingly, a total of 1,195 micro enterprises were selected from all sub-cities of Addis Ababa and 2,115 micro enterprises were from the nine cities outside Addis Ababa. The sampled micro enterprises in Addis Ababa represent about 10% of the total population in our frame, while the sample from the nine other cities is about 30% of the total population. This means the regions are purposively oversampled when it comes to the micro enterprises.

The final cleaned data used in this study constitutes a total of 8,174 MSEs, of which 40.5% are micro enterprises. In terms of geographical distribution, 4,493 (55%) are from Addis Ababa and the remaining 3,681 (45%) are from regional cities. It should be noted that the total number of surveyed MSEs is one-third of the total MSE population in the 10 largest cities and the sample is thus quite representative.

Figure 1: Location of sample cities



In our actual dataset consisting of 8,174 MSEs, 311 enterprises were found to engage more than 30 persons and thus they are out of the MSE category by size[8]. Data on these observations are reported separately as medium-sized enterprises throughout Chapter 4 of this report in order not to confound the analysis based on the small-scale data. However, the medium

[8] Their distribution across sample cities is presented in section 4.1 of the next chapter.

enterprises as well as data from them should not be taken as representative or a census of all medium-scale manufacturing enterprises of the study area, since the medium category was not included in this study by design. Conclusions and recommendations based on this study are appropriate for micro and small enterprises, for which the study was initially designed.

A survey instrument consisting of 15 sections and containing a rich set of questions on different themes was prepared. This was programmed to electronic versions to collect the data using Computer Assisted Personal Interviewing (CAPI).

Table 4: Major sections in the survey instrument

Section A:	General Information
Section B:	Characteristics and History of the Enterprise
Section C:	Characteristics of Entrepreneurs (Owners) and their Backgrounds
Section D:	Growth Orientation
Section E:	Employment and Earnings
Section F:	Marketing and Supply Linkages
Section G:	Competition, Technology, and Innovation
Section H:	Investment and Finance
Section I:	Business Development Services
Section J:	Business Practices
Section K:	Greening MSEs (Energy Use/Resource and Waste Management)
Section L:	Occupational Safety and Health of Workers
Section M:	Sales, Growth Opportunities, and Constraints
Section N:	Cognition and Time and Risk Preference

A survey team consisting of two coordinators, seven supervisors, and 42 enumerators was formed and intensively trained on the instrument. Using face-to-face interviews, the survey was implemented from December 2016 to May 2017 and high-quality data were collected on different issues of MSEs.

3.2. Data quality control mechanisms

A number of quality control mechanisms were employed to ensure the quality of the data. First, the programming of the survey instrument was designed in such a way that it does not allow direct and straightforward inconsistencies. Second, a supervisor was assigned to not more than seven enumerators and their day-to-day operation was closely supervised by the same.

Third, the data of surveyed firms were sent to the office and the daily data being collected were checked by the data manager and survey coordinators for its consistency. At intervals, the EDRI researchers themselves checked the quality and consistency of the data. When issues such as missing values, inconsistent responses, or implausible numbers were discovered, immediate feedback was given to field staff to make corrections.

Fourth, two independent auditors were hired to verify the data quality. For the purpose of auditing, about 600 sample MSEs were selected from surveyed samples. A few time-invariant questions were selected from our main survey instrument. Some new questions were also included to ensure that the enumerator had actually contacted the respondent in person, appropriately surveyed the firm, and asked all the questions. Using these questions and a sub-sample of the sample MSEs, the auditors conducted a phone survey and asked selected questions again to respondents who gave the first (main) interview. Then, the researchers analyzed the discrepancy between the two responses (responses given to the enumerator and those given to the auditor). In case significant differences were observed or if

there was any indication that our data collection protocol was not followed, the name of that enumerator was recorded as a potential cheater. Then, all firms interviewed by these potential cheaters were interviewed again by the auditors and the responses were compared to the original completed questionnaires. In doing so, we managed to identify interviews of about 32 firms (from the total survey) partly or fully conducted in an inappropriate manner. Therefore, we dropped these observations from our dataset and kept the remaining 8,174 that were proved to be interviewed appropriately.

Finally, all necessary office-level data cleaning work was done by three different experts in three rounds. In this process, when there were issues of errors made in the field that still needed rectification, firms were contacted again and all necessary corrections were made.

Given all these efforts made, from the survey design to the post-survey office-level cleaning, we believe that we have generated high-quality and dependable data that generates credible information.

3.3. Remarks on data handling and management practices of government offices

In the course of constructing the sampling frame and conducting this survey, we visited different offices or agencies that have lists of business enterprises compiled for some other purpose. These include offices operating at federal, regional, sub-city, woreda, kebele (village), and one-stop service center levels. We collected these lists and critically reviewed their documentation processes. These sources of enterprises lists and the nature of the data are discussed as follows because this provides a good lesson in survey design for other researchers. Information provided in this sub-section can also be taken as feedback to help the offices improve their data organization and management practices.

3.3.1. The Central Statistical Authority (CSA)

CSA regularly undertakes two main surveys related to firms. These are the “medium and large industry and electricity survey” and “small-scale manufacturing industry survey”. Because the latter is related to our project,

we hoped that we could obtain an accurate national sampling frame from CSA. CSA was the first source we consulted in our effort to search for appropriate lists of enterprises. Having made frequent contacts with the directorate in charge of the business survey, and following our review of small-scale manufacturing industry survey reports, we learned that CSA does not have a complete list of MSEs using the definition of MSEs we followed. The frame it uses for its own survey was constructed from different sources, primarily from the Ethiopian Revenue and Customs Authority (ERCA). An attempt was made to access and look at the ERCA data for our target cities. Surprisingly, we found this source incomplete, in that it had less than 10 small business enterprises for large cities like Dire Dawa and Hawassa. This is definitely non-exhaustive and the source cannot be dependable. Therefore, the research team decided to leave this and construct its own exhaustive frame by using multiple complementary sources, as CSA itself does for its small and cottage industry surveys.

3.3.2. The Federal Micro and Small Enterprise Development Agency (FeMSEDA)

As discussed in Chapter 2, the former Federal Micro and Small Enterprise Development Agency (FeMSEDA) was recently split into two agencies: the Federal Small and Medium Manufacturing Industry Development Agency (FeSMMIDA) and the Urban Job Creation and Food Security Agency. As the newly established agencies are too new to generate their own data, the former FeMSEDA was contacted for the availability of MSE lists. This source has well organized and easily accessible data updated until 2014/15 (2007 E.C) for all regions in a similar format. This source consists of basic information about the profile of enterprises, including names, address, TIN number, capital, labor, and size of enterprises (micro versus small). The agency has been publishing and distributing the list annually in the form of an MSE directory (both in hard and soft copies).

However, this source only compiles lists of enterprises established with the support of the government, usually under the close supervision of micro and small enterprise development offices. Those enterprises that were established on their own without any support from the government,

other than getting a trade license and other formalities from the trade office, were not included in the FeMSEDA list. Such enterprises are usually called "informal" by FeMSEDA and ReMSEDA officers, while those formed with their support are considered "formal." But, one should note that this formal-informal categorization is highly imprecise when compared to the usual definition. Therefore, samples taken from this frame cannot be representative. In addition, this source was updated only until 2007 E.C. Enterprises either established or closed thereafter cannot be captured. Most importantly, many enterprises appearing on the agency's record could not be found on the ground. Thus, this source cannot be used as a single source unless it is complemented with others.

3.3.3. Regional Micro and Small Enterprise Development Agencies (ReMSEDAs)

ReMSEDA is a general name used to represent regional agencies coordinating and supervising the development of MSEs at a regional level. There are different names and structures in different regions. Some regions organize this as a separate agency, while others organize it at the bureau level. Still others merge it with other offices to organize it at the bureau level. For instance, in the Tigray region, it is a separate regional agency, while the Amhara region merges it with the region's TVET office to form a bureau called technical vocational and enterprise development bureau.

For the purpose of the ESBD project, both the region and city/sub-city MSE development agencies and offices were visited to collect up-to-date lists of enterprises. In most cases, we were able to access lists of enterprises with a complete profile and more updated data than that of the FeMSEDA. Like the FeMSEDA's list, all regions collect and compile basic information about enterprises, usually on an annual basis. While many regions use a similar format and collect similar types of information, Tigray and Amhara ReMSEDAs further disaggregate data about the human resources involved in MSE operations by age and education level. Regions and city administrations were found to compile data reported from lower administrative units. In addition, in the Amhara and Tigray regions, a regional-level census of MSEs (including both government organized and self-initiated enterprises) was

conducted in early 2016/17 (2009 E.C) and 2014/15 (2007 E.C), respectively. Therefore, the ReMSEDA list we collected from these regions was much better. Not only was it up to date, but also relatively inclusive, although it was not used as a single source for framing MSEs in our sample cities. As far as inclusiveness is concerned, the Dire Dawa MSE development office tried to include enterprises established by their own motivation, in order to provide support to such MSEs provided they were willing to register with the bureau and obtain a MSE certificate. Otherwise, in all other regions, support given to enterprises, as well as data that the offices compiled, is restricted to enterprises formed with government support.

In the SNNP region in general and Hawassa city in particular, the ReMSEDA data contains similar information as in other regions. Exceptionally, this region generates additional information on MSEs, such as lists of model enterprises in each sector, the lists of enterprises converted from other sectors to manufacturing one (because of the more emphasis is given to the manufacturing sector in nationwide planning), and, most importantly, they a report on MSEs changed from "informal" to "formal" by bureau's own definition of formality. When an enterprise is changed to "formal", the bureau registers it as if a new firm is established.

Data collected from other ReMSEDAs were updated and compiled until 2014/15 or 2015/16 during our visit. Data from this source was easily available in one place (region's office, city MSE development office, or both) in all cities visited, except in Jimma. In Jimma, the MSE list was collected from the One-Stop Service (OSS) Center of each of the eight8 kebeles, as data was not compiled at the city level to make it accessible for users.

Generally, the ReMSEDAs lists are available in Excel, contain basic profiles, and are easily accessible. However, this type of list has the following limitations:

- It is not exhaustive, as it usually excludes MSEs formed without government support.

- Dead (closed) MSEs are not usually excluded from the list of the agency. The list includes a large number of enterprises that are not currently operating or could not go beyond registration in the first place.
- The list contains much duplication. The duplication error is due to the fact that the agency registers the same enterprises under different names at different times. Usually, a firm registered in its business name also appears by the name of the owner as a separate firm. In the case of cooperative and partnership businesses identified by the names of operators, any change in the name order causes duplication.
- In some cases, the title of business owners (like Mr., Mrs., etc.) is added before their name and this makes sorting and other processing of the list complicated. Sometimes, this causes duplication in the lists.
- The micro-small categorization is not consistent across cities; nor it is defined as per the formal definition as stipulated in the proclamation. This is particularly true for Adama city, where all MSEs were mistakenly labeled as micro regardless of their employment and capital size.
- MSE lists from ReMSEDA are usually written in the region's working language. This partly restricts external users who are not able to read and write in that language. This is particularly true in our sample cities located in the Tigray, Somali, and Oromia regions.
- Some important information about MSEs, such as address and TIN number, are sometimes missing.
- Most of the time, the starting stage figures, especially capital, are not updated periodically. It is very common for a firm to be operating for a number of years before it has a level of current capital similar to its initial level.

3.3.4. Trade and Industry Bureaus

The trade and industry bureau of each region was also identified as an important source of enterprise lists, as all operating enterprises formally register in this office during the issuance and renewal of trade licenses. We visited and collected enterprise lists from each region and city considered in this study. This dataset commonly contains basic information such as the name of the enterprise, owner's name, TIN number, license number, legal status (form of ownership), and capital. However, for the city of Jimma, the list we collected lacks form of ownership and the capital indicator. On the other hand, data taken from this source for Mekelle city had as many variables as ReMSEDA, including full addresses, but with a different format.

As far as accessibility and data management of this source are concerned, most cities (Hawassa, Bahir Dar, Jimma, Adama, and Dire Dawa) were found to use a specialized software developed by the Ministry of Trade (MoT) to handle their data. They have dedicated data managers. These cities had updated data at the center (in one place) that could be provided for us, and of course for any user, upon request. Some other cities simply record data by Excel and do not have a separate data management unit (for instance, Jigjiga). Generally, the data from this source is accessible in all cities except Jimma.

Unlike MSEs in ReMSEDA lists, enterprises appearing on this list do not have a problem of systematic exclusion. This is because most of the enterprises take or renew a trade license and are recorded in the trade office database irrespective of how they were formed or their affiliation to MSE development offices. In order to construct an appropriate and exhaustive sample frame for our project, the enterprise lists taken from this source were effectively used to complement ReMSEDA data.

Though the trade and industry bureau of each region was used as an alternative source of enterprise lists, the following limitations were identified:

- In most cases, this source does not provide a detailed address other than kebele or sub-city, which makes it hard to locate enterprises.
- Information on the type of sector only includes main sectors and says nothing on sub-sectors in all sample cities except Mekelle and Gondar.
- For some cities, such as Gondar, the data from the center (city trade office) is either unavailable or outdated. Updated data are available in sub-cities in a fragmented manner. The central data unit could access sub-cities' data online for some cities, such as Hawassa and Dire Dawa. However, this was not possible for some others. In this case, it was a must to visit all the sub-cities to collect the fragmented information on enterprises and construct city-level data.
- Disparity in data handling and management was not only observed between cities, but also across sub-cities within the same city. In some cases, the location of the database varies by the form of ownership. For instance, in Bahir Dar, it was possible to get data on enterprises with all forms of ownership except for sole proprietorship at the center (city trade office). Conversely, for sole proprietorship, data can only be accessed in each sub-city.
- Most data managers were unable to extract data from the Ministry of Trade software into Excel and other user-friendly formats. After lots of effort, some of them managed to convert it into PDF format. Jimma's city trade office was exceptionally weak in this respect. The office used the MoT software to enter traders' (enterprises') data. However, they can neither extract the recorded data from the software, nor print it for further use. The only thing the office could provide us with was the entire backup of their dataset. Then, we had to take this backup and get the technical assistance of the MoT's Information and Communications Technology team (the very source of the software) to extract the data we sought from the city.

- Data on the capital of enterprises registered by trade offices is highly understated. The amount of capital for the same enterprise in the same period is different when it is read from ReMSEDA and from trade bureau records.

- As with ReMSEDA, language and duplication issues were also problems with this source.

3.3.5. Federal and regional revenue and customs authorities

The revenue and customs bureau was the other alternative source that was thought to have appropriate enterprise lists. The enterprise list collection team sent to each city visited the respective revenue offices and collected the data they possessed. This source was found to have very limited variables, mainly consisting of the name of the taxpayer, TIN number, and level of the taxpayer (labeled as A, B, and C). This source, however, has a strong data management unit that uses uniform and specialized software designed for this purpose. The data managers of this authority operating at any level are relatively knowledgeable and they were able to provide us data in any type of format, including Excel. Sub-cities or other lower administrative units' data could be accessed centrally for all cities, except Adama. In the city of Adama, only the high taxpayers list was accessed at the center, while others were obtained in sub-cities in a fragmented manner.

The main limitations of this source are:

- Most of the data obtained from this source do not have a sector indicator (e.g., Bahir Dar and Jigjiga). In some cases, even for those lists that have a sector indicator, it is difficult to clearly categorize their sector type. Because sector is recorded in less informative and short manners like "timber" or "bread," it is unknown whether the business engages in the production of bread or in the retailing of bread, for instance. This problem is much more common in Dessie, Dire Dawa, and Adama.

- Most of the employees, particularly data managers, are unaware of the definition of each sector, so the sector category of enterprises is usually registered in a less than accurate manner.
- Full addresses of enterprises are either not recorded appropriately or are not easily accessible.
- No size indicator (capital or labor) is included in this source, so it is difficult to categorize businesses as large, medium, small, and micro. Only the annual turnover (sales) value is available in this source.
- As with other sources, language is another factor limiting access by external users.

3.3.6 Lessons learned and actions required

In our review process, we learned that there is not a single national or regional source of data that exhaustively documents the list of business enterprises in Ethiopia. Any research that is based on any of the above sources as the only sample frame could potentially generate inaccurate results. Inconsistencies in data collection, organization, formats, data updating frequencies, and management among regions, cities, and even sub-cities within the same city are significant. Most data sources either lack a separate data management unit or are poorly staffed by those with inadequate technical skills, which results in poor data handling and management practices in almost all regions. In addition, there is no link or coordination among different government offices working in the same city on the same population of enterprises in terms of data collection and handling. Each office collects and organizes its own information, which results in substantial inconsistency of statistics across sources.

The absence of a complete (or accurate) national database (or business directory) for small businesses means the state of the sector and its contribution to the national economy, such as GDP, employment spells, and job reallocation and destruction rates, are not accurately known. This has allowed for some to report exaggerated figures on the enterprises created and employment generated. Without accurate data, it very difficult

to design sound policy and also monitor the performance of the sector over time. Thus, there is an urgent need for a national database (or business directory) in order to improve coordination among the different actors (at federal and regional levels, and also among horizontally connected public agencies). Modern ICT systems and networking also are needed. The CSA, in collaboration with others, needs to work hard to realize its goal of having a national business directory. It is also advisable for the agencies listed above to collaborate with the research community, as carefully designed, repeated (panel) surveys can contribute greatly to responding to policy questions.

4. Survey Results and Discussion

In this section, the main findings of the survey are presented. The report covers the major issues concerning MSE development. The analysis was made using basic statistical techniques and presented in a less technical way to make it easily understandable for policy makers, practitioners, and other interested readers. The chapter is composed of 11 sections, each looking at different dimensions of the MSE sector development. It starts with describing the basic characteristics of sample MSEs and entrepreneurs. Other specific topics highlighted in the objectives of this study are presented in subsequent sub-sections. All the figures and tables presented in this chapter are based on our survey data.

4.1. Basic characteristics of the sample enterprises

4.1.1. Size class and geographical distribution of sample MSEs

Our scientific analysis and the resulting recommendations will be more informative if they are done in a more disaggregated way. One way of disaggregating the data is on the basis of size class of MSEs, as interventions needed by enterprises are usually size-specific. Therefore, we will summarize the MSE size classes in our survey data before embarking on the other results. The initial sample was designed to include micro and small enterprises based on the formal definition that the country is following. This was done using the information on size indicator on the administrative list used for our sampling frame.

Table 5 reports the size and geographical distribution of the enterprises in our sample. We classified the enterprises into three size categories: micro, small, and medium enterprises. Accordingly, our database includes 3,310 (40.5%) micro enterprises, 4,553 (55.7%) small enterprises, and 311 (3.8%) enterprises in the medium size category. The survey was originally designed to include enterprises in the micro (1-5 workers) and small (6-30 workers) size categories. However, when size category is determined on the basis of

total current employment level from our survey data, 311 (about 3.8%) of surveyed enterprises were found to have more than 30 workers. We have reported the medium size enterprises as a third size category. However, as stated in the previous chapter, these 311 medium size enterprises are not representative of medium-size firms and we cannot draw conclusions about the medium-size sector. In contrast, the small firms were surveyed on a census basis and the micro enterprises on a random sampling basis. Thus, the findings for these two categories can be considered as representative, at least for the selected major urban centers. The survey results show that in 2016/17, there were 4,553 small manufacturing enterprises in the 10 selected cities. The sampling exercise, on the other hand, resulted in 3,310 micro enterprises, which account for about 16.7% of the population of micro enterprises in the selected cities.

Table 5: Geographical and size distribution of sample MSEs

City	1-6 workers (Micro)		6-30 workers (Small)		>30 workers (Medium)		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Adama	140	4.2	113	2.5	8	2.6	261	3.2
Addis Ababa	1,195	36.1	3,035	66.7	263	84.6	4,493	55.0
Bahir Dar	314	9.5	243	5.3	9	2.9	566	6.9
Dessie	147	4.4	86	1.9	3	1.0	236	2.9
Dire Dawa	118	3.6	120	2.6	6	1.9	244	3.0
Gondar	211	6.4	124	2.7	2	0.6	337	4.1
Hawassa	143	4.3	306	6.7	10	3.2	459	5.6
Jigjiga	44	1.3	55	1.2	5	1.6	104	1.3
Jimma	148	4.5	145	3.2	1	0.3	294	3.6
Mekelle	850	25.7	326	7.2	4	1.3	1,180	14.4
Total	3,310	100	4,553	100	311	100	8,174	100
Size categories share (%)	40.5		55.7		3.8		100	

Looking at the geographical distribution of the population of MSEs, Addis Ababa hosts twice as many as the sum total of the other nine regional cities. The distribution of the small firms gives more insights than the distribution of micro enterprises, as the former is census-based, while the latter is on a sampling basis. Of the 4,553 small enterprises in operation in

2016/17 in the 10 largest cities, Addis Ababa accounted for about 66.7% (3,035 firms). 84.6% of the medium-size firms (263 firms) are also in Addis Ababa. This shows that the high concentration of manufacturing activities in the capital city, Addis Ababa, is not just a phenomenon of medium and large manufacturing enterprises (as the per the CSA reports), but is also the case for micro and small manufacturing enterprises. Mekelle stands next to Addis Ababa in terms of number of micro and small manufacturing enterprises, accounting for about 14.4% of our sample (1,180 firms). Among the regional cities, the smallest number of manufacturing enterprises was in Jigjiga.

4.1.2. Distribution of enterprises by sub-sector

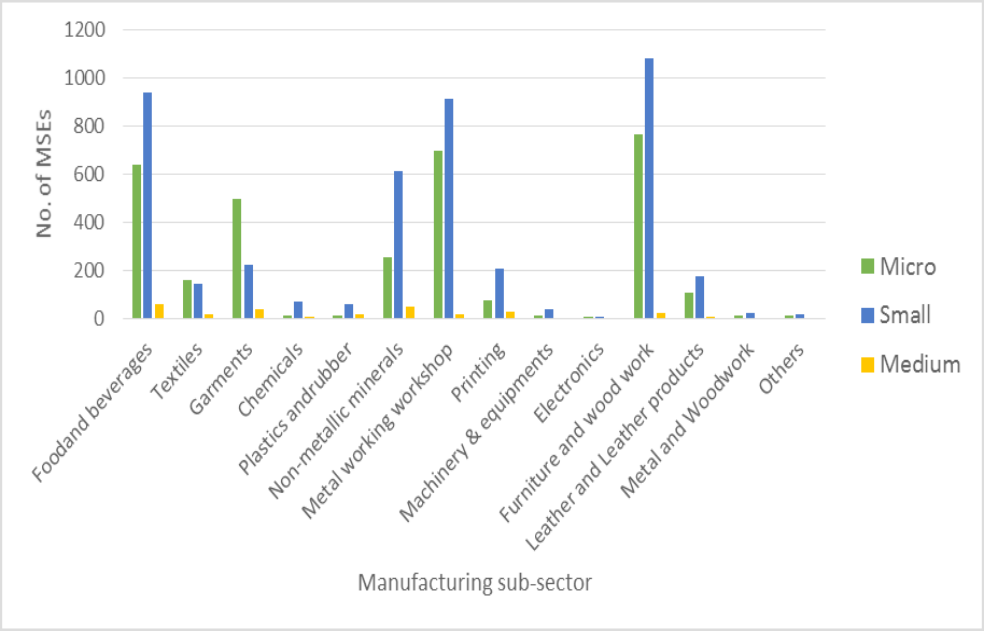
This survey tried to generate valid information on the distribution of sample enterprises in terms of the type of manufacturing activity in which they engaged. As depicted in Table 6, furniture and wood working, food and beverage, and metal working workshops are the three most important sub-sectors in which MSEs are engaged in Ethiopia. The share of these three sub-sectors together accounted for about 63.2% of micro and small manufacturing enterprises in urban Ethiopia (Table 6). In general, there is similarity in sectoral distribution when disaggregating by size or city. For example, the three sectors account for between 60% and 71% of the enterprises in the nine cities in the regions, while in Addis Ababa, they account for a slightly lower share (57%). On the other hand, garment, textiles, and leather products account respectively for about 9%, 4%, and 3.6% of the MSEs in all cities.

Table 6: Distribution of sample MSEs by sub-sector and city (%)

Economic sub-sector	Addis Ababa	Adama	Bahir Dar	Dessie	Dire Dawa	Gondar	Hawassa	Jigjiga	Jimma	Mekelle	Total (all sample)
Furniture & wood work	19.3	15.3	31.8	25.4	31.6	20.5	35.5	29.8	46.3	22.1	23.0
Food & beverages	18.3	40.6	21.7	29.7	18.4	23.7	16.3	17.3	21.4	20.9	20.2
Metal working workshop	20.2	16.1	18.6	17.0	18.0	21.7	10.2	13.5	20.1	25.6	20.0
Non-metallic mineral [9]	12.6.	18.1	2.5	0.0	17.7	5.6	9.4	7.7	1.0	15.0	11.3
Garments	8.2	1.9	12.7	14.8	5.7	21.4	8.7	20.2	6.1	10.6	9.4
Textiles	4.0	2.7	4.8	5.5	2.9	4.2	7.4	0.0	0.3	3.8	4.0
Printing	6.0	0.0	2.8	0.0	0.0	1.2	3.3	7.7	0.7	0.7	3.9
Leather & leather products.	5.6	0.8	1.6	2.1	1.2	0.3	3.5	0.0	2.4	0.3	3.6
Chemicals	1.6	2.3	1.4	1.7	1.6	0.3	1.3	1.9	0.0	0.1	1.3
Plastics & rubber	2.0	0.0	0.2	0.0	0.4	0.0	0.0	0.0	1.4	0.1	1.2
Machinery & equipment	0.7	0.0	0.5	2.5	1.2	0.3	2.2	0.0	0.0	0.4	0.7
Metal & woodwork	0.6	0.4	0.5	0.9	0.0	0.3	1.5	0.0	0.0	0.2	0.5
Electronics	0.4	1.2	0.5	0.0	0.0	0.3	0.2	0.0	0.0	0.3	0.3
Other	0.6	0.8	0.4	0.4	1.2	0.3	0.4	1.9	0.3	0.2	0.5
Total (%)	100	100	100	100	100	100	100	100	100	100	100

[9] This also includes Bricks & other construction materials

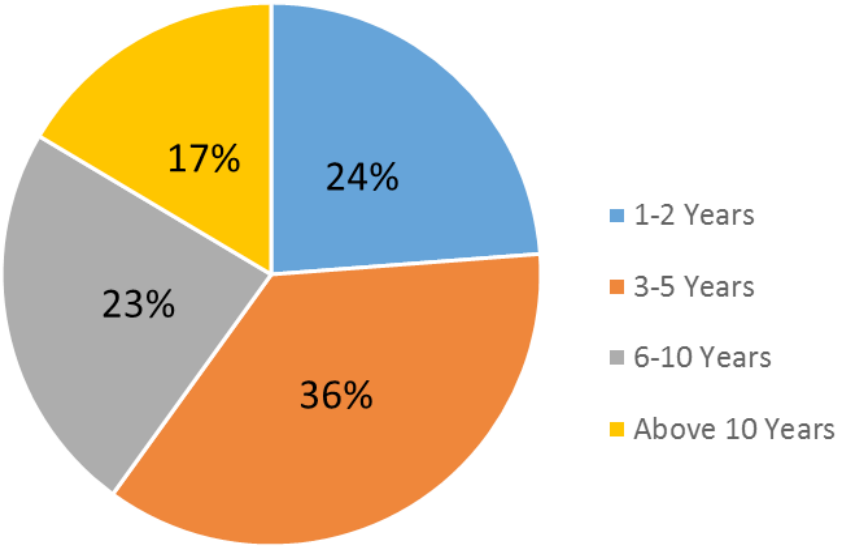
Figure 2: Sub-sector distribution of sample MSEs by size of enterprises



4.1.3. Firms' age

The survey result revealed that the MSE sector is dominated by young firms that have operated, on average, for about five years since establishment. As depicted in Figure 3, about 60% of sample enterprises have been in business for no more than five years. Similarly, about 23.8% of the sample MSEs have two or less years of operation. In contrast, only 16.5% of them have been in business for more than a decade.

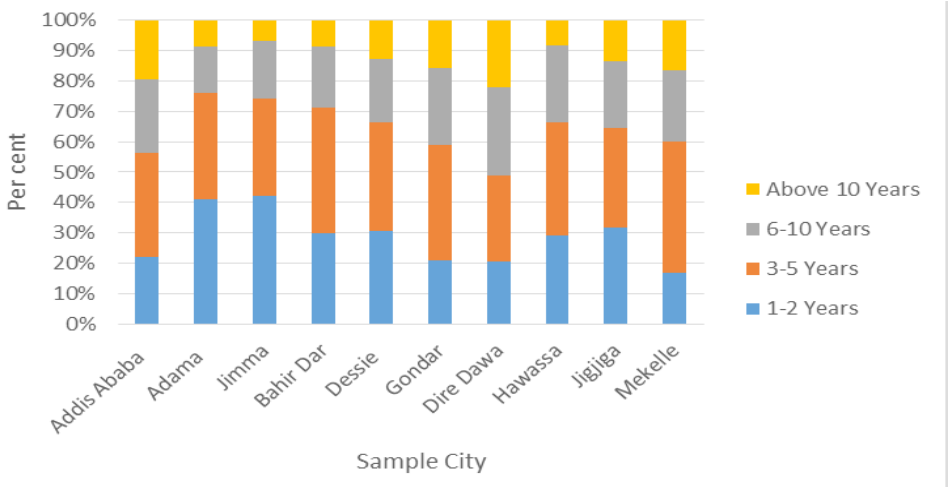
Figure 3: Age category of sample MSEs since establishment



When we look at the age distribution across sample cities, cities in Oromia regional states (Jimma and Adama) were estimated to have about three-fourths of their respective enterprises established in the last five years. On the other hand, Addis Ababa and Dire Dawa had relatively older enterprises (see Figure 4).

The implication of having such young and less-established firms is that both businesses are volatile, with high rates of startup and termination, or newly established MSEs grow quickly into medium- and large-scale enterprises and leave the MSE category. However, the FeMSEDA (2016) reported that only 1% of MSEs managed to graduate to the medium level over the GTP I period. Similarly, the CSA (2015) estimated the total number of large and medium manufacturing enterprises in Ethiopia to be only 2,758. These numbers show that the latter argument does not hold true. A plausible reason for the boom in infant MSEs could be the volatility of business or a peak in the entry of new firms as a reflection of robust economic opportunities or promotional activities from the government side. However, due to the cross-sectional nature of our data, we cannot say much about the rate of firm exit.

Figure 4: Age category of sample enterprises disaggregated by cities



4.1.4. Ownership type and legal status of sample MSEs

As far as the ownership of enterprises is concerned, all but three MSEs were operated by the private sector, as expected. However, according to CSA (2015), in large and medium size enterprises, the share of state-owned enterprises was about 3.6%, which is relatively higher. The survey also revealed that there are about 22 foreign-owned enterprises, most of them in the small and medium size category. Table 7 reports the legal form of ownership. The majority (57%) of the sample enterprises were reported to be sole proprietorships, followed by cooperatives (14.5%). In state-supported MSEs, however, the most common form of legal status is either cooperative or partnership.

Table 7: Legal form of ownership

Legal status	Freq.	Percent
Public owned	3	0.04
Private limited	921	11.27
Share company	268	3.28
Partnership	1,130	13.82
Sole proprietorship	4,662	57.03
Cooperative	1,182	14.46
Others	8	0.1
Total	8,174	100

About 95.7% of MSEs reported that they had established the businessby themselves from scratch. All other options, including inheritance and purchase from others, had negligible shares (Table 8). This suggests that entrepreneurship, particularly in the manufacturing sector, is largely a recent phenomenon in Ethiopia, requiring a conscious strategy to promote start-ups.

Table 8: Means of acquiring the current business

Means of acquiring	Freq.	Percent
Inherited	120	1.47
Started from scratch	7,820	95.67
Purchased	224	2.74
Other	10	0.12
Total	8,174	100

4.1.5. Location of sample enterprises

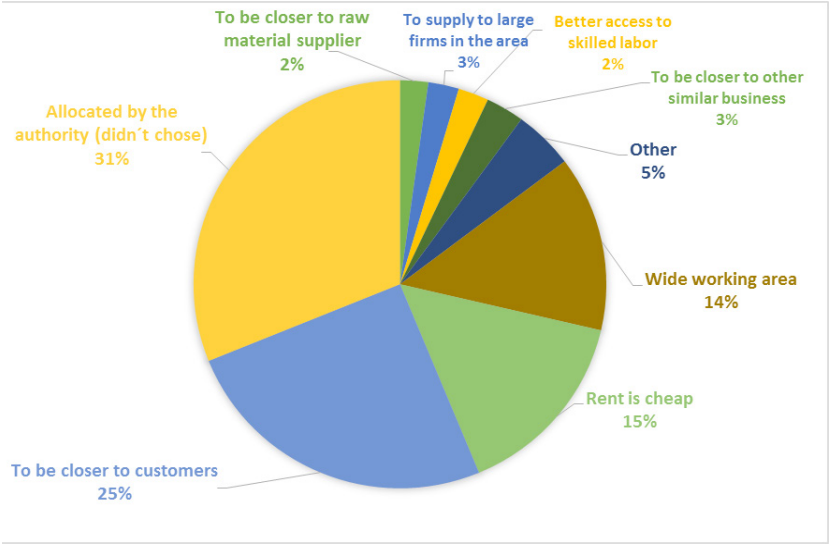
Specific locations of enterprises were assessed by disaggregating MSEs located inside and outside of Addis Ababa, as this has some implications about firms' growth. As can be seen in Table 9, about 57% of the sample MSEs operate outside (i.e. away from) their home in commercial and non-commercial areas. In aggregate, about one-fifth operate in industrial zones. In this regard, there is a wide gap between Addis Ababa (28.7%) and regional cities (9.8%), because regions, unlike the capital, are in the infancy stage of constructing industry clusters accessible for MSEs.

Table 9: Specific location of MSEs by cities (%)

City	Home commercial	Home non-commercial	Outside home commercial	Outside home non-commercial	Industry zone/cluster	Other	Total
Adama	18.8	28.0	20.3	27.2	5.7	0.0	100
Addis Ababa	6.7	12.5	32.5	19.3	28.7	0.3	100
Bahir Dar	1.8	20.3	28.3	30.9	18.7	0.0	100
Dessie	3.8	19.9	36.0	24.2	16.1	0.0	100
Dire Dawa	20.1	20.5	45.5	11.9	2.0	0.0	100
Gondar	2.4	22.0	44.5	22.6	8.3	0.3	100
Hawassa	14.6	12.6	38.6	22.2	12.0	0.0	100
Jigjiga	3.8	25.0	51.9	19.2	0.0	0.0	100
Jimma	25.9	15.3	37.8	18.0	3.1	0.0	100
Mekelle	5.3	13.7	55.9	16.2	9.0	0.0	100
Total	7.8	14.8	36.9	20.1	20.2	0.2	100

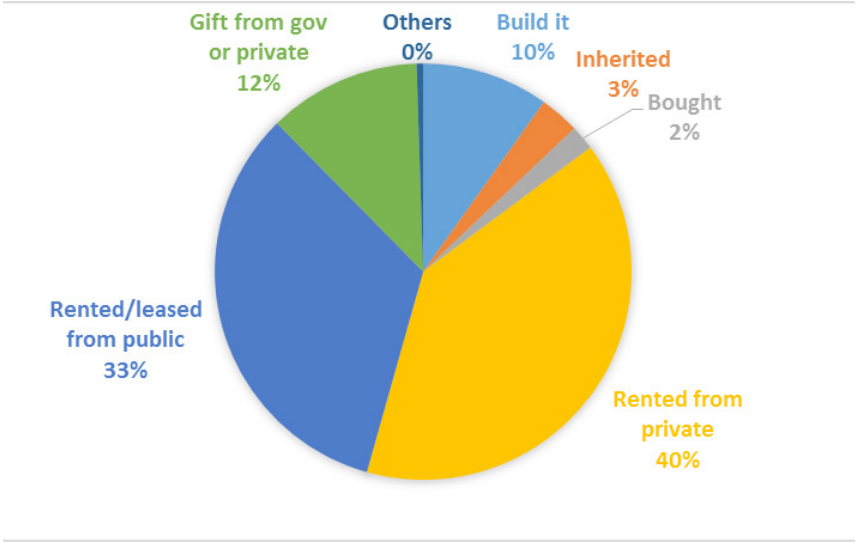
Firms were asked why they chose their current location. The answer given most frequently (31.1% of the time) was that they were operating in their current location not because they chose it; rather, it was allocated by the government. For those MSEs who chose their location on their own, proximity to customers (25.13%), cheaper rent (15.06%), and large area of working premises (13.93%) were the major driving factors that dictated their choice (Figure 5).

Figure 5: Reasons for MSEs to choose the current location



In addition to the geographical areas where firms operate, the methods of acquiring the specific working premises (building) were also assessed. As can be seen in Figure 6, 40% of the sample enterprises rented their current premises from private individuals or businesses. The next largest share was leased or rented from the government (33%). This figure is comparable with the choice of location, particularly the state allocation option presented in Figure 5.

Figure 6: Methods of acquiring the current business premises



4.1.6. Cooperatives: how different are cooperatives from others?

Cooperative businesses are run by multiple owners having diverse interests, sometimes organized through state inducement. As a result, it is interesting to see whether cooperative businesses are different from others in their character. In our sample, there are 1,182 establishments in the form of cooperatives. First, cooperative MSEs were asked how they were established. As shown in Table 10, most of the cooperatives (69.7%) were initiated by members themselves, while about 27.8% were initiated by the government.

Table 10: Initiator of the cooperative business enterprises

Initiated by	Freq.	Percent
Ggovernment	328	27.75
NGOs	26	2.2
Self/members	824	69.71
Others	4	0.34
Total	1,182	100

Being a state-induced business may not be a problem by itself as long as the right collection of people is engaged in the right sector at the right time. Sometimes, it is argued that state-induced cooperatives may be formed without members' interest and motivation or that members forming the business might not have known each other at start-up. The survey results revealed that about 54 (15%) of the cooperatives initiated by the government or NGOs were organized involuntarily. Regarding members' familiarity with each other at the time establishment, two-thirds of the cooperatives reported that they had known each other very well. The remaining third had gaps in this respect.

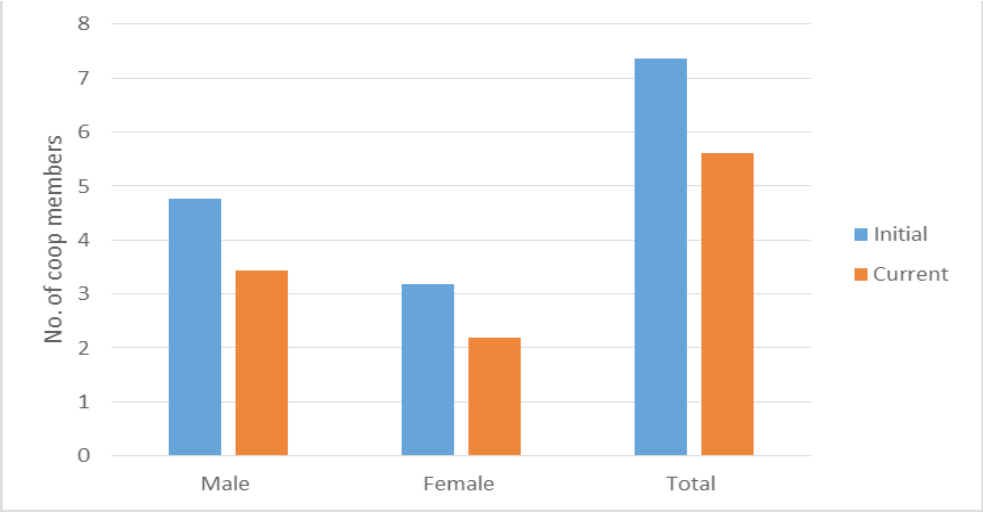
Comparing the results across cities, Addis Ababa, Dire Dawa, and Gondar (about 48% each) and Jigjiga (44%) have gaps in this regard, as members do not know each other at all, barely know each other, or know each other moderately well. Adama is better off in this regard, as about 92% of cooperatives reported that members knew each other very well during establishment, though this form of ownership is less common in the city (Table 11).

Table 11: How well members know each other during establishment (%)

City	Level of familiarity				
	Not at all	Barely	Moderately	Very well	Total
Addis Ababa	9.17	10.55	27.85	52.42	100
Adama	0	4.17	4.17	91.67	100
Jimma	0	2.5	13.75	83.75	100
Bahir Dar	6.31	5.41	9.01	79.28	100
Dessie	1.82	0	23.64	74.55	100
Gondar	3.45	24.14	20.69	51.72	100
Dire Dawa	**0**	**20**	**28**	**52**	**100**
Hawassa	3.45	24.14	20.69	51.72	100
Jigjiga	4.55	0	40.91	54.55	100
Mekelle	0	4.76	28.57	66.67	100
Total	5.58	7.53	20.05	66.84	100

The number of cooperative members matters for the success of a cooperative business. A large number of members may make it difficult to manage and accommodate their diverse interests. In this study, cooperative MSEs were reported to have on average about 7.4 and 5.6 members at start-up and current periods, respectively (Figure 7).

Figure 7: Average size of cooperative members, by gender and period



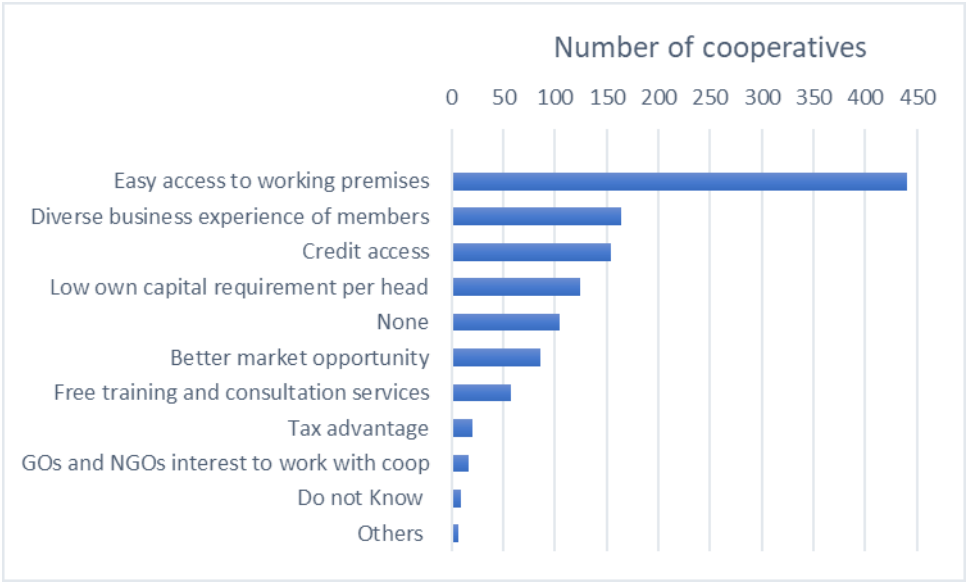
Data on members' dynamics over time indicated that a significant number of cooperative members withdrew from the business ownership. When comparing the current cooperative members with the initial period, their number declined by 29.5%. One reason could be members' lack of familiarity with each other. The less they know each other during start-up, the less stable the number of members will be between initial and current periods.

Pros and cons of cooperative business

Organizing MSEs in the form of cooperatives has its own advantages and disadvantages for the businesses themselves. It is debatable which outweighs the other. Cooperative enterprises were asked to identify the pros and cons of being a cooperative as compared to other forms of

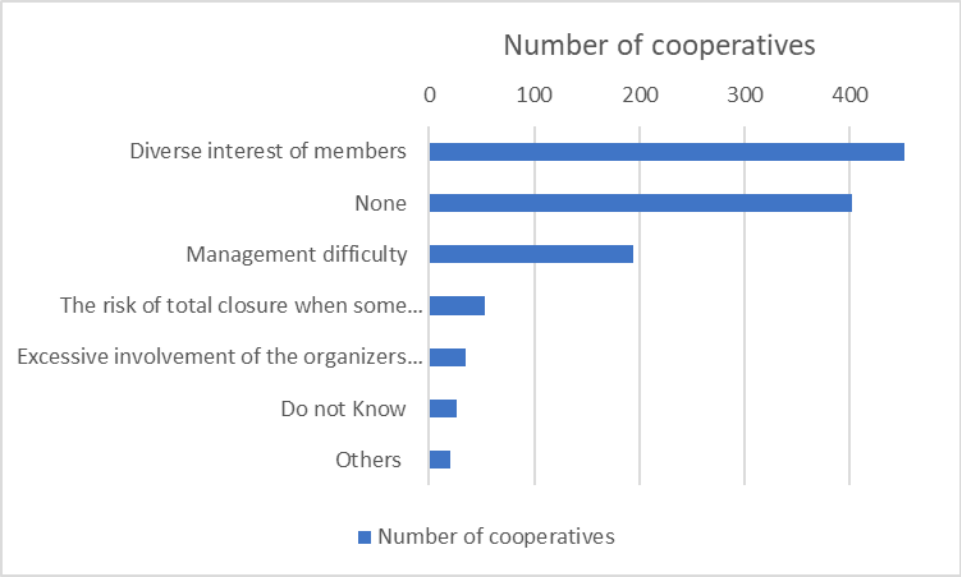
business. Accordingly, easy access to working premises, provided by the government, was the primary benefit of being a cooperative, which was acknowledged by about 440 (37%) of the cooperative MSEs (Figure 8). 61% of cooperative MSEs reported that their current location or work site was allocated by the government, while this figure was estimated to be as low as 29.7% for other forms of businesses. Related to this, our survey results also revealed that cooperatives are more likely to situate in industry zones/ clusters compared to others. Therefore, the advantage for cooperatives in this respect is evident.

Figure 8: Primary benefit of being cooperative



On the other hand, 452 (38%) cooperatives reported that the diverse interests of members was the main disadvantage of being a cooperative (Figure 9). The diverse interests of cooperatives can lead to business termination or withdrawal of members. As a result, there is a tendency to discourage this form of business ownership in some cities, while others are committed to it in forming state-induced businesses. Our survey data revealed that cooperative businesses were more common in Hawassa, Jimma, and Dessie, where respectively 51.6%, 27.2%, and 23.3% of the sample MSEs were organized in this form of legal status.

Figure 9: Primary constraints of cooperative form of business



Other characteristics that make cooperatives different

The cooperative form of MSEs was compared with all other forms of business to see whether there is any difference in their characteristics, using appropriate statistical tests. As presented in Table 12, generally cooperative MSEs were found to be younger, be more necessity driven[10], have slower employment growth rates, and be less likely to hire permanent employees, as compared to other forms of business.

Table 12: Average values of some variables for cooperatives and non-cooperative MSEs

Characteristics/variable comparison	of Cooperative MSEs	Non-cooperative MSEs	Mean difference	P-values of the mean difference test
Firm age in years	4.7	6.4	1.7	0.00
Necessity driven (%)	74	64	10	0.00
Employment growth in 2015/16	10.4	17.2	6.8	0.00
Employment growth in 2016/17	3.2	5.2	2.0	0.11
Proportion of permanent workers in 2015/16	8.3	14.8	6.5	0.00
Proportion of permanent workers in 2016/17	8.5	15.6	7.1	0.00

[10] Necessity-driven entrepreneurs are defined here as entrepreneurs who joined the business in order to balance their family and work life, due to a lack of alternative wage-paying jobs, or post-retirement. See the following sub-section for more on the distinction between necessity- and opportunity-driven entrepreneurs.

4.2. Characteristics of the entrepreneurs

In addition to the enterprise characteristics and the environment in which they operate, entrepreneurs' characteristics play a significant role in development of MSEs (Reeg, 2013). Entrepreneurs in the MSE context and in this study are owners or owner-managers of the business. Our survey results show that 94.36% of sample enterprises were managed by owners, while only 2.87% were managed by hired managers. Therefore, the owner-manager is more appropriate for MSEs in our case than separately referring to these two agents in describing their profile.

Table 13 summarizes the basic demographic characteristics of entrepreneurs. As one can see in the table, about 76% of the owner-managers of the sample MSEs were married. The gender gap was substantial. Less than one-fifth of the MSEs were owned and managed by females. This gap was found to be more severe in Jigjiga, where only 3.8% of the sample manufacturing MSEs were owned and managed by female entrepreneurs. Cultural barriers and the preference of females to engage in petty trade rather than manufacturing are the possible reasons for this huge gap.

The average age of MSE owner-managers was 37.98 years, ranging from 18 to 89. Youth (aged 18-35 years) had a share of about 48% in owning and managing the manufacturing MSEs. Data from CSA (2016) shows that the share of urban youth between ages 18 and 35 is more than 60% of the economically active urban population. This shows that the 48% business ownership share of youth is lower as compared to the youth urban population distribution. In terms of religion of the owner-managers, about 72.4% are Christian Orthodox, while Muslims account for about 17%.

Table 13: Demographic characteristics of sample entrepreneurs

Variable	Category	Freq.	Percent
Marital status	Single	1,706	20.9
	Married	6,199	75.95
	Divorced	113	1.38
	Separated	42	0.51
	Widowed	100	1.23
	Total	8,160	100
Sex	Male	6,618	81.08
	Female	1,544	18.92
	Total	8,162	100
Religion	Christian-Orthodox	5,884	72.41
	Muslim	1,384	17.03
	Christian-Protestant	785	9.66
	Christian-Catholic	34	0.42
	Traditional	1	0.01
	Atheist	9	0.11
	other	29	0.36
	Total	8,126	100
Age	18-35	3,895	47.74
	36-65	4,110	50.37
	above 65	154	1.89
	Total	8,159	100

Human capital of the entrepreneurs

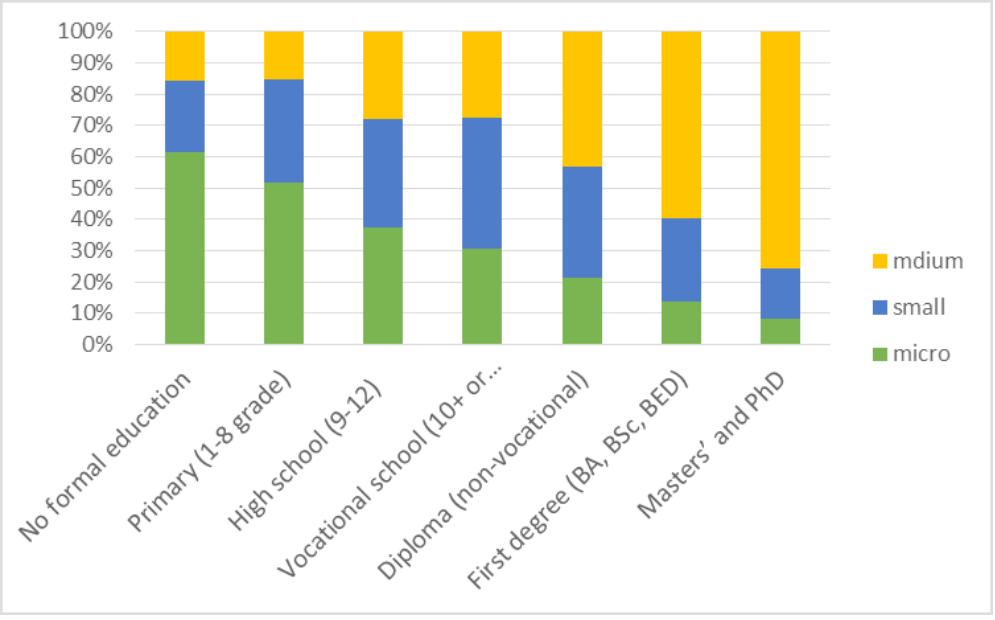
Educational achievements, business experience, and other skills of entrepreneurs were assessed to measure their human capital. Table 14 presents the distribution of the summarized educational status of entrepreneurs. As shown in this table, only 2.38% have no formal education, while 22.8% have completed only primary school (grades 1-8). This means about a quarter of the entrepreneurs have a maximum of primary education. More than one-third (36%) have a high school education. More than 12% of those in manufacturing are university graduates with at least the first (bachelor's) degree level. Surprisingly, the vocational school graduates are only about 17%, which is very low in the context of the government efforts to massively produce TVET graduates in the hope of generating a large pool of entrepreneurs.

Table 14: Educational status of entrepreneurs

Educational status	Freq.	%
No formal education	194	2.38
Primary (1-8 grade)	1859	22.80
High school (9-12)	2951	36.20
Vocational school (10+ or level 1-4)	1383	16.96
Diploma (non-vocational)	757	9.28
First degree (BA, BSc, BEd)	883	10.83
Masters' and PhD	116	1.42
Others	10	0.12
Total	8153	100

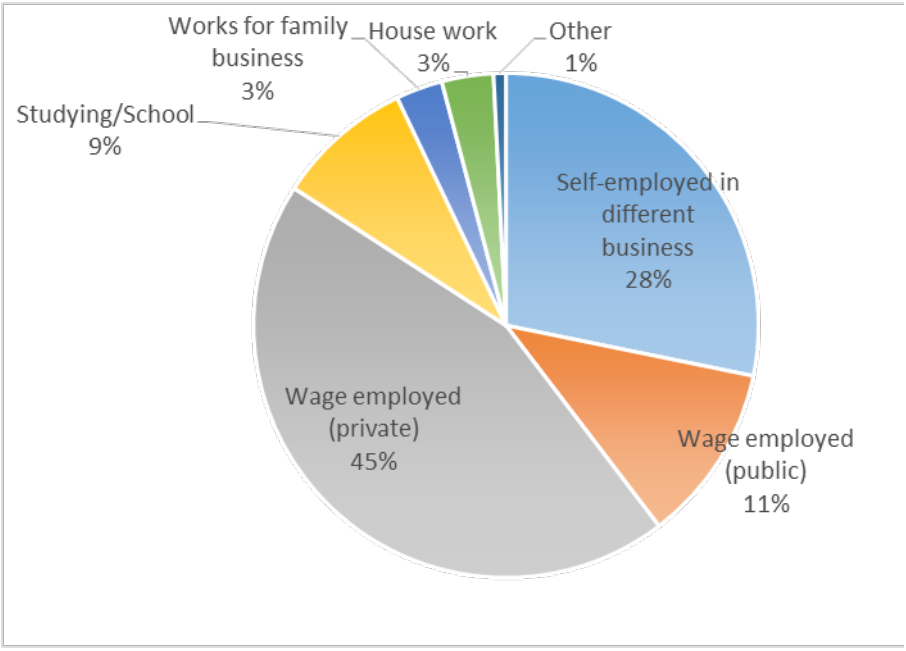
In addition, the total average years of education of entrepreneurs was estimated to be 11 years. The cross tabulation of educational status of owner-managers and firm size yielded a clear pattern on the relationship between the two. As depicted in Figure 10, the size of the firm is positively related to the owner's level of education. Most of the medium size firms are owned by more educated owner-manager while the majority of the microenterprises are owned and managed by less educated people.

Figure 10: Education status of entrepreneurs versus firm size



Our data also shows that MSE owner-managers had an average of 7.7 years of prior business experience. The distribution of their prior occupation, if any, is presented in Figure 11. Accordingly, about 56% of the current business owners had been wage-employed in the private or public sector before establishing their current business. About 28% of enterprise owners reported that they were self-employed in a different business.

Figure 11: Previous occupation of entrepreneurs



In a nutshell, both the enterprise and entrepreneurial characteristics of our sample MSEs are diverse, which has something to do with the environment in which they operate. This has implications for incubation of entrepreneurs and development of their enterprises.

4.3. Growth Orientation and Risk Taking Behavior of Entrepreneurs

This section discusses growth orientation and risk taking behavior of entrepreneurs running manufacturing MSEs. The discussion on entrepreneurial motives covers entrepreneurs' drive, both in the context

of startup motivations and visions about the future. The risk preference of entrepreneurs is discussed by observing the tendency to look for alternative jobs. We also buttress this subsection by considering the engagement of entrepreneurs in other businesses and the challenges they encounter while running their main businesses. For ease of presentation, we disaggregate the data by firm location and size.

4.3.1. Entrepreneurial Motivation of the MSEs

Motivation for Start ups

Entrepreneurs within the MSEs were motivated by different factors when they decided to start up the business. Table 15 summarizes the major factors that motivated the entrepreneurs to start the business, by both firm location and firm size. The majority of entrepreneurs (more than 70%) who decided to start up businesses in the form of MSEs within the manufacturing sector were mainly motivated to initiate the business either due to the desire to be one's own boss or seize the available market opportunities. These are often called opportunity entrepreneurs in the literature. Such types of entrepreneurs are drawn to the business not out of desperation or being pushed out of the labor market but to exploit the existence of profitable business opportunities. The rest (about 30%) seem to be necessity entrepreneurs, including entrepreneurs who started the business in order to balance their family and work life (13%), due to lack of alternative wage paying jobs (5%), for post-retirement income (3%) and other reasons (7%).

Table 15: Motivation for start ups (%)

Most important (top 5) reasons for becoming an entrepreneur (%)	Location (cities)		Firm size			All
	Addis A.	Regional cities	Micro	Small	Medium	
Wanted to be my own boss	37.8	33.7	35	36.7	35.8	36
Saw a market opportunity	35.8	33.3	31.5	36.6	40.7	34.7
Allows me to balance my family and work life	11.4	15.6	15.2	12.3	8.1	13.3
No wage job alternatives	4.8	5.8	6.3	4.7	3.2	5.3
Post-retirement source of income	2.4	3.8	3.5	2.7	3.9	3.1
Other	7.8	7.8	8.5	7	8.3	7.7
Total no. of observations	4486	3678	3305	4549	310	8164

The business start-up motivation pattern is quite comparable between entrepreneurs in Addis Ababa and those in the rest of cities in the regions. However, a slightly larger proportion of entrepreneurs in the regions (15.6%) considered business as a means to balance family and work life than their counterparts in Addis Ababa did (11.4%). Further, the business start-up motivation pattern was slightly different depending on the size of the business. Notwithstanding the caveat that we have not generated a representative sample of medium enterprises, we can make some comparisons between micro, small and medium-sized enterprises. As such, we observed that more entrepreneurs (40.7% of them) who are running medium-sized enterprises were influenced by the availability of market opportunities than their counterparts from micro enterprises (31.5% of them). Similarly, while only 8% of the entrepreneurs running medium enterprises emphasized business as a means to balance family and work life, more than 15% of entrepreneurs managing micro enterprises were influenced family-work balance. This reflects the nature of micro businesses, where the line between the household and the business is often blurred and separating the household from businesses is difficult.

Vision to Stay in Business

The entrepreneurs engaged in the manufacturing sector have diverse visions for their businesses. We analyzed the entrepreneurs' thoughts on their five-year plan for the business, the main accomplishment their business would have to achieve to be considered a success, and the growth potential of the business. Table 16 summarizes the findings on the first two measures.

Most entrepreneurs (about 88% of them) stated that they plan to expand their business in the next five years, while less than 5% plan either to remain at the same scale of operation, or downsize, or close their businesses during the same period. The remaining 7% of the entrepreneurs do not have concrete plans for their businesses for the next five years. In this regard, there is a difference by size and location of the firms. For example, we found that a larger proportion of the entrepreneurs in Addis Ababa (91.1%) have a plan to expand their businesses than those in the regional cities (83.6%) in the coming five years. Similarly, the proportion of firms planning to expand their business in the next five years increases with the size category of the firm.

Table 16: Entrepreneurs' vision to stay in business

	Location (cities)		Firm size			All
	Addis A.	Regional	Micro	Small	Medium	
The entrepreneur's plan for their business for next five years is ... (%)						
To expand the business	91.1	83.6	81.6	91.6	96.1	87.7
No concrete plans	4.5	11.4	11.7	5	1.9	7.6
To close the business	2.2	2.9	3.9	1.6	1	2.5
To remain at same scale of operation	1.6	1.4	1.8	1.4	0.6	1.5
To downsize the business	0.6	0.8	1	0.4	0.3	0.7
Main achievement to consider the business as successful (%)						
Continuing to grow profits year after year	19.7	26.2	25.8	20.8	15.8	22.6
Attaining a certain level of profit	15.8	17	15.8	16.6	18.3	16.3
Expanding customer base	17.7	14.2	13.1	18.3	17	16.1
Expanding range of services & production	20.1	7.8	9.9	17.7	18.7	14.6
Making enough to feed family	8.7	16.8	17.9	8.8	5.5	12.4
Growing to provide employment to others	9.3	10.4	8.5	10.5	13.2	9.8
Other	0.6	0.6	0.6	0.7	0.3	0.6
Percentage of entrepreneurs who believe in potential of the business to grow (%)	92.9	93.4	90.4	95.3	95.8	93.4
Total no. of observations	4486	3681	3308	4548	311	8167

The entrepreneurs evaluate business success on the basis of various accomplishments. For example, 55% of the entrepreneurs identified the steady growth of profits, attaining a certain level of profit, or customer base expansion as the major achievement to consider their business a success. Entrepreneurs' thoughts about the growth potential of their business is another important factor in evaluating the vision they have for their

business. Overall, more than 90% of the entrepreneurs in all cities and in enterprises of different sizes think that their business has good potential for growth (see Table 16). In addition, all the entrepreneurs who think their business has good prospects also expect that the potential growth of their business can be realized. This shows that the majority of entrepreneurs have optimistic prospects about the economy and their business growth.

4.3.2. Occupational choices of eentrepreneurs

In this subsection, we discuss the job preferences and occupational choices of the entrepreneurs running the MSEs. We particularly examine entrepreneurs' likelihood of looking for alternative jobs, challenges they face while running their business, and their engagement in additional businesses.

The Likelihood of Looking for Alternative Jobs

Economic agents weigh alternatives before deciding to start and then stay in a business. In this regard, entrepreneurs running MSEs are not different. We raised various questions in relation to businesses and alternative wage paying jobs so as to assess the level of risk the entrepreneurs are willing to bear while running their businesses. We found out that a significant portion (more than 55%) of the entrepreneurs strongly agree that they prefer owning a business to being salaried somewhere else (see Table 17). In fact, about 86% of the entrepreneurs either strongly agree or agree that they prefer their own business to joining wage jobs elsewhere. The pattern does not change significantly either with location or size of the businesses.

When we further examined the proportion of entrepreneurs currently actively searching for wage employment, we found that only about 6% of them are doing so. There is only a slight difference between the regions and size classes in this regard. As an effort to gauge entrepreneurial propensities, we asked all respondents how they would respond to a wage offer. A significantly large proportion of the entrepreneurs (81%) stated that they would not take such an offer. This is particularly the case among entrepreneurs from medium (about 92%) and small (about

84.3%) enterprises. However, while a small proportion (about 8%) of the entrepreneurs from medium enterprises stated that they would either take such an opportunity or consider the nature of the job, about 25% and 16% of the entrepreneurs from micro enterprises and small enterprises respectively said that they would do so (Table 17). We didn't, however, find any sizable difference in the proportion of entrepreneurs in Addis Ababa and the regional cities in their tendency to take job offers elsewhere.

Table 17: Self-employment preference of entrepreneurs

Variables	Location (cities)		Firm size			All
	Addis A.	Regional cities	Micro	Small	Medium	
The entrepreneur prefers own business to salaried employment elsewhere (%):						6.9
Strongly disagree	7.9	5.7	5.8	7.2	14.8	3.6
Disagree	3.5	3.6	5.2	2.4	2.9	3.4
Neither disagree nor agree	2.7	4.4	4.5	2.7	2.6	30.8
Agree	29.2	32.7	34.8	28.5	22.5	55.3
Strongly agree	56.7	53.6	49.7	59.2	57.2	6.1
The proportion of entrepreneurs who are currently actively searching for wage employment (%)	4.1	8.6	8.64	4.35	4.82	
Would the entrepreneur take a job offer elsewhere? (%)						7.3
Would take it	7.3	7.3	10.8	5.1	2.6	11.7
Depends on the nature of the job	12.8	10.4	13.8	10.5	5.1	81
Would not take it	79.9	82.4	75.1	84.3	92.3	18721
The minimum monthly salary (in Br.) the entrepreneur would demand to move to wage employment	24831	9091	12065	21779	53413	

Furthermore, though entrepreneurs running MSEs on average demand a monthly salary of ETB 18,721 to move to wage employment, there is a wide gap in such salary demands among entrepreneurs from different locations

and firm sizes. For instance, entrepreneurs in Addis Ababa demand an average monthly salary of ETB 24,831, while those in the regional cities demand an average monthly salary of ETB 9,090. Similarly, entrepreneurs from the medium, small, and micro enterprises demand on average a monthly salary of ETB 54,430, ETB 21,779, and ETB 12,065 respectively to move to wage employment. This is consistent with the observation that larger enterprises are more likely to enjoy higher profit levels in absolute terms and hence those owners would require a larger wage premium to move away from self-employment to wage employment.

A. Engagement in Other Businesses

We also tried to capture the level of engagement of the entrepreneurs in terms of the number of businesses they run, the type of additional businesses they run, and the amount of time they themselves commit to their business. As shown in Table 18, the majority of these entrepreneurs (about 83%) do not have any additional businesses that they are currently running. Only about 15% of the entrepreneurs are currently running one additional business, while a very small proportion (2%) are running two additional businesses. In this regard, we didn't observe any significant difference on the basis of location.

However, we found that a relatively larger proportion of entrepreneurs from medium enterprises (about 26%) are currently running one or two additional businesses as compared to 14% and 18% of entrepreneurs from micro and small enterprises respectively. Among entrepreneurs who have an additional business, we found that the majority (about 77%) are running businesses different from the line of business of the main one, while a smaller proportion of the entrepreneurs (about 21%) have additional businesses similar to the main one.

Table 18: Engagement in other businesses

Variables	Location (cities)		Firm size			All
	Addis A.	Regional	Micro	Small	Medium	
The number of additional businesses the entrepreneur is currently operating (%)						
Zero	82.3	83.5	86.1	81.2	71.4	82.8
One	15	14.1	12.5	15.8	20.3	14.6
Two	2.1	2	1.3	2.3	6.1	2
More than two	0.6	0.4	0.1	0.7	2.2	0.6
If the entrepreneur has additional business, what type is it? (%)						
Similar to the main business	23.7	17.2	15	22.4	30.6	20.5
Different from the main business	72.4	81	81.9	74.8	67.1	76.7
Both similar and different	3.9	1.8	3.1	2.8	2.4	2.9
Number of observations with additional business	616	606	419	718	85	1222
Average no. of hrs. the entrepreneur personally works in the business in a typical week	52.4	52.5	51.5	53.2	52.3	52.4
Total no. of observations	4492	3681	3310	4552	311	8173

The observation that nearly 30% and 20% of medium and small enterprises respectively are running more than one business is reflective of the nature of business organization in many developing countries. As opposed to expanding their businesses vertically by employing more workers, many entrepreneurs choose to venture into another business. This is partly a risk mitigation effort through diversification of businesses ventures and partly a strategy to operate outside the purview of the legal system to escape regulation and taxation. Horizontal or lateral expansion, however, has serious consequences for the growth and transformation potential of micro and small businesses. Productivity and growth-enhancing gains for economies of scale in transactions involving input, production and output, as well as marketing and distribution, are lost when entrepreneurs diversify into different businesses. Later expansion also increases costs associated with the monitoring and management of workers and inventories.

Further, we found that, on average, an entrepreneur spends 52.4 hours of his/her working time on business in a typical working week. The figure is comparable whether the entrepreneur is in Addis Ababa or the regional cities. However, we observed that, on average, while entrepreneurs from the micro enterprises work an hour less than the average, those from the small enterprises work an hour more than the average. Overall, the entrepreneurs within the MSEs are working much more than the common 40 hours a week requirement in the public sector.

4.4. Job creation and employment dynamics of MSEs

Ever since Birch's (1979) classic work on the contribution of small firms to employment generation, there is a growing body of literature on the economic role of small firms. Most of these studies show that small firms employ a large share of workers in developing countries. Consequently, MSE development has become a key priority in many developing countries, including Ethiopia. In this sub-section, we presented some findings showing the employment dynamics of MSEs in Ethiopia.

4.4.1 . Employment dynamics by type of employees

Table 19 reports the employment generated by the MSEs by type of work and year. The total sum of employment generated by the MSEs in our sample in 2016/17 is 72,584, of which 72% are paid workers. Between the initial year and 2016/17, total employment has grown from 50,633 to 72584, which amounts to 43.3% growth. However, the initial year is not very informative, given the difference in the starting year of the MSEs. When looking at the last two years (that is, between 2014/15 and 2016/17), total employment grew by about 14.7%, while the last year's growth (2015/16 to 2016/17) was stagnant and in fact exhibited some decline. At the initial year of business, the total number of working owners accounts for near to half of the total jobs created by the MSEs. However, the share of working owners declined over time and reached about a quarter in 2016/17. In contrast, the share of paid workers increased from about half to nearly three-quarters of

employment. This suggests that the MSEs are increasingly generating paid employment beyond themselves and their family members.

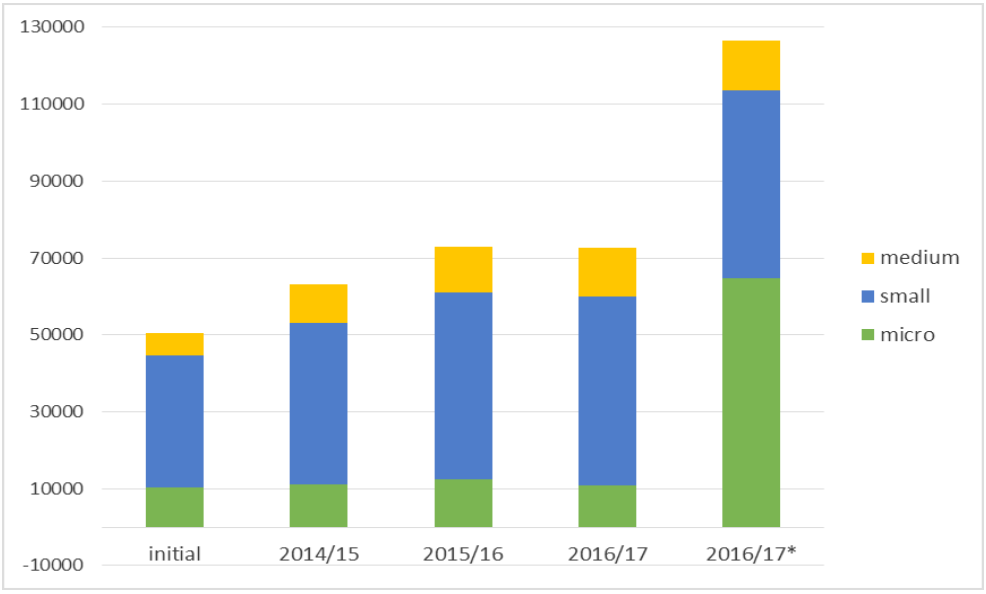
Table 19: Employment dynamics by type of workers over time (for our sample MSEs)

	Initial period		2014/15		2015/16		2016/17	
Worker type	No.	Share (%)	No.	Share (%)	No.	Share (%)	No.	Share (%)
Working owners	24212	47.8	18208	28.8	19120	26.2	18633	25.7
Paid workers	25001	49.4	43189	68.3	51895	71.1	52244	72.0
Unpaid workers	1215	2.4	1106	1.7	1361	1.9	1445	2.0
Apprentices	205	0.4	752	1.2	562	0.8	262	0.4
Total engaged people	50633	100	63255	100	72938	100	72584	100

4.4.2. Employment dynamics by type of employees and size category of MSEs

Beyond the total number of jobs created by MSEs, it is also relevant to assess whether the job creation potential of MSEs is different based on their size. For instance, out of the 72,584 jobs created by our sample firms in 2016/17, about two-thirds were created by small enterprises. However, this might be misleading given that the microenterprises in our database are based on a sample (only 17% of total population) and the small size enterprises on a census basis. To estimate the total employment generated by the microenterprises, we multiplied the average employment of this size class (which is 3.3 for year 2016/17) by the total number of microenterprises in our population frame (which is 19,608). This gives us about 64,706 jobs in the microenterprises size group (see Table 20). As mentioned earlier, the medium size sector is also not representative of its size class. We are not, thus, attempting here to estimate the population. In sum, we can conclude that the micro and small size enterprises (employing 1-30 workers) in the 10 largest cities in Ethiopia are estimated to have generated about 113,705 jobs. This estimation leads to a rise in the share of the microenterprises employment generation to about 57% of the total employment generated by the MSEs.

Figure 12: Total amount of employment created by population of enterprises in sample cities by size and time



*estimated employment for the population of microenterprises

Table 20 gives employment generated by size category and location for the year 2016/17. As indicated above, we have adjusted the employment generated in the microenterprises by their weight in the sample. The table shows that the firms in Addis Ababa account for about two-thirds of total employment created in the manufacturing MSEs sector. The nine cities in the regions account for one-third of employment, which is consistent with the distribution in the number of enterprises in the two locations. Addis Ababa's share in employment increases with the size category of firms.

Table 20: Total employment distribution by firm size and location in 2016/17

Total employment	Micro		Small		Medium		Total	
	No.	Share (%)	No.	Share (%)	No.	Share (%)	No.	Share (%)
Addis Ababa	42966	65.4	33984	69.4	10738	84.4	87688	68.8
Regional cities	22778	34.6	15015	30.6	1979	15.6	39772	31.2
Total	65744	100	48999	100	12717	100	127460	100

4.4.3. Nature of Employment in MSEs

The other aspect of MSE employment is whether the employment they create is permanent or temporary. As shown in Table 21, the proportion of permanent employment is small relative to temporary employment, although there is an increase from 17 percent in the initial year to 22.7 percent in 2016/17.

A great chunk of the employment created is temporary in the sense that the majority of their employees do not have a written employment contract with a contract period longer than six months. The temporary work accounts for 77%-83% depending on the year under consideration.

Table 21: Employment dynamics by nature of employment over time

Nature of employment	Initial year		2014/15		2015/16		2016/17	
	Number	%	Number	%	Number	%	Number	%
Permanent workers	8579	17.0	13707	21.7	15639	21.4	16481	22.7
Temporary workers	41856	83.0	49504	78.3	57305	78.6	56181	77.3
Total	50435	100	63211	100	72944	100	72662	100

4.4.4. Employment dynamics by gender of workers

Table 22 looks at the employment dynamics by gender. MSEs employ more male workers than female workers – 85 percent male in the initial year. There is a slight improvement in the most recent years as the proportion of female workers increased from 15 percent in the initial year to 21 percent in 2016/17.

Table 22: Employment dynamics by gender over time

Type of workers by gender	Initial year		2014/15		2015/16		2016/17	
	Number	%	Number	%	Number	%	Number	%
Female workers	7492	15	11678	19.5	12555	17.2	14850	20.5
Male workers	42943	85	51533	81.5	60389	82.8	57812	79.5
Total employment	50435	100	63211	100	72944	100	72662	100

4.4.5. Educational level of MSEs' Workers

Regarding human capital of workers, two observations are relevant (see Table 23). First, overall human capital accumulation has shown slight improvement over time. Second, most of the workers (more than 87 percent) in the MSE sector are high school graduates and below as of 2016/17. Thirdly, TVET and college graduates constitute a small proportion, respectively 7 and 6 percent of the workforce.

Table 23: Educational Background of MSE workers over time

Status	Initial year		2014/15		2015/16		2016/17	
	No.	%	No.	%	No.	%	No.	%
Below high school	32596	64.6	39118	62.0	44626	61	44085	60.67
High school graduates	11698	23.2	16074	25.4	19079	26	19216	26.44
TVET completed	2999	6.0	4306	6.8	4869	7	4993	6.88
Diploma and above	3142	6.2	3713	5.8	4370	6.00	4368	6.01
Total	50435	100	63211	100	72944	100	72662	100

4.4.6. Labor Turnover

One manifestation of good working conditions is a lower level of labor turnover. To shed light on this, enterprises were asked how many employees left the enterprise of their own will and how many were fired by the firm, out of the total employees they hired 12 months prior to the survey period. The summary results are reported in Table 24.

Table 24: Average employees' turnover by location

	Addis Ababa	Regional cities	Total(All sample)
How many employees did the establishment hire in the past 12 months?	6.3	3	4.82
How many employees left this business in the past 12 months of their own will?	4	2	3.07
How many employees were fired from this business in the past 12 months?	0.6	0.33	0.48

The results reported in Table 24 indicate that, on average, firms located in Addis Ababa hired six employees during the 12 months prior to the survey month, while firms located in regional cities hired only three employees. During the same period, on average four employees from firms operating in Addis Ababa and two from firms operating in regional cities quit the job of their own will, reflecting a high rate of labor turnover in MSEs operating both in and outside Addis Ababa. According to the respondents (firm managers), for more than four-fifth of firms operating both in Addis Ababa and other regional cities, the most common reason for workers to quit their job of their own will is to look for a better salary (see Table 25). This result is similar to the firm level study conducted by Kumar (2011). Another strand of literature, such as Nagaya (2015), indicated lack of retention strategies, low level of employee motivation, lack of career development opportunities and poor work environment as the root causes for labor turnover.

Table 25: Most Common Reasons for Workers to Quit (%)

Reasons for labor turnover	Addis Ababa	Regional cities	Total sample
For better salary	80.74	81.86	81.23
For decent work	9.90	10.10	9.99
Residence change	4.47	3.42	4.01
Starting own business	2.97	3.03	3.00
Migration	0.74	0.94	0.83
Death	0.05	0.03	0.04
Sickness	0.44	0.09	0.29
Other	0.7	0.53	0.62
Total	100	100	100
No. of observations (N)	4493	3681	8174

Firms operating in Addis Ababa and regional cities fired 0.6 and 0.3 employees on average respectively during the same period. According to the firm managers/representatives, the first and second most common reasons for workers to be fired are low productivity and poor discipline (see Table 26).

Table 26: The Most Common Reasons for Workers to be Fired

Most common reasons for a worker to be fired	Addis Ababa		Regional cities		Total	
	No.	Percent	No.	Percent	No.	Percent
Low productivity	1,931	48.5	1,492	44.76	3,423	46.8
Poor discipline	1,578	39.6	1,538	46.14	3,116	42.6
Business contraction	459	11.6	301	9.04	760	10.4
other	11	0.3	2	0.06	13	0.2
Total	3979	100	3333	100	7312	100

4.5. Earnings, Working Conditions and Occupational Safety of Workers

The World Bank reports that an additional 600 million jobs need to be created by 2020 to keep up with demographic changes and population growth in low- and middle-income countries, just to keep the ratio of employment to working-age population constant (World Bank, 2016). However, there is also a growing consensus that, in order to reduce poverty, we do not just need more jobs but also, and more importantly, better paid jobs and decent working conditions[11].

Thus, to be able to contribute to poverty reduction, it is not only important whether MSEs generate new jobs, but also whether these jobs offer decent working conditions and fair compensation for their employees. More importantly, a productive job has to offer sufficient earnings to permit the workers and their dependents a level of consumption above the poverty line. The Ethiopia government in its successive growth and transformation plans has emphasized the importance of the establishment and growth of manufacturing MSEs that create productive jobs for non-high school graduates and other low-skilled segments of the society, to reduce poverty and make its structural change more inclusive. This section briefly presents the findings of the survey on the earnings, working conditions and occupational safety of workers hired in these manufacturing MSEs.

[11] According to estimates from the International Labour Organization (ILO), nearly half of all workers worldwide still live below the USD 2 a day poverty line (ILO-IMF, 2010).

4.5.1. Earning of workers

Table 27 reports the average monthly earning of production workers in the MSE sector. It indicates that, on average, MSE production workers received a basic after-tax salary of ETB 2069 ETB (USD96)[12] in 2016/17, which is much higher than the 2 USD per day (60 USD per month) poverty line and the 49 USD real monthly per capita income of the country[13]. As can be inferred from Table 27, the average monthly salary for the MSE workers also shows a significant improvement over time and was higher than both the poverty line and the national real per capita income. However, since we do not have data on the number of dependent family members of each worker, we cannot comment on whether the MSEs offer sufficient earnings to their worker to permit the workers themselves and their dependents a level of consumption above the poverty line.

Table 27: Average Monthly Earning of Production Workers (in ETB)

Year	Mean	Standard deviation	Number of observations (N)
2014/15	1669	1197	6,436
2015/16	1899	1611	7,155
2016/17	2069	1698	7,162

Gender-disaggregated analysis of the earnings data uncovers a statistically significant difference between male and female production workers' average monthly earning. As shown in Table 28, the average monthly earning of male production workers is 20% to 25% higher than their female counterparts, depending on the year. Strikingly, the wage gap between the male and female production workers has widened over time. The highest gender gap is registered in Mekelle, while the lowest gender gap is registered in Jigjiga and Dire Dawa in 2016/17.

More strikingly, the average monthly earning of the women workers in Bahir Dar, Dessie, Gondar, Jimma and Mekelle is much lower than the 2 USD per day poverty line. Hence, the jobs created at the manufacturing MSEs do not help female production workers escape from poverty in any of the study cities. This calls for the attention of policy makers and other stakeholders who promotes gender equality[14]. However, this does not

[12]. A UN average exchange rate of 1USD=21.5 USD is applied
[13]. According to world development indicator, the per capita income of Ethiopia in 2016 was 511 USD (World Bank, 2017a)
[14]. This results do not control for the skill (education and experience) gap of the male and female workers.

mean that manufacturing jobs aggravate the gender gap. Rather, they contribute substantially in reducing gender inequality According to world development indicator, the per capita income of Ethiopia in in terms of earning (see also Getahun and Villanger, 2017). The average monthly earnings in all the cities under study is much higher than the country's minimum wage of ETB 570.

Table 28: Average Monthly Earning of Production Workers Disaggregated by Gender and cities

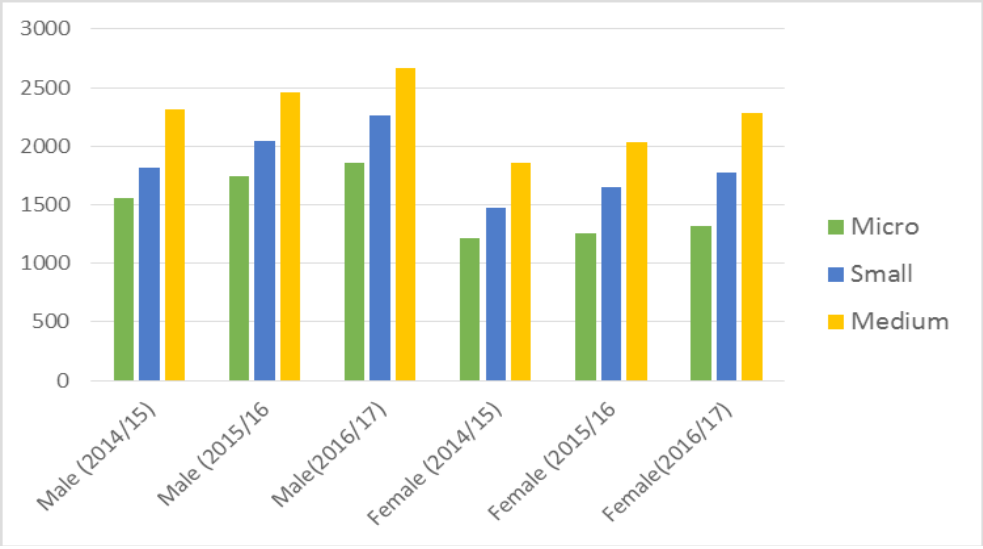
Year	2014/15			2015/16			2016/17		
City	Male	Female	Diff	Male's	Female	Diff	Male	Female	Diff
Adama	1620	1297	322**	1879	1410	469***	2095	1512	583***
Addis Ababa	1906	1548	358***	2129	1714	415***	2309	1859	449***
Bahir Dar	1484	1087	396***	1617	1171	445***	1819	1270	548***
Dessie	1344	828	515***	1475	882	593***	1588	927	660***
Draie Dawa	1492	1151	341***	1692	1322	369***	1789	1391	398***
Gondar	1429	961	468***	1587	1074	512***	1747	1140	607***
Hawassa	1792	1654	138	2071	1729	341**	2217	1850	367***
Jigjiga	1825	1529	295	1960	1688	271	2066	1806	259
Jimma	1404	832	572***	1513	866	647***	1592	890	702***
Mekelle	1528.	853	675***	1751	899	851***	2003	963	1,309***
Total	1746	1455	291***	1957	1596	388***	2138	1727	411***
N	5964	2882		6600	3266		6597	3281	

Note: **** indicates the value is statistically significant at 1% and ** indicates the value is statistically significant at 5%

The average monthly earning also significantly varies across the study areas. As shown in Table 28, in 2016/17 the first and second highest average monthly earnings were registered in Addis Ababa and Hawassa, respectively, while the first and second lowest average monthly earnings were registered in Dessie and Jimma, respectively. This clearly illuminates substantial city-level heterogeneities in terms of production workers' earning. However, we note that this may partly described by the variation in living cost across the cities.

Disaggregation of the average earning of workers by the size of the enterprises also revealed important firm heterogeneities. As depicted in Figure 14, on average, medium-sizes firms pay higher compensation to both female and male workers than do small and micro firms. The positive correlation between the size of the enterprise and the compensation might illuminate a trickle-down effect of firm growth or a variation in the workers' skill level.

Figure 13: Average monthly earnings of Workers in Birr Disaggregated by Size of the Enterprise



4.5.2. Occupational Safety and Health (OSH) of workers

Ethiopia has ratified 22 ILO conventions and 12 technical conventions, including the Occupational Safety and Health Convention (No. 155). The Minister of Labor and Social Affairs (MOLSA) issued an OSH directive in 2008 pursuant to Article 98(3), 102(1), 170(1) of the Labor Proclamation. The OSH directive requires workplaces employing more than ten workers to establish occupational safety and health committees (OSH committees). The directive was intended to make workers aware of occupational safety and health issues in the workplace (OSH, Section 60(1)). The OSH

directive sets out the details of the employer's responsibilities, including the provision of personal protective devices (OSH, Part 2), procedures to prevent accidents, hazard and risk reduction measures (OSH, Part 4, 5), and occupational exposure limits to chemicals, heat, noise, and vibrations (OSH, Schedule 3, 4 , 6, 12).

Systematic study of workers' occupational health and safety (OSH) has been limited in Ethiopia, with the exception of administrative reports. This subsection presents survey findings on OSH, which are captured in Table 29. The survey shows an average of 1.6 work-related accidents in the surveyed enterprises in the six months prior to the survey month, with a higher occurrence of work-related accidents registered in enterprises located outside Addis Ababa (1.7) relative to enterprises located in Addis Ababa (1.5). This is harmful for both workers and enterprises. A report by WHO revealed that work-related accidents inhibit enterprises' growth and productivity by increasing recruitment and training costs for replacement workers, reduce productivity of injured workers, and compromise product quality (Burton and WHO, 2010).

The survey response shows that 70 per cent of sample enterprises have made their workers aware of the general occupational safety and health issues in the factory. In this regard, there is significant variation between firms located in and outside Addis Ababa; respectively 74% and 65% of firms have made their workers aware of the general occupational safety and health issues in the factory. One has to use caution in interpreting these numbers, as they are self-reported and might be an overestimation. About 65% of sample enterprises reported having provided workers with all necessary personal protective clothing and equipment. The proportion of enterprises located in Addis Ababa that provide workers with all necessary personal protective clothing and equipment is again significantly higher than those enterprises located outside Addis Ababa. The majority of firms located both in and outside Addis Ababa also stated that noise level, temperature and ventilation at their workplace is acceptable and that their work place is adequately lit, clean and tidy.

However, the proportion of enterprises with acceptable levels of noise, temperature and ventilation, and a clean and tidy workplace, is significantly higher in the capital city than in regional cities. Among the MSEs that use chemicals and other hazardous substances, only 16 % of firms effectively trained workers who work with chemicals and hazardous substances. In addition, less than a quarter of enterprises provide adequate washing facilities and cleansing materials in the event of exposure to hazardous chemicals. About 70% of MSEs have made workers aware of the general occupational safety and health issues in the factory –again with significant variation between firms located in and outside Addis Ababa.

Table 29: Occupational Safety and Health indicators disaggregated by the location of firms

Location of enterprises	Addis Ababa	Regional Cities	Total	P- value*
Firms whose workers are familiar with proper waste handling & emergency procedures	72.1%	63.3%	68.1%	0.000
Enterprises that made workers aware of general occupational safety and health	74.3%	65.1%	70.1%	0.000
Effectively trained workers who work with chemicals & hazardous substances	19.8%	12.6%	16.3%	0.000
Enterprises that provide adequate washing facilities and cleansing material	33.2%	14.1%	24.2%	0.000
Enterprises that provide workers with all necessary personal protection clothes	72.1%	56.8%	65.2%	0.000
Enterprises with acceptable temperature and ventilation	53.6%	50.5%	52.2%	0.006
Enterprises with an acceptable level of noise	64.4%	57.3%	61.2%	0.000
Enterprises with adequately lit workplace	78.4%	78.4%	78.4%	0.964
Enterprises with clean and tidy workplace	69.8%	78.1%	73.57%	0.000
Average work-related accidents in the last six months	1.7	1.5	1.6	0.000
Number of observations (N)	4493	3681	8174	

Note : $ the P-value associated with a t- test with unequal variance where location is the grouping variable

Disaggregation of the occupation and safety status of workers by size of the firm also unveils important firm heterogeneities. Measured in terms of all 10 occupation and safety standards, medium-sized firms perform better than micro and small firms, and small firms perform better than micro size

firms (see Table 30). For example, more than four-fifths of medium-sized enterprises, but only about three-fifths of micro enterprises, make their workers aware of the general occupational safety and health standards and provide their workers with all necessary personal protection clothes. Likewise, more than half of the medium-sized enterprise but less than a fifth of the micro enterprises provide adequate washing facilities and cleansing material. Compared to micro and small enterprises, a relatively larger proportion of medium-sized enterprises label and/or store chemicals and hazardous substances properly. In addition, the workplaces of the medium-sized enterprises are tidier and cleaner and more likely to have adequate ventilation and temperature than their micro and small counterparts. However, there seems to be no statistically significant association between the size of the enterprise and the number of work-related accidents the enterprise experienced.

Table 30: Occupation and safety status of workers by size of enterprises

Indicator	Micro	Small	Medium	Total
Firms whose workers are familiar with proper waste handling & emergency procedures	62%	72%	77%	68%
Average number of work-related accidents in the last six months	0.15	0.17	0.2	0.165
Enterprises which made workers aware of general occupational safety and health	63%	75%	82%	70%
Effectively trained workers who work with chemicals & hazardous substances	13%	17%	38%	16%
% of enterprises that labeled chemicals and hazardous substances properly	3	4	13	4
% of enterprises that stored chemicals and hazardous substances properly	8	13	18	11
% of enterprises that stored and labeled chemicals and hazardous substances properly	4	8	15	7
Enterprises that provide adequate washing facilities and cleansing material	17%	27%	52%	24%
Enterprises that provide workers with all necessary personal protection clothes	59%	69%	80%	65%
Enterprises with acceptable temperature and ventilation	47%	56%	57%	52%
Enterprises with an acceptable level of noise	57%	63%	67%	61%
Enterprises with adequately lit workplace	77%	79%	86%	78%
Enterprises with clean and tidy workplace	74%	72%	88%	74%

4.6. Marketing and Supply Linkages of MSEs

This section covers the sales outlets, sources of productive inputs, and marketing strategies the MSEs are currently implementing so as to be winners in the increasingly competitive market. As above, we analyze these attributes of the MSEs by their location and size.

4.6.1. Type and Number of Customers (Sales Outlets)

Marketing is a common challenge that micro and small start-ups face. This is partly because they operate in highly congested markets, where a large number of enterprises produce similar products with marginal differences in price and quality. Product differentiation is a key strategy to expand market size and establish a larger customer base. Instituting a sales outlet ensures that the enterprise's products have a wider reach and enables the firm to capture new customers.

Table 31 reports the sales outlet, customer base and sub-contracting arrangement. However, the majority of the enterprises (95%) to which we reached out in our ESBD baseline survey were found to have either no sales outlet or only one sales. In fact, about 61% of these MSEs don't have sales outlets for their products, while only 5% of the MSEs have more than one sales outlet. The situation is rather dire among the micro enterprises, where we found about 67% of those firms having zero sales outlets, while about 32% of them have one sales outlet. In other words, the majority of firms sell directly to the final consumers.

The MSEs in the manufacturing sector conduct their sales transactions mainly with three customer types: private end users, retailers and government end users. For instance, in 2015/16, the MSEs within the sector conducted 91% of their sales transactions with these three customer groups: 66% with private end users, 15.6% with retailers, and 9.4% with government end users. Only 3.3% of the sales were made to wholesalers, while 3.4% of the sales were made to contractors. Sales made to other manufacturers and exporters were almost nonexistent.

However, the main customers vary significantly with firm location and firm size. For instance, firms in Addis Ababa sold their products in 2015/16 to

both private and government end users and retailers quite proportionately (55.6%, 13.6%, and 18.9% respectively) [though private end users were still their main customers], while firms in regional cities heavily depended on private end users (about 79%) and relatively less on government end users and retailers (4.3% and 11.5% respectively). Furthermore, MSEs in Addis Ababa made sales to wholesalers (5.2%), contractors (3.8%), manufacturers (1.4%), and exporters (0.3%) in a show of more diversity. We also observed a similar pattern among micro enterprises vis-à-vis small and medium enterprises, in that the former were more dependent on private end users (76.2%). In fact, these enterprises had government end users as their customers in 2015/16 only for 3.5% of their sales. Medium-sized firms had the most diversified sales destinations in 2015/16. Thus, we can conclude that the larger the enterprise size, the more diversified are its sales destinations. This is also the case for firms in Addis Ababa relative to regional firms.

Table 31: Sales outlets, customer base and sub-contracting

Variables	Location (cities)		Firm size			All
	Addis A.	Regional	Micro	Small	Medium	
The average no. of sales outlets the entrepreneurs currently have (%)						
Zero	60.8	61	66.7	57.3	52.1	60.9
One	34.7	33.3	31.8	35.9	31.5	34.1
Two	3.3	3.9	1.2	4.9	10.3	3.6
Three	0.8	1.2	0.2	1.4	2.9	1
More than three	0.4	0.6	0.1	0.5	3.2	0.4
The proportion of sales made by the business to main customers in 2008EC						
End user (private)	55.6	78.7	76.2	60.2	42.8	66
End user (government)	13.6	4.3	3.5	13.3	15.2	9.4
Retailers	18.9	11.5	15	16	16.4	15.6
Wholesalers	5.2	0.9	1.3	4	12.9	3.3
Exporters	0.3	0	0.1	0.1	1.6	0.2
Manufacturers	1.4	0.5	0.5	1.2	2.5	1
Contractors	3.8	2.8	1.9	4.2	6.6	3.4
Other clients	1.3	1.3	1.6	1	1.9	1.3
Average no. of customers the business has for its main product (%)						
Exclusively one customer	9.4	2	4.3	7.7	3.6	6.2
Two to five customers	19	13.1	19.9	14.2	13.4	16.4
Six to ten customers	14	14.9	14.7	14.3	11.8	14.4
Eleven to twenty customers	12.5	12.6	12.4	12.6	12.8	12.5
Over twenty customers	45.1	57.5	48.6	51.3	58.4	50.5
Firms that are currently sub-contracted to other firms (%)	6.8	4.9	3.3	7.3	14.2	5.9
Sub-contracted firms that are currently sub contracted to… (%)						
Domestic firms	88.9	84.4	83.6	88.8	84.1	87.2
Foreign firms	4.3	2.2	1.8	3.3	9.1	3.5
Government	26.8	20.7	20	25.1	31.8	24.5
Sub-contracted firms that receive technical support from their subcontractors on the sub-contracted production activities (%)	23.9	20.7	14.6	24.8	27.3	22.7
Total no. of observations	4493	3681	3310	4553	311	8174

It is also evident from our baseline survey that generally MSEs in the manufacturing sector supply their main product to a large number of customers and are less dependent on exclusively one or a few customers. We observed that more than 50% of the MSEs have over twenty customers for their main product, while only about 23% of the MSEs have five or fewer customers for that product. Yet, the pattern still varies when it comes to enterprises in Addis Ababa and those in the regional cities. For instance, we found that about 9.5% of the MSEs in Addis Ababa supply their main product exclusively to one customer, while only 2% of the MSEs in the regional cities do the same. Instead, MSEs in the regional cities tend to supply their main product to a larger number of customers (for example, about 70% of these firms supply their main product to more than 10 customers, as compared to 58% of the firms in Addis Ababa).

However, we didn't observe such significant variation among firms with different sizes. What we observed for this cohort was that they tend to supply their main product to a large number of customers and do not heavily depend on exclusive customers.. Although such an arrangement may help the firms cut out the middle man, they may face marketing difficulties (time and cost) in dealing with a large number of customers.

Subcontracting is one way of learning new technologies and practices. It can also serve as one means of securing more reliable demand for firms' products. However, subcontracting practices are few. Only about 6% of the MSEs are currently subcontracted to other firms. This is particularly the case among micro enterprises (only about 3% of them are currently subcontracted) and enterprises from the regional cities (about 5% of them). A relatively significant proportion of the small and medium enterprises (about 7% and 14% respectively) are currently subcontracted to other businesses.

Among those MSEs which are currently subcontracted to other firms, we found that the majority (about 87%) are subcontracted to domestic firms, while 25% are subcontracted to the government. Only 3.5% of such firms are currently subcontracted to foreign firms, which implies the missed opportunity of potential benefits from subcontracting. Subcontracting

to foreign firms is relatively more common among medium-sized firms (about 9% of them) and those in Addis Ababa (4.3% of them). Furthermore, technical support or trainings on subcontracted production activities were received by an even smaller proportion of the subcontracted enterprises. Less than a quarter of the subcontracted firms have received such support from the subcontractors. When it comes to micro enterprises, the figure further drops to about 15%. This support scheme is relatively more common among enterprises in Addis Ababa and medium-sized enterprises (about 24% and 27% respectively).

4.6.2. Main Sources of Productive Inputs/ Raw Materials for MSEs

Having a secure and reliable source of productive inputs (or raw materials) is an important feature of competitiveness. In this regard, we assessed the sources of productive inputs of the MSEs within the Ethiopian manufacturing sector.

Table 32 summarizes firms' important sources of productive inputs, the number of suppliers firms have for their productive inputs, and the extent of transactions they conduct on a credit basis in the inputs market. The majority of MSEs within the manufacturing sector (about 87%) have domestic private enterprises as their main sources of productive inputs. Though about 9% of the MSEs have State Owned Enterprises (SOEs) as their sources of productive inputs, other sources - such as FDIs, non-commercial entities and direct imports - were utilized by less than 4% of the businesses. Except for the medium enterprises and those firms in Addis Ababa (13.1% and 2.6% respectively of these firms use direct imports as a source of productive inputs), these alternative sources are utilized by less than 2% of firms.

As to the number of suppliers that MSEs have for their most important material input of production, we found that about 53% of the enterprises have between two and five input suppliers, while a small proportion of the businesses (about 7% of them) have exclusively one supplier for such production input. The remaining 40% of the businesses transact with six or more suppliers for their most important production material.

Overall, it appears to be a more common practice among the businesses (more than 30% of them) to rely on two or three suppliers for their most important production input. We didn't find any deviation from this pattern of transaction either by location or size of firms.

Furthermore, it is quite rare to find MSEs that conduct transactions of material inputs on a credit basis. Both in 2014/15 and 2015/16, only about 11% of the businesses purchased their material inputs on credit. The proportion of medium-sized businesses which conducted their purchases of material inputs on credit increased by about 2 percentage points (from 10.9% in 2014/15 to 13.3% in 2015/16), while the corresponding figure across the other sets of enterprises (both by location and size) remained the same.

Table 32: Main sources of productive inputs for the MSEs

Variables	Location (cities)		Firm size			All
	Addis A.	Regional	Micro	Small	Medium	
The sources of productive inputs for the businesses (proportion of the enterprises)						
Domestic private enterprises	86.2	87.1	88.8	85.8	73.7	86.6
Foreign invested companies (FDIs)	1.0	0.3	0.4	0.7	3.1	0.7
State Owned Enterprises (SOEs)	8.1	9.7	8.2	9.4	6.8	8.8
Non-commercial entities and/or authorities	1.0	2.5	1.7	1.7	1.6	1.7
Direct import	2.6	0.1	0.4	1.5	13.1	1.5
Others	1.1	0.3	0.5	0.9	1.7	0.7
Average no. of suppliers the businesses have for their most important material input (%)						
Exclusively one supplier	6.7	7.1	8.4	5.7	7.9	6.9
Two to three suppliers	28.7	32	33.7	28.3	21.1	30.2
Four to five suppliers	19.8	26.1	23.9	22.1	18.2	22.7
Six to ten suppliers	17	16.7	14.3	18.5	19.5	16.9
Over ten suppliers	27.8	18.1	19.7	25.4	33.3	23.4
The firms' average % of total purchase of material inputs on credit (2008)	10.9	12	10.7	11.8	13.3	11.4
The firms' average % of total purchase of material inputs on credit (2007)	9.9	11.7	10.5	10.9	10.9	10.7
Total no. of observations	4493	3681	3310	4553	311	8174

4.6.3. Marketing Strategies for Outputs/ Customers of MSEs

As part of the marketing strategies of businesses, we considered patterns of brand ownership and method of disseminating marketing information. As discussed earlier, product differentiation is an important element of expanding market share and capturing new customer base. Brand names are extremely useful tools to differentiate own product from low-quality

imitators or competitors. Product branding creates recognition, additional value and customer loyalty that translate into heightened sales and improved profitability.

Table 33 presents the proportion of firms with a brand name and the main channel of marketing information. Brand name ownership is quite uncommon among MSEs in the manufacturing sector. Overall, only about 10% of these businesses claimed to have brand names for their products. In addition, we observed significant differences among the proportion of enterprises that have brand names, both by firm size and location. A relatively large proportion of medium enterprises (about 35% of them) do currently have a brand name, while only 4.5% of the microenterprises and 11.5% of the small enterprises have one. Similarly, brand ownership is a rarity among firms in the regional cities (only 5.2% of them have one), while a relatively significant number of MSEs in Addis Ababa (13.1% of them) have brand names.

Table 33: Marketing strategies of the MSEs

Variables	Location		Firm size			All
	Addis A.	Regional	Micro	Small	Medium	
Firms that own brand name (%)	13.1	5.2	4.5	11.5	35.1	9.5
Total number of observations	4493	3681	3310	4553	311	8174
The main channel of marketing information (%)						
Clients	60.1	53.3	56.3	57.2	61.4	57
Suppliers	16.7	23	20.4	19.3	14.6	19.6
Relatives/ friends	13	10.9	13.7	11.2	7.1	12
Business associations	1.6	2.3	1.7	2	3.9	1.9
Trade fairs	1.5	0.5	0.8	1.1	2	1
Other producers	3.2	3.7	2.5	4.2	2.3	3.4
Advertising from the media	2.7	2.4	1.6	3.1	5.8	2.6
Others	1.3	3.9	2.9	2	2.9	2.4
Total no. of observations	4417	3664	3296	4477	308	8081

As to the major channels of marketing information of businesses, we asked the MSEs to list the most important methods of sending out marketing information. We found out that the majority of the MSEs within the manufacturing sector (about 89% of them) rely on their clients, or suppliers, or relatives/friends as their main channels of marketing information. In

fact 57% of the entrepreneurs stated that clients are their main channel of marketing information. Other ways of disseminating marketing information, such as other producers, advertisement in the media, business associations and trade fairs, serve a relatively small (about 10%) proportion of the businesses as main methods of distributing such information.

The pattern is similar among enterprises from different locations or with different firm sizes. The only exception is the relatively significant proportion of medium enterprises (about 5% of them) for which media advertisement is the main method of publicizing marketing information.

4.7. Competition, Technology and Innovation

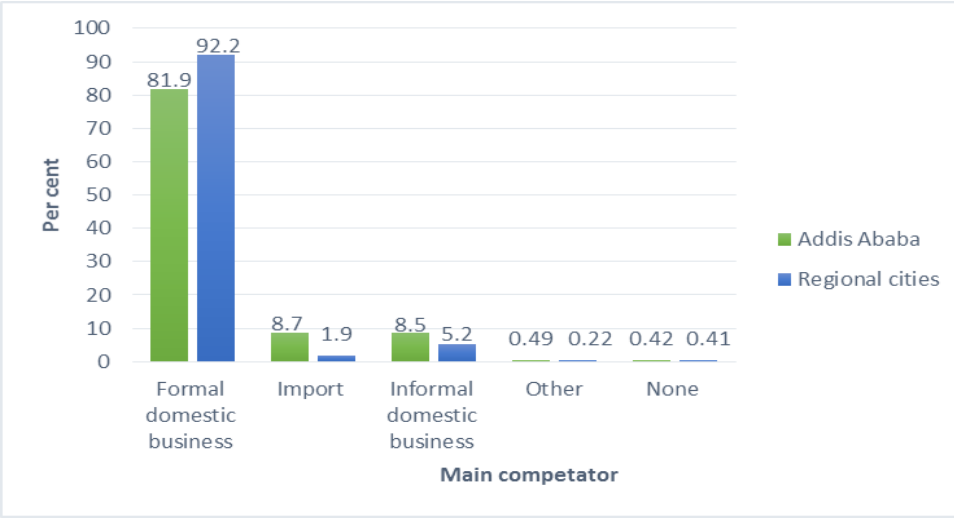
Different scholars and institutions define competitiveness differently. Balkyte and Tvaronaviciene (2010) define firm-level competitiveness as the ability of firms to produce and sell goods and services of the right quality, at the right price, and at the right time. In the literature, innovation is also defined differently by different authors. This study adopts the definition of Mytelka (2000), Van Dijk and Sandee (2002), and Van Dijk (2002), who defined innovation in micro and small enterprises in the developing countries context as "the process by which firms adopt the product, design, process and method that have already been developed and adopted elsewhere but new to them, irrespective of whether they are new to their competitions, their countries or the world".

4.7.1. Sources and Strategy of Competition

In the development literature, both price and non-price factors such as product quality, marketing strategy (including credit sales, forward contract, advertisement, having own brand name, etc.), innovation (including usage of ICT for business), human resource development and adherence to standards are identified as the major sources of competence of manufacturing firms (Bessant, 1991; Hill, 1993; Lamming, 1993). In what follows, we briefly present the primary source of competition and competitiveness strategy of our sample manufacturing enterprises, together with their major source of marketing information.

As depicted in Figure 15, for 92% of the enterprises operating in Addis Ababa and 82% of those operating in the regional cities, the main source of competition comes from the domestic formal business sector. Less than 8% enterprises located in Addis Ababa and 2% of enterprises located outside Addis Ababa indicated imports as the main source of competition. Likewise, only 8% of firms located in Addis Ababa and 5% located outside Addis Ababa identified informal domestic firms as their main competitors.

Figure 14: Main source of competition for enterprises in Addis Ababa and outside



The descriptive analysis of the survey data also uncovered that providing quality service to customers and offering competitive price are the first and second most widely used competition strategies of the sample enterprises. Quality service is used by 69% and competitive price by 17% of the sample enterprises as a primary competition strategy (see Table 34). In contrast, forward contract, advertisement and credit sales are the least commonly used competition strategies.

Table 34: Primary Competitiveness Strategy of Enterprises

Strategy	Freq.	Percent
Providing quality service to customers	5640	69
Offering competitive price	1387	17
Providing customer-focused differentiated product	306	4
I do not use any particular tactic	203	2
Retailing in quantity/size not done by competitors	183	2
Making products/services easily available	160	2
Advertisement/salesmanship	120	1
Produce to clients' orders only	84	1
Credit sales	43	1
Forward contracts	29	0
Other	19	0
Total number of observations	8174	100

4.7.2. Technology Level and Innovation Practices and Types

OECD (2005) categorized innovation as technological innovation which includes product and process innovation, and non-technological innovation such as organizational and market innovation. An empirical study conducted in India regarding the drivers of innovation reported firm-level technological competence (technology push) and market demand (demand pull) as key drivers of innovation (Subrahmanya et.al, 2010). In what follows, we describe the relative technology level of our sample enterprises (as perceived by the enterprises themselves) as well as the various types of innovations and improvements the firms made in the two years prior to the survey year.

Perceived Level of Technology Embodied in the Enterprise's Machine and Equipment

The vast majority (96%) of our sampled enterprises owned all the machinery and equipment in use, while the remaining 4% borrow/rent all or part of the machinery and equipment they use from others.

When these enterprises were asked to characterize the technological level of their existing machinery and equipment relative to their main competitors, slightly less than two-thirds of the firms reported that their

level of technology is equivalent to their main competitor, while one-fifth of the firms reported that their level of technology is below their main competitors (see Table 34). Only 14% of the sampled enterprises perceived that their level of technology is more advanced relative to their competitors. Disaggregation of the data by the location of the enterprise does not reveal statistically significant differences in terms of the perceived level of technology level relative to their main competitors.

However, the data suggests significant difference between the different size categories in terms of the perceived level of technology embodied in their existing machinery and equipment. For example, slightly less than two-fifths (37%) of the medium-sized enterprises, 17% of small firms and less than a tenth (9%) of the micro enterprises believe that the level of technology embodied in their existing machines and equipment is above the level of their main competitors. This shows that the technology level, as reported by the firms, increases with size category.

Table 35: Self-Evaluated Level of Technology Level, Disaggregated by Size and Location

	Micro	Small	Medium	Addis A	Regions	Total
Below the level of its main competitors	27	18	15	20	23	21
At the level of its main competitors	64	66	49	66	63	64
Above the level of its main competitors	9	17	37	13	15	14

Innovativeness and Types of Innovation Activities of MSEs in Ethiopia

When firms were asked whether they had made any important improvements or changes to their business within two years prior to the survey, nearly 60% of them responded positively. Surprisingly, only 28% and 23% of the 8174 sampled MSEs introduced new production processes/technology and new product groups respectively (see Table 36). The disaggregation of the innovation data by the location of enterprises uncovers a statistically significant different between enterprises operating in Addis Ababa and in the nine regional cities.

The proportion of MSEs that made an important change on their business and engaged in process and product innovation is significantly higher among the MSEs operating in the capital city compared with firms operating outside Addis Ababa. The city-level disaggregation of the innovation data also uncovers substantial city-level firm heterogeneities. While 75% and 64% of firms located in Hawassa and Dire Dawa respectively made an important improvement in their business within two years prior to the survey, only 37% and 41% of firms operating in Jigjiga and Gondar respectively made an improvement in their business over the same period (not reported here).

Table 36: Innovation, Process and Product Innovation disaggregated by Location and size

	Location			Size category			Total
	Addis Ababa	Regional Cities	difference (P- value)	Micro	Small	Medium	
Firms that made improvement in the last 2 years	62%	55%	0.00	48%	64%	74%	58%
Firms introduced new technology in the last 2 years	30%	26%	0.00	23%	31%	44%	28%
Firms introduced new product in the last 2 years	28%	23%	0.00	22%	27%	38%	26%
Number of observations (N)	4493	3681		3310	4553	311	8174

The disaggregation of the data by the size of the enterprises also uncovers a significant association between firm size and innovativeness. As shown in Table 36, innovativeness increases with firm size. For example, while 74% of medium-sized firms reported introducing new technology in the last two years, only 48% micro and 64% small enterprises have done so.

Motives to Innovate

The entrepreneurs who introduced new production processes or new product groups within two years prior to the survey year were also asked to indicate the main factor that motivated them to innovate. A summary of their responses is reported in Table 37. The results indicate that, for the

vast majority, the primary motive to engage in both process and product innovation is the increasing competition from the domestic market. About 11% of the firms also indicated difficulty in selling old products as the primary reason to engage in process and product innovation. On the contrary, only 4% of the firms indicated increasing competition from imports or foreign competitors as the primary factor that motivated them to innovate.

In an attempt to understand the various types of innovation practices of manufacturing MSEs in Ethiopia, the enterprises that made any improvement within two years prior to the survey period were further asked to specify the three major improvements they made during the same period. The summary response is reported in Table 37. Ten major innovation activities were reported, namely better design, increased variety or quality of products, machinery investment, improved working premises, workers' skill improvement, managerial skill improvement, organizational modernization, new forms of distribution and marketing channels, and better supply chain.

Table 37: Motivation to Innovate (%)

Motives	Process Innovation	Product Innovation
Increasing competition from domestic producers	81	83
Difficulty in selling old product	11	11
Increasing competition from imports	4	4
Requested by purchasing enterprises	4	2
Other	0.3	0.5
Total	100	100

Following the Oslo manual (OECD, 2005), we categorized these innovations into four groups. As shown in Table 38, certain types of innovation came out as dominant activities. Increasing quality of products, installing new machinery or equipment, increasing variety of products, and introducing better design were carried out by about 38%, 30%, 25% and 24% of the firms respectively. These are product or process type innovations. In contrast, organizational and marketing innovations are rare.

Table 38: Type and Intensity of Innovation Activities Disaggregated by Location and Size

	Regional cities	Addis Ababa	Micro	Small	Medium	Total
Product Innovation (%)						
better design	23	26	22	26	32	25
increase variety of products	27	22	21	26	30	24
increase quality of products	32	44	29	44	53	38
Process Innovation (%)						
machinery investment	29	31	22	35	50	30
improve working premise	4	5	3	5	7	4
Organizational Innovation (%)						
workers skill improvement	2	8	3	7	9	5
managerial skill improvement	1	3	1	3	5	2
organizational modernization	0.2	1	0.2	0.6	1	0.5
Market Innovation (%)						
new forms of distribution/channel	2	4	2	4	6	3
better supply chain	2	4	3	4	3	3

4.8. Investment and sources of financing

4.8.1. Investment in fixed assets

Investment is defined here as the amount of money used by businesses to purchase fixed assets such as buildings, machinery and land. Investments in such fixed assets not only increase production capacity but also modernize the production system, leading to productivity increases. In light of this, this sub-section examines firms' investments in fixed assets in terms of their type and nature, whether there are changes over time, and whether there significant variations between firms based in Addis Ababa and in other major urban areas in Ethiopia. It also assesses the sources of financing for investments and asks whether financing for capital investment is a constraint.

In Table 39, we presented average enterprises' investment on various fixed assets for two fiscal years (2014/15 and 2015/16) and also by location (i.e., for Addis Ababa and other major urban areas in Ethiopia). Some of the key observations from this table include: first, average firm investment in fixed assets declined from Birr 238,246 in 2007 to Birr 152,876 in 2008. This might be due to the fact that major investments in fixed assets usually happen initially, while expansion projects require smaller amounts than the initial investments in fixed assets.

Second, an enterprise located in Addis Ababa on average invests more in total fixed assets than an enterprise located in other major urban areas in Ethiopia. Third, while enterprises located in Addis Ababa tend to invest more in land, buildings and other capital goods (such as factory shades), enterprises located in other major urban areas tend to invest more in machinery and equipment. This could be due to the fact that it is relatively easier for firms located in regional cities to access land and working space at a relatively lower cost. On the contrary, access to land and working space for enterprises located in Addis Ababa is limited because the demand is very high and the supply is quite scarce.

Table 39: Enterprise's average investments in various fixed assets over time by location (in Birr)

Type of investment	Addis Ababa		Regional cities		All sample	
	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16
Total Investment	291,334	245,691	171,813	39,881	238,246	152,876
Machinery & Equipment	85,071	79,242	146,858	26,386	112,896	55,439
Buildings	31,275	31,622	2,275	2,510	18,249	18,345
Other capital goods	42,380	41,528	3,896	3,781	25,079	24,288
Land	1,699	4,435	664	273	1,233	2,533

4.8.2. Access to and sources of finance for investment and working capital

Next, we examine access to and sources of finance for investment and working capital. We asked our sample firms if they have access to finance (both for investment and working capital) from various sources. As

presented in Table 40, MSEs' credit access is very much limited. Only 27% and 30.6% of the enterprises in our database had loan access from any of the sources identified in the table. In other words, more than 70% of MSEs had no access to credit from any of the potential sources; thus, they must rely on their own funds.

Of the enterprises that had access to loans, not surprisingly, Micro Finance Institutions (MFIs) seem to be the main source for both investment and working capital. Two-thirds of these enterprises reported having loan access from MFIs, and only about 15% from formal banks. In this regard, we find a clear difference between the size classes. About 40% of the medium enterprises had access to investment loans, while only 22.5% of micro firms had similar access. We can also observe a big difference between the size classes in terms of loan sources. The source of loans for about 58% of the medium enterprises that had access to loan was the formal banking sector. In contrast, only 5.6% and 15.7% of micro and small enterprises, respectively, had loan access from formal banks. This shows that the formal banking sector is serving the medium to large size class of firms.

Table 40: Main sources of finance for investment and working capital by size class

		Investment Finance				Working capital			
		Micro	Small	Medium	Total	Micro	Small	Medium	Total
Enterprises had ever received loan from;									
MFIs	No.	548	909	37	1,494	624	987	42	1,653
	%	73.5	67.6	29.4	67.4	71.9	65.3	33.3	66.0
Formal banks	No.	42	211	73	326	62	266	66	394
	%	5.6	15.7	57.9	14.7	7.1	17.6	52.4	15.7
Gov't projects	No.	14	37	5	56	15	45	7	67
	%	1.9	2.8	4.0	2.5	1.7	3.0	5.6	2.7
NGO	No.	13	26	1	40	16	28	1	45
	%	1.7	1.9	0.8	1.8	1.8	1.9	0.8	1.8
Saving & Credit Association	No.	129	161	10	300	151	185	10	346
	%	17.3	12.0	7.9	13.5	17.4	12.2	7.9	13.8
All enterprises had ever received loans	No.	746	1344	126	2216	868	1511	126	2505
	%	22.5	29.5	40.5	27.1	26.2	33.2	40.5	30.6
Observations.	No.	3,310	4,553	311	8,174	3,310	4,553	311	8,174

4.8.3. MSEs' access to formal loans

The respondents were asked whether they have ever applied for a loan from formal banks and whether their application was successful. Summary results are reported in Table 41. About 39% percent of the sample entrepreneurs have ever applied for a formal loan for their business, while the rest (61%) have never applied for a formal loan. In terms of applications, there is difference by size category. In comparison to the microenterprises, a large proportion of small and medium enterprises have applied for a loan. Similarly, there is a difference between Addis Ababa and the other cities, with application rates of 42% and 36% respectively. The success rate of loan applications (i.e., the rate of successful applicants out of all firms that applied) is about 71%, which is pretty encouraging. Firms with larger size and those in Addis Ababa are highly likely to be successful in their loan application, in contrast to their counterparts.

Table 41: Formal loan application and success rate by size and location

	Micro	Small	Medium	Addis Ababa	Regional cities	Total
Number of enterprises who applied for loan	1,088	1,953	182	1,891	1,332	3,223
Share of enterprises who formally applied for loan (%)	33	43	59	42	36	39
Number of successful applicants	732	1408	145	1,396	889	2,285
Share of successful applicants (%)	67.3	72.1	79.7	73.8	66.7	70.9

Next we asked entrepreneurs who have never applied for a formal loan for their business to tell us their reason for not applying (see Table 42). About 44% of the sample enterprises responded 'lack of collateral' as the main reason for not ever applying for formal loans, 34% responded 'no need for loans', and 8% replied that the interest rates are too high. Loans in Ethiopia are highly collateralized – especially for the manufacturing sector. The World Bank's doing business survey show that the value of the collateral that banks require is about twice the value of the loan. The problem of collateral is higher for the microenterprises and for those located in cities outside Addis than for their counterparts.

Table 42: Main reason for not applying for a formal loan

Main reasons	Micro		Small		Medium		Addis Ababa		Regional cities		Total	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
No need for a loan	729	32.8	908	34.9	63	48.8	950	36.5	750	31.9	1,700	34.3
I have no collateral	1,044	47.0	1,111	42.7	26	20.2	1,062	40.8	1,119	47.6	2,181	44.1
Interest is too high	165	7.4	226	8.7	15	11.6	260	10.0	146	6.2	406	8.2
I don't trust creditors	41	1.8	54	2.1	5	3.9	59	2.3	41	1.7	100	2.0
I don't have time	5	0.2	14	0.5	1	0.8	3	0.1	17	0.7	20	0.4
I am planning to apply	61	2.7	108	4.2	8	6.2	102	3.9	75	3.2	177	3.6
Lack of knowledge about loans	71	3.2	65	2.5	4	3.1	77	3.0	63	2.7	140	2.8
Other	106	4.8	114	4.4	7	5.4	89	3.4	138	5.9	227	4.6
Total	2,222	100.0	2,600	100.0	129	100.0	2,602	100.0	2,349	100.0	4,951	100.0

The loan applicants who got rejected were also asked why their application was rejected. About 46 percent reported that their formal loan application was rejected because they could not provide the required collateral and 20% mentioned the absence of a guarantor (or joint liability group). This shows that a requirement of high collateralization is not only a barrier to applying but also a major factor for rejection of loan applications.

Table 43: Main reasons for why formal loan application was not successful

Main reason for rejection of loan	Micro		Small		Medium		Total	
	No.	%	No.	%	No.	%	No.	%
Denied because did not have collateral	151	42.4	263	48.7	16	43.2	430	46.1
Absence of guarantor/ joint liability group	74	20.8	106	19.6	7	18.9	187	20.0
Denied, not sure why	81	22.8	104	19.3	6	16.2	191	20.5
Denied because have too much other debts	8	2.2	12	2.2	0	0.0	20	2.1
Others	42	11.8	55	10.1	8	21.6	105	11.3
Total	356	100.0	540	100.0	37	100.0	933	100.0

4.8.4. Capacity utilization of MSEs

Capacity utilization measures the extent to which the productive installed capacity of an enterprise is being used. More formally, it is usually defined as the ratio of actual output to maximum possible output. In our survey, we asked enterprises to tell us at what capacity they are currently operating and the possible reasons for not operating at full capacity. The average capacity utilization rate across all size categories and locations is 54.5 percent, as shown in the last row of Table 44. On the other hand, disaggregating the data further by size and location reveals some interesting facts. First, while the average capacity utilization rate of enterprises in Addis Ababa is 57 percent (which is above sample average), the average capacity utilization rate for enterprises in regional urban areas is 51 percent (which is below the sample average). Second, capacity utilization rate improves with size. While the capacity utilization rate for medium enterprises is 67 percent, it is only 49 percent for micro enterprises. Small and medium enterprises have a capacity utilization rate which is above the sample capacity utilization average.

Table 44: Capacity utilization rate of enterprises by location and size

By Size category	Average capacity utilization rate (%)
Micro	49.3
Small	57.4
Medium	67.3
By Location	
Addis Ababa	57.1
Regional Cities	51.3
All	54.5

Next, we asked enterprises to identify the key constraints leading to their capacity underutilization (shown in Table 45). Lack of working capital and insufficient demand for their products stood out as the main reasons. About 52 percent of sample enterprises reported that lack of working capital is the main reason for their capacity underutilization, while 21 percent stated that insufficient demand is the main reason for operating below full capacity.

Table 45: Main reasons for capacity underutilization

Main reasons for capacity underutilization	Percent
Local raw materials and intermediate inputs shortage	13.4
Lack of working capital	52.0
Insufficient demand for the establishment output	20.8
Skilled labor shortage	1.5
Unskilled labor shortage	0.3
Lack of necessary specialized technology	6.2
Others	5.9
Total	100

4.8.5. Saving behavior of MSEs

Saving commitment by MSEs has great implications for business expansion and growth because what is saved will be a future investment. In this regard, having a separate account for business and personal use enables enterprises to reinvest their profit in productive business. The literature establishes that separating business and personal accounts enables entrepreneurs to recognize the profitability of their business and also serves as a commitment device not to misuse working capital (e.g., see Drexler et al. 2014). As shown in Table 46, while 66 percent of the MSE enterprises in Addis Ababa have separate accounts for business and personal use, the figure is 31 percent for MSE enterprises outside Addis Ababa. This shows that financial literacy might be better in Addis Ababa than in regional cities. However, in terms of saving targets in the last three months, enterprises located outside Addis Ababa seem to perform better – 23 percent for Addis and 29 percent for regional cities.

Table 46: Saving behavior of enterprises by size and location

Location and size category of enterprises	Location		Size			Total
	Addis Ababa	Regional cities	Micro	Small	Medium	
Enterprises with saving account (%)	88	89.6	86	90.5	91	88.7
Availability of separate account for business and personal use (%)	65.7	31.4	28.9	65.3	82.3	50.1
Availability of saving target for the last 3 months (%)	23.1	29.3	27.2	25	24.8	25.9

The medium and small categories have a greater proportion of firms that have separate bank accounts for business and personal use. About 82 percent of medium and 65 percent of small firms have separate bank accounts for business and personal use, while only 28.9 percent in the micro category have separate bank accounts for business and personal use. In terms of having a saving target, regional enterprises and micro enterprises seem to do better. This might be due to the fact that micro and small enterprises are usually required to save first to get a loan from MFIs – they are usually required to save 20 percent to show their commitment for business, and MFIs cover the remaining 80 percent.

4.9. Business Development Support and Business Practices of Firms

This section discusses business development services within the manufacturing sector. We particularly focus on training and other support that the entrepreneurs have received both before and after starting the business. We also identify gender-specific supports and constraints that women entrepreneurs have experienced while operating and managing their businesses. We wind up our discussion by summarizing some of the common business practices within the sector.

4.9.1. Entrepreneurs' Access to Business Development Support

When designed well, business development services can encourage people to contemplate starting a business and can help existing businesses thrive by enhancing the capability of entrepreneurs. Table 47 summarizes access to business development support services before and after the business is established.

Of the 8174 entrepreneurs in our sample, 3847 (47%) have attended some sort of training. A larger proportion (43%) received training after establishing their businesses, compared to before (23.4%). When comparing location, a significantly larger proportion of entrepreneurs from Addis Ababa (about 33%) than those from the regional cities (only about 12%) attended a workshop or training on how to start a business. A similar pattern was also observed once these entrepreneurs established their businesses. While

more than 50% of the business people running MSEs in Addis Ababa have received training, only about 35% of those from the regional cities have done so. We also observed differences on the basis of enterprise size in the proportion of entrepreneurs who attended workshops/trainings on how to start a business. A relatively smaller proportion of entrepreneurs from the micro enterprises (15.5%) attended such training programmes, compared to about 29% and 23% respectively from small and medium enterprises. The pattern remained comparable even after the entrepreneurs established their own businesses, though it is worth mentioning that far more entrepreneurs in small enterprises than in micro enterprises have received post-establishment training (51.2%).

Table 47: Access to business development support

Variables	Location		Firm size			All
	Addis A.	Regional	Micro	Small	Medium	
Entrepreneurs who attended workshop/ training on how to start a business before establishing their businesses (%)	32.5	12.1	15.5	29.1	23.2	23.4
Entrepreneurs who received training after establishing business, (%)	50.1	34.8	32.5	51.2	39.8	43.2
Total no. of observations	4493	3681	3310	4553	311	8174
Type of training received by entrepreneurs after establishing business**						
Entrepreneurs who took technical skills training (%)	76.7	69.8	73.1	74.8	71.8	74.2
Entrepreneurs who took marketing management training (%)	44.2	36.8	35.7	43.7	53.4	41.5
Entrepreneurs who took financial management trainings (%)	54.7	47.7	41.9	56.7	61.1	52.1
Entrepreneurs who took entrepreneurship training (%)	52.3	41.1	39.7	52.4	48.9	48.3
Entrepreneurs who took Kaizen training (%)	70.3	46.8	45.1	69.9	63.4	61.8
Entrepreneurs who took any other training (%)	6.2	1.2	2.8	5	7.6	4.4
Total no. of observations	2454	1393	1221	2495	131	3847

** Percentages are calculated from those MSEs who received training after establishing their business.

Table 47 also gives the types of training received by the entrepreneurs after establishing their business. Technical skill training (74%) and Kaizen training

(62%) were the most common. Training on marketing management and entrepreneurship were less common. Less than 50% of the entrepreneurs have taken each of these two trainings. Furthermore, training is more common among entrepreneurs in Addis Ababa than among those from the regional cities (see table 47). Similarly, a smaller proportion of entrepreneurs from micro enterprises have received training than those from small and medium enterprises. Training related to marketing management, entrepreneurship, financial management, and Kaizen were less common among micro entrepreneurs. It should be noted that the percentages of training the entrepreneurs had received after establishing the business were calculated from those sub-samples who had training experiences after establishment.

Table 48: Duration, payment modality, and training providers for MSEs

Variables	Technical skill training	Marketing management training	Financial management training	Entrepreneurship training	Kaizen training
Entrepreneurs who took training (%)	74.2	41.5	52.1	48.3	61.8
Provider of the training (%)					
Governmental office (ReMSEDA, Kebele, Woreda etc)	47.6	56.2	55.9	50.2	29.2
TVET	44.4	32.8	35.7	36.7	40.8
Ethiopian Kaizen Institute (EKI)					26
NGO	3.9	6	4.2	8.8	
Others	4.1	5	4.2	4.3	4
Duration in weeks for the training (%)					
One week	43.6	64.8	67.8	60.9	61.5
Two weeks	26.5	19.5	18.8	20.9	19.4
Three weeks	8.5	5.6	5.4	7	5.6
Four weeks	8.6	3.1	2.8	3.8	5.3
More than four weeks	12.8	7	5.2	7.4	8.2
Average no. of weeks	3.4	2.2	1.9	2.1	2.3
Mode of payment for the training (%)					
Free of charge	92.8	93.7	95	95.2	93.9
Partial cost sharing	3.8	4	2.8	2.8	3.8
Paid full cost	3.4	2.3	2	2	2.3
Entrepreneurs who rated the training as useful and adequate (%)	88.9	90.5	88.8	92.7	91.8
Total no. of observations	3847	3847	3847	3847	3847

Percentages in this table are calculated from those MSEs who received training after establishing their business.

In relation to these trainings, we asked the business people about providers of the training, duration of the training, whether payment was made for the training, and whether they were satisfied with the usefulness and adequacy of the training. In what follows, we dissect some features of each of these trainings. Table 48 summarizes the findings.

A. Technical Skill Trainings

As mentioned above, technical skill related trainings have been attended by a large proportion of entrepreneurs, irrespective of firm location or size. Of the entrepreneurs who took the technical training, the majority (92%) received it from governmental offices (ReMSEDA, Woreda, Kebelle etc.) or TVETs. 87% of the entrepreneurs took the training for four weeks or less, while the remaining 13% attended for more than four weeks. Overall, the entrepreneurs attended technical skill trainings for an average of about 3.4 weeks (see Table 48).

As seen in Table 48, the vast majority of the entrepreneurs (about 93%) attended these trainings free of charge, while very few paid the cost either partially or fully (3.8% and 3.4%, respectively). Further, about 89% of the entrepreneurs rated these trainings as both useful and adequate.

B. Marketing management trainings

Marketing management training programmes are indispensable in improving the capability of entrepreneurs to expand their market share. Marketing knowledge is key to penetrating new market areas outside of the immediate neighborhood of the enterprise. Training programmes can potentially provide useful knowledge to create a better understanding of the marketability of the product and the mechanisms, such as advertising, discount pricing, and branding, that can be deployed to make the product stand out. In our data set, about 42% of those who received training after establishing their businesses had actually taken the marketing management trainings (see Table 48 above).

Of the entrepreneurs who had received the marketing management trainings, more than 56% did so at government offices, while the TVETs

provided these trainings to about 33% of the entrepreneurs and other training providers, such as NGOs, delivered the trainings to just 11% of the entrepreneurs. Marketing management trainings were delivered to the majority of the entrepreneurs (about 65% of them) for one week and nearly 20% of them attended for two weeks. Relatively few of the entrepreneurs had received marketing management trainings for three weeks, four weeks, or more than four weeks (about 6%, 3%, and 7%, respectively). Overall, the entrepreneurs had taken the marketing management trainings for an average of 2.2 weeks.

A large proportion of the entrepreneurs (about 94% of them) received the marketing management training free of charge, while a small percentage paid the full cost or shared cost to attend the training (2% and 4%, respectively). In terms of the usefulness and adequacy of the trainings, more than 90% of the entrepreneurs claimed that the marketing management trainings they had received met this standard.

c. Access to financial management trainings

Entrepreneurs need to have financial management skills to efficiently operate and manage their businesses. Traditional financial management practices are common among entrepreneurs in developing countries. Thus, training programmes offered in this area can potentially help entrepreneurs develop the financial management acumen required to compete within the market. Therefore, we assessed entrepreneurs' access to such training programmes (see Table 48 above). We found that just over half (52%) of the entrepreneurs who had received trainings after establishing their businesses had also attended financial management training. Furthermore, we observed that the majority of the entrepreneurs (more than 91%) took the trainings either at government offices or TVETs.

Regarding duration of the trainings, we found that 92% of the entrepreneurs who took the financial management trainings did so for three weeks or less. In fact, about 68% of the entrepreneurs received the trainings for one week. Only about 5% of these entrepreneurs had taken this type of training for more than four weeks. Overall, these entrepreneurs had received

the financial management training for 1.9 weeks on average. Financial management trainings were delivered free of charge to almost all (95%) of the entrepreneurs. In addition, close to 90% of the entrepreneurs rated these trainings as both useful and adequate.

D. Access to entrepreneurship training

Once businesses are established, entrepreneurship trainings could potentially inculcate the passion of the entrepreneurs for further ventures into new business areas and open up new opportunities for sustainable business development. The empirical evidence on the effectiveness of such forms of training is, however, largely mixed. Notwithstanding the concern on impact, we explore the access issue in this sub-section; we consider access to entrepreneurship trainings once the entrepreneur has started a business.

Table 48 similarly reports some attributes of the entrepreneurship trainings. Close to half of the entrepreneurs who took trainings after establishing their businesses had received entrepreneurship trainings. Of these, half had received their entrepreneurship trainings at government offices, while some 37% took the trainings at TVETs. NGOs delivered these trainings to about 9% of the entrepreneurs, while the remaining 4% of entrepreneurs received their training from other providers. The majority of the entrepreneurs (about 82%) took the entrepreneurship trainings for two weeks or less 11% attended these trainings for three or four weeks and about 7% took the trainings for more than four weeks. Overall, entrepreneurs who were running MSEs in the manufacturing sector who participated in training programmes took the training for 2.1 weeks on average. Entrepreneurship trainings were delivered free of charge to more than 95% of the entrepreneurs. In addition, about 93% of the entrepreneurs rated the entrepreneurship trainings as both useful and adequate.

E. Access to Kaizen trainings

Kaizen trainings have also been provided to many of the entrepreneurs interviewed in our baseline survey. As we stated at the outset of this subsection, like the technical skills trainings, Kaizen trainings have been attended by a large proportion of the entrepreneurs. On average, 62% of the entrepreneurs who have taken trainings after establishing their businesses had received Kaizen trainings (see Table 48 above). Kaizen trainings were mainly delivered by the TVETs, government offices, and the Ethiopian Kaizen Institute; these three entities together accounted for 96% of the entrepreneurs who received this training (about 41%, 29%, and 26%, respectively).

The majority of the entrepreneurs (81%) received Kaizen trainings for one or two weeks. Those who took the trainings for one week alone account for 62% of the entrepreneurs. While 11% of the entrepreneurs received the Kaizen trainings for three or four weeks, only 8% received the training for more than four weeks. Overall, entrepreneurs received the Kaizen trainings for an average of 2.3 weeks.

The Kaizen trainings were delivered to the majority of the entrepreneurs (94%) free of charge. 94% of the entrepreneurs also rated the Kaizen trainings as quite useful and adequate.

F. Access to business extension and input marketing support services

In addition to the various types of training programmes we discussed above, both government and private stakeholders are also providing business extension and input marketing support services to the MSEs within the manufacturing sector. However, we observed from our baseline survey that the stakeholders are reaching out with these services to quite a small proportion of the entrepreneurs (see Table 49 below). While about 12% of the businesses responded affirmatively when asked if they had ever received any business extension or counseling services, only about 4% of the businesses had received the support of commercial entities in buying

and selling inputs. Furthermore, business extension or counseling services had been received by a lesser proportion of firms in the regional cities (9%) than the businesses in Addis Ababa (about 15%) and the micro enterprises (8%) were a smaller group than the small and medium enterprises (about 15% and 18%, respectively). However, we did not observe significant differences in the proportion of firms that had received the support of commercial entities in buying and selling productive inputs (percentage of business receiving this type of support ranged from 3% to 5.1%).

Table 49: Access to business extension and input marketing support services

Variables	Location		Firm size			All sample
	Addis.	Regional	Micro	Small	Medium	
Firms that have ever received any business extension or counseling services (%)	14.7	9	8.1	14.6	18.3	12.1
Total no. of observations	4,493	3,681	3,310	4,553	311	8,174
Providers of the service (%)						
Governmental offices	67.8	60.4	69.7	64.1	59.7	65.3
TVET	16.7	26.3	14.2	22.4	17.5	19.9
NGO	3.8	4.2	4.1	3.8	5.3	3.9
Others	11.7	9.1	12	9.7	17.5	10.9
Firms that have support of commercial entities in buying and selling inputs (%)	3.5	4.3	3	4.4	5.1	3.8
Total no. of observations received the service	660	331	268	665	57	989

We also assessed the main types of service providers of both support services. We found that the majority of the businesses (about 65%) received business extension and counseling services from governmental offices (such as ReMSEDA, FeMSEDA, Woreda, and Kebele offices), while the TVETs reached out with these services to 20% of the firms and other service providers, such as the NGOs, supported the remaining 15%. Similarly, sales agents, private suppliers, and government offices (such as micro finance institutions and trade and industry bureaus) have been the main supporters of the businesses' effort in buying and selling productive inputs.

4.9.2. Gender Specific Targeting and Support Experience of Female Entrepreneurs

Given that female entrepreneurs in developing countries, such as Ethiopia, are susceptible to gender-specific discriminations, be it public or private, various stakeholders in the area are trying to alleviate these challenges through different support schemes. These gender-specific targeting services are meant to fill gender-related gaps and enhance the productive capacity of female entrepreneurs. The support schemes are also devised in a manner that can invigorate the female entrepreneurs' business acumen, both in areas of operation and management.

In section 4.2 above, we have shown that only 1,542 (about 19%) MSEs out of the 8,174 MSEs in our baseline were owned and managed by female entrepreneurs. Despite rhetoric by government and donors, we found that only about 11.3% of the female entrepreneurs running the MSEs in the manufacturing sector have received female-targeted support services (see Table 50). Of those who received targeted support services, the majority (67%) received these services either in the form of special access to credit or women tailored-special trainings. While special market opportunities and access to working spaces were provided to 27% of the female entrepreneurs, the remaining 6% of the entrepreneurs received other forms of special support services.

Table 50: Gender specific targeting experience of female entrepreneurs

Variables	Location		Firm size			All
	Addis.	Regional cities	Micro	Small	Medium	
Women entrepreneurs who have received female-targeted support services (%)	11.4	11.2	10.4	11.7	15.9	11.3
Total no. observations (women-run businesses)	932	610	672	826	44	1,542
The type of special support women entrepreneurs received (%)						
Special access to credit or special loan	23.6	44.1	30	31.9	42.9	31.6
Women-tailored special trainings	39.6	29.4	32.9	37.1	42.9	35.6
Special market opportunity	17.9	10.3	11.4	17.5	14.3	14.9
Working space	11.3	13.2	18.6	8.3	_	12.1
Other	7.6	2.9	7.1	5.2	_	5.8
Total no. of observations (received support)	106	68	70	97	7	174
Women entrepreneurs who face gender-specific problems while operating or managing their businesses (%)	5.2	2.5	4.2	4.1	2.3	4.1
Total no. of observations (face gender-specific problems)	46	14	27	33	_	60

By comparison, women-tailored special trainings and special market opportunities were provided to a larger proportion of women entrepreneurs in Addis Ababa (39.6% and 17.9%, respectively), while special access to credit services was more common among women entrepreneurs in the regional cities (44.1%). Similarly, while special market opportunities were offered to a relatively larger proportion of women entrepreneurs from the small enterprises (17.5%), access to working space reached a larger proportion of the entrepreneurs from micro enterprises (18.6%). These support services have been mainly delivered by the Women Entrepreneurs Development Programme (WEDP), a joint programme between the World

Bank and the Ethiopian government that aims to support the growth of women-owned micro and small enterprises in Ethiopia, in part through the provision of entrepreneurship training and loan to growth-oriented women entrepreneurs. Our data also shows that credit associations such as the regional micro finance institutions have also been involved in delivering trainings and offering special access to credit services to these entrepreneurs.

Though small in proportion (about 4%), women entrepreneurs have also been subjected to gender-specific challenges [while operating or managing their businesses]. The major gender-specific constraints are condescension in public offices and within the community, sexual harassment, theft and/or corruption, challenges of managing male employees, and problems related to working premises.

4.9.3. Firms' Business Practices

As part of a discussion on the business practices of the MSEs within the manufacturing sector, we captured some of the marketing, finance, and documentation related practices of the firms in the last three years. Table 51 summarizes the main findings related to firms' business practices.

In terms of marketing related practices, we found that a large proportion of the businesses (about 70%) visit their competitors in order to observe what prices and products the latter charge and offer. These visits have been practiced by roughly the same proportion of businesses from both Addis Ababa and regional cities. Though a slightly smaller proportion of the micro enterprises (about 65%) have made such visits, roughly 70% of the small and medium enterprises have also made similar visits. Further, customers' demand assessment has also been practiced among majority (74%) of the MSEs within the sector. Though less proportionately exercised (less than 60%), the MSEs have also had discussions with their former customers to learn why customers have stopped buying from them.

The majority of the MSEs (more than 80% of them) have also made price

and quality comparisons of their own suppliers versus the suppliers of their competitors. Such comparison practices have been slightly less common among the micro enterprises (74% versus about 85% of small and about 87% of medium businesses). These visits, assessments, discussions, and comparisons have been practiced roughly in similar proportions among businesses from Addis Ababa and regional cities. However, the proportion of micro enterprises exercising these marketing activities has remained relatively lower than the small and medium enterprises at least in the last three months.

In terms of recording practices of the different activities of the businesses, we found mixed results. For instance, maintaining records of purchases and sales was widely practiced among firms in Addis Ababa (65%), small enterprises (67%), and medium enterprises (94%), compared to only 37% and 45% of firms from regional cities and micro enterprises, respectively, doing so in the last three months. A similar variation in the proportion of firms was observed in other recording related activities, such as the use of records to check cash balances on hand, the use of records to regularly follow the dynamics of sales of a specific product of the business, and the use of records to properly identify which goods are helping the business reap highest profit per item sold.

Yet, among these four types of recording related practices, the last one (use of records to identify goods producing the highest profit per item sold) was practiced by a relatively larger proportion of the businesses (about 75%), while the use of records to regularly follow the dynamics of sales of a specific product of the business was practiced by a relatively lesser proportion (nearly 48%) of the MSEs in the manufacturing sector.

Written budgets for rent, utilities, advertising, and other indirect company costs allow businesses to easily identify how much is owed on a monthly basis. However, this was practiced by the smallest proportion (just over 29%) of the MSEs [and irrespective of their location or firm size]. Regarding loans, a modest proportion of businesses (an average of 32%) documented their cash balance to make sure they were able to repay their loans. However, this figure was found be as low as 14.2% for micro enterprises and as high

as 78.8% for medium enterprises. It is also worth mentioning that about 41% of the MSEs within the sector reviewed the financial performance of their company and analyzed areas that require further improvement on at least a monthly basis. This review and analysis was practiced by more than half of the small enterprises and those firms in Addis Ababa, while more than 80% of the medium enterprises were doing the same. However, only about a quarter of the enterprises in the regional cities and the micro enterprises were exercising such practices on a monthly basis.

Table 51: Business Practice of MSEs

Variables	Location		Firm size			All
	Addis Ababa	Regional cities	Micro	Small	Medium	
In the last three months, the proportion of firms that have made …. (%)						
Visits to competitors' businesses to see what prices they charge	67.8	67.7	63.6	70.8	68.2	67.8
Visits to competitors' businesses to see what products they offer	69.6	71.5	67	73.1	69.1	70.5
Customers' demand assessment on new products or services	74.1	74.4	70.5	76.7	77.5	74.2
Discussion with former customers on why they are no longer buying from business	57.5	59.1	53.9	60.9	64	58.2
Price and quality comparison between its supplier/s and alternate suppliers	83.2	77.5	73.8	85.2	86.8	80.6
Records of every purchase and sale by the business	65.3	44.5	36.8	67.2	93.9	55.9
Use of their records to see how much cash the business has on hand on a given day	57.5	38.2	31	59.1	88.4	48.8
Use of their records regularly to know changes in sales of a particular product	56.3	37.3	30.1	57.9	85.9	47.7
Aware of which goods result in the most profit per item sold	80.2	69.5	65.2	81.6	92.9	75.4
A written budget that states how much is owed each month for rent, electricity, equipment maintenance, transport, advertising, and other indirect costs to business	39.4	17	15.3	37.2	63.3	29.3
Records documenting the existence of enough money each month after paying business expenses to repay a loan	44.1	17.3	14.2	41.8	78.8	32
Reviews of financial performance of their business and analyzes areas for improvement at least monthly	53.3	26.6	22.8	51.9	81.7	41.3
Enterprises that carry the following business practices in general, (%)						
Setting sales targets over the next year	54.6	30.9	29.7	51.9	77.5	43.9
An at least monthly comparison of sales achieved to targets set	49.2	27	23.1	48.5	74.6	39.2
Having an annual profit and loss statement	64.8	36.7	32.1	64.1	91	52.1
Having a business/strategic plan for their company	57	31.7	31.2	53.6	83.3	45.6
Having a posted specific name for the establishment	39.4	45.3	34.4	46.2	62.7	42.1
Total no. of observations	4,493	3,681	3,310	4,553	311	8,174

Furthermore, the MSEs within the Ethiopian manufacturing sector carry out some additional business practices. Among these, we found that almost 44% of the businesses set sales targets for the next fiscal year. Similarly, about 40% of the enterprises make comparisons of sales achieved versus the targets set on at least a monthly basis. These two practices are fairly common among the medium enterprises (about 75% exercise the two practices), while about half of the firms in Addis Ababa and half of the small enterprises are currently doing the same. However, these two practices are relatively rarely exercised (about 30% or less) among the micro enterprises and those enterprises from regional cities.

In addition, we found that more than half of the MSEs in the manufacturing sector have an annual profit and loss statement and more than 45% have a strategic plan for their company. These two company documents have been maintained by a larger proportion of firms in Addis Ababa (65% and 57%, respectively) and the small enterprises (64% and 54%, respectively) versus the enterprises in the regional cities (37% and 32%, respectively) and the micro enterprises (32% and 31%, respectively) that currently have these two documents. Finally, it is worth mentioning that 42% of the MSEs in the manufacturing sector have posted specific names for their establishments. These practices are more common among the medium enterprises (63%), small enterprises (46%), and firms in the regional cities (45%), as opposed to the micro enterprises (34%) and those businesses in Addis Ababa (39%).

4.10. Greening of Micro and Small enterprises

4.10.1. Introduction

Despite recognition of the significance of micro and small enterprises in the country's economy, the environmental (green) aspect of these enterprises has not been given enough emphasis from policy and research perspectives. According to Pearce and Barbier (2000), 'green' is a term used to show movement towards environmental or ecological sustainability. The key distinguishing characteristic of the green enterprise from the business as usual enterprise is that the green enterprise engages in a business that is both economically profitable and creates environmental and social value.

The green enterprise does this by engaging in activities such as recycling, energy efficiency, organic agriculture, and renewable energy among others, and increasing the number of green jobs associated with these activities (Lacroix and Stamatiou, 2007).

In more general terms, green micro and small enterprises are businesses that incorporate activities that are environmentally friendly in their operations and growth strategies. Recognizing the environmental impacts of micro and small enterprises in their business endeavors, as well as reducing the environmental impact of MSEs through achieving and going beyond environmental compliance in both manufacturing and services are key success factors in greening the economy. MSEs are important for green growth as key drivers of eco-innovation and key players in emerging green industries.

The environmental (green) aspect of MSEs is in line with the Ethiopian Climate-Resilient Green Economy (CRGE) strategy, which aims to make the country a middle-income country by 2025, with a lower level of emission of greenhouse gases (GHG). The green industrial parks that have been constructed in different parts of the country are an integral part of the Climate-Resilient Green Economy (CRGE) strategy. Unlike large manufacturing companies, greening MSEs would be challenging because of the diverse nature of the activities and geographic locations. According to EaPGreen (2015), many MSEs are "often unaware of many financially attractive opportunities for environmental improvement. There is a widespread misperception that protecting the environment is associated with technical complexity, burdens and costs. Even when they are aware of the potential of better environmental performance to improve a firm's competitiveness, a lack of appropriate skills and expertise commonly prevents firms from acting upon win-win opportunities. At the same time, the lack of resources often leads to MSE's being risk-averse and less willing to invest in new technologies, partly because of the uncertainty about the payback period."

The purpose of this sub-section is to document the baseline environmental practice of micro and small enterprises in major cities of the country. The environmental practice of the enterprises is assessed in terms of their knowledge on the environmental laws, their compliance with the laws, their liquid and solid waste management practices, their energy efficiency and conservation measures, and greenhouse gas emission reduction strategies.

4.10.2. MSE's Environmental legal requirements, compliance and inspection

A review of the literature indicates that environmental friendliness is the way through which business contributes to sustainable development. Micro and small enterprises are, in general, known as more 'pollution-intensive' enterprises compared to big businesses due to the cumulative negative impacts of their operation on the natural environment (Kasim, 2009; Yacob et al., 2013). There are growing bodies of literature that support the view that MSEs should engage in environmental management practices due their cumulative negative externalities (Chan, 2011; Kasim, 2009). Accordingly, environmental management has become an important issue over recent years as the volume of environmental legislation and regulations increases.

Legal environmental requirements refers to the legal environmental obligations that the micro and small enterprises have to meet when engaging in business. Although it is not commonly done for MSE's, many companies conduct an environmental impact analysis (EIA) to show the relevant authorities that what the company plans to undertake as a business does not have a major impact on the surrounding environment. In our survey, the MSEs were asked if they had submitted any environmental impact analysis (EIA) to any relevant authorities when they planned to start their business. About 82% of the enterprises had not done any EIA (see Table 52). This is what one can expect for a MSE given that most of the enterprises have limited resources and lack the skills to undertake such activities and, perhaps most importantly, in Ethiopia, MSEs are not required to undertake an EIA before they start.

These enterprises were also asked about their confidence in their knowledge of environmental legal requirements that are relevant to their companies. Overall, large proportions of the enterprises were fairly confident of their knowledge regarding environmental legal requirements, which implies that knowledge is not an issue. Further, many of the enterprises believe that compliance with these environmental legal requirements is important; however, self-monitoring of the environmental requirements is not that common.

Table 52: MSEs experience on environmental legal requirements

	Micro	Small	Medium	Total
MSEs Environmental Impact Analysis (EIA) submitted to any relevant authorities (%)				
Yes	14.68	20.23	27.01	18.24
No	85.32	79.77	72.99	81.76
Total	100	100	100	100
MSE level of confidence about knowing environmental legal requirements (%)				
Very confident	29	41.84	56.27	37.19
Fairly confident	43.14	36.66	30.87	39.06
Not so confident	16.37	15.64	7.72	15.63
Not at all confident	11	6	5	8
Total	100	100	100	100
MSE ratings on importance of compliance with environmental legal requirements (%)				
Very important	43.62	56.07	67.75	51.49
Fairly important	38.23	31.347	21.82	33.75
Not so important	11.85	10.12	7.17	10.7
Not at all important	6.29	2.47	3.26	4.05
Total	100	100	100	100

In the baseline survey, the firms were also asked if they had been inspected on the environmental requirement. Table 53 reports the number of times an enterprise was inspected on environmental issues over the last two years in multiple cities. The data show that the most frequent inspections on environmental issues over the past two years occurred in medium enterprises; specifically, in Adama, where medium enterprises were inspected an average of 3.75 times, and in Hawassa, where they were inspected an average of 2.4 times. However, in nearly all of the other cities and firm sizes, the inspections were either not done or, at most, done once. In line with this, about 95% of the enterprises reported that their company has not paid environmental fines. This could be because inspections are nonexistent.

Table 53: Average number of times MSEs were inspected on environmental issues

City	Micro	Small	Medium	All sample
Adama	1.07	0.91	3.75	1.05
Addis Ababa	0.76	0.78	1.19	0.5
Bahir Dar	0.11	0.23	0.22	0.16
Dessie	0.36	0.44	0.00	0.39
Dire Dawa	0.39	0.61	0.00	0.49
Gondar	0.01	0.05	0.00	0.03
Hawassa	0.69	1.22	2.4	1.08
Jigjiga	0.50	0.24	0.2	0.35
Jimma	0.05	0.23	0.00	0.14
Mekelle	0.80	1.01	0.75	0.86
Total	0.6	0.75	1.2	0.71

4.10.3. MSE's Waste management Practices

Industrial waste is one of the main factors of polluting the environment. Proper management of waste in this industry, regardless of a business' size, is necessary to keep the environment healthy. One of the most important aspects that makes an enterprise look 'greener' or pro- environment is the way the enterprise handles its liquid and solid waste materials. If the enterprise has a wastewater treatment facility, proper solid waste storage, and disposal mechanisms that do not create external costs to households and the environment, we can categorize the enterprise as pro-environment or 'green.'

As shown in Table 54, 87.6% of all enterprises in our sample do not have wastewater treatment facilities. There is some difference between the size categories; obviously, larger size firms tend to have a larger proportion of firms with a wastewater treatment facility. The low level of wastewater treatment could be due to a lack of proper inspection mechanisms on how the wastewater is disposed of by the enterprises. It could also be because the enterprises do not have the financial capacity to establish a wastewater treatment facility. This is in line with the body of literature showing that MSEs are less likely to have environmental management plans due to several barriers (Kasim, 2009; Thomas *et* al, 2011; Yacob et al., 2013).

Table 54: Wastewater treatment by enterprise size

	Micro	Small	Medium	Total
Do you have an operational wastewater treatment facility?				
Yes	8.8	14.6	19.6	12.4
No	91.2	85.4	80.4	87.6
Total	100	100	100	100
What alternative wastewater discharges do you use?				
Constructed own discharge facility	36.02	39.23	36.73	38.06
Discharge to river	4.73	3.7	2.72	3.99
Use the municipality facility	30.22	27.61	42.86	29.24
Use open field	29.03	29.46	17.69	28.72
Total	100	100	100	100

If they do not have wastewater treatment facilitates, then we asked the firms how they discharge their wastewater. As can be seen from Table 54 above, about 38% of the enterprises have constructed their own discharge facilities, about 29% a facility provided by the municipality, 28.7% discharge to an open field, and nearly 4% use a river.

Table 55 reports firms' solid waste storage facilities and management by size. Most of the micro and small enterprises do not have solid waste storage facilities that meet the environmental requirements; however, about 55% of medium enterprises have such waste storages. When firms were asked about their main mechanisms of solid waste management, about 68% of the enterprises reported that they dump their waste without any treatment, which causes significant health and environmental risks. Conversely, the remaining 32% of enterprises recycle, reuse, or combust the solid waste within their enterprises. From the enterprises dumping untreated solid waste, about 55% of them submitted to local collections, but about 27% is of them directly send to landfill sites and 6% reported dumping the waste materials in the open air.

Table 55: Solid waste storage facilities and management

Enterprise waste storage facilities that meet environmental requirements	Micro	Small	Medium	All
Yes	29.1	33.4	55.3	32.5
No	70.9	66.6	44.7	97.5
Routes used for solid waste management				
Dump without any treatment	71.85	65.38	69.04	68.09
Re-using waste	12.47	14.52	11.03	13.57
Incineration (combust waste at very high temperature)	5.08	7.09	5.34	6.22
Recycling (waste is sorted, processed)	10.6	13.01	14.59	12.11
Total	100	100	100	100
Mechanisms used by enterprises for dumping untreated solid waste				
Sent to landfill sites	28.5	26.2	25.5	27.1
Dump in open air	4.4	7.7	4	6.2
Use local public waste dumping facility	10	10.4	16.5	10.4
Submit to local collections	55.8	54.1	52.5	54.8
Others	1.3	1.6	1.5	1.5
Total	100	100	100	100

4.10.4. MSE's Energy Consumption, Efficiency, and Conservation

i. Energy types

Sustainable development aims to make business enterprises environmentally friendly and this requires investments in resource-saving technologies. It calls for a culture of environmental awareness and adoption of green technology. Industrial energy efficiency plays a significant role in environmental protection. According to IEA (2004), the manufacturing activities around the world account for about 75 percent of the world's coal consumption, 44 percent of the natural gas consumption, and about 20 percent of the world's oil consumption. Therefore, it is imperative that the manufacturing industries across the world undertake measures that are aimed at improving their energy efficiency, conserving energy, reducing GHG emissions, and safeguarding the environment.

Concomitant with this, micro and small enterprises can be classed as 'green' enterprises by looking at their source of energy, energy efficiency, and conservation activities. Traditional energy sources emit greenhouse gases that adversely affect the environment while simultaneously depleting scarce energy sources. It is increasingly being realized at the global level that achieving energy efficiency in business is a compelling and cost-effective means to attain energy sustainability.

The survey tried to explore MSEs' outlook on sources of energy usage and energy efficiency. With regard to the type of energy source, more than 95% of the enterprises surveyed use electricity as the source of energy for their enterprise's activities (Table 56). In Ethiopia, most electricity is generated from hydropower and, hence, micro and small enterprises are using clean energy sources. The use of biomass and fossil fuel sources, which are considered to be dirty fuel sources, is very minimal by the micro and small enterprises.

Table 56: Most frequently used energy types by enterprises (%)

	Micro	Small	Medium	Total
Electricity	95.03	97.58	98.93	96.63
LPG/Natural gas	0.04	0.02	0.00	0.03
Diesel/Petrol/Gasoline	0.17	0.26	0.00	0.19
Fuel wood	1.95	1.62	0.71	1.71
Crop residues or dung	0.14	0.12	0.00	0.12
Other	2.64	0.44	0.35	1.30
Total	100	100	100	100

Although the majority of the enterprises use electricity for their activities, this does not mean that they got electricity all the time. The enterprises have reported some hours without power (called a power outage). For example, as shown in Table 57, micro enterprises in Dessie experienced a power outage on average about 21.5 times a month in the previous year. In most of the cities, the enterprises experienced power outages at least 10 times in a typical month. A result not displayed in this report is that the power outages typically last about 3 hours.

Table 57: Frequency of electricity outage experienced by the enterprises in a month, over the last one year

City	Micro	Small	Medium	Total
Adama	10.9	10.7	11.4	10.8
Addis Ababa	9.7	10.3	13.4	10.2
Bahir Dar	16.1	18.1	23.3	17.0
Dessie	21.5	17.4	17.5	20.0
Dire Dawa	6.8	7.2	7.0	6.9
Gondar	19.0	17.2	15.0	18.3
Hawassa	9.5	9.6	10.3	9.6
Jigjiga	7.7	7.5	11.8	7.8
Jimma	10	10.2	20	10.0
Mekelle	7.8	8.4	15.2	8.0
Total	10.8	10.6	13.2	10.8

ii. Enterprises electricity conservation and efficiency activity

Enhancing electricity conservation behavior is an important component of moving towards sustainable energy. Improved energy efficiency has become a strategic issue and represents a priority for competitiveness. Energy management practices include activities like monitoring energy usage, which is the "first" step to energy conservation, and business process reengineering that reduces energy usage (Bhattacharya, 1992). There are several ways of conserving electricity. For instance, at home or at business, simple actions such as turning off lights and unplugging machinery or computers can help to reduce electricity consumption, thereby conserving electricity. At a higher level, adopting more energy efficient technologies helps to reduce the amount of electricity required to power the enterprise. The reasons for engaging in energy conservation activities can vary from the desire to save money, to make electricity available for others, and to reduce the number of power outages. Despite the need for increasing an enterprise's energy efficiency, studies indicate that cost-efficient energy conservation measures are not always implemented.

As shown in Table 58, the survey revealed that more than 86% of the enterprises turn off lights when rooms are not in use and over 87% reported

that they disconnect their machinery when not in use. This indicates that the enterprises are doing a good job of conserving electricity and reducing future power outages.

Table 58: Enterprise habits of turning off lights and disconnecting machinery when not in use

	Micro	Small	Medium	Total
Enterprises habit of turning off lights when rooms are not in use				
Never	4.19	3.72	5.036	3.96
Rarely	4.55	3.35	2.19	3.78
Sometimes	4.83	5.91	7.19	5.54
Always	86.43	87.01	85.61	86.72
Total	100	100	100	100
Enterprises habit of disconnecting machinery when they are not in use				
Never	5.07	3.67	2.61	4.17
Rarely	5.39	2.65	3.58	3.76
Sometimes	3.91	5.17	9.45	4.84
Always	85.63	88.51	84.36	87.22
Total	100	100	100	100

Achieving energy efficiency is an integral part of becoming environmentally friendly. This requires investment in resource-saving and energy efficient technologies. Enterprises' emphasis on energy efficiency when purchasing new machines/equipment was assessed and the responses were captured by a Likert scale. Table 59 shows that 31.6% of medium enterprises always consider energy efficiency when buying new equipment. The majority of micro and small enterprises do not take into account energy efficiency when purchasing new equipment or machinery. This signifies that energy efficiency measures for becoming more environmentally friendly through adopting energy efficient technologies are not particularly high. Thus, it is imperative for policies and actions to be aimed at ensuring that the small business sector acknowledges the need to become more energy efficient.

Table 59 shows whether the enterprise is using energy efficient light bulbs or energy inefficient (traditional incandescent) light bulbs. From Table 59,

we can observe that more than 82% of the enterprises use energy efficient light bulbs. Around 18% of enterprises use inefficient light bulbs, which implies that more information (educational) campaigns are needed so that enterprises can replace their existing inefficient light bulbs with more efficient ones.

Table 59: Emphasis given by enterprise to energy efficiency when purchasing new machines/ equipment

	Micro	Small	Medium	Total
Emphasis given by enterprise to energy efficiency when purchasing new machines/equipment				
Never	58.92	54.66	36.17	55.58
Rarely	15.38	15.1	17.92	15.32
Sometimes	8.79	11.43	14.33	10.52
Always	16.91	18.81	31.6	18.58
Total	100	100	100	100
Type of bulb used for lighting (%)				
Energy efficient light bulb	79.3	83.6	87.91	82.09
Traditional incandescent light bulb	20.7	16.4	12.09	17.91
Total	100	100	100	100

4.10.5. MSE's Greenhouse gas emission reduction activities

Global warming is now universally accepted as being the greatest environmental threat to mankind in the current century. The increase in the global temperature is due to the increase in the emission of greenhouse gases, particularly of carbon dioxide (CO_2), which is caused by an increase in the consumption of fossil fuels, deforestation, and forest degradations. A delay in reducing GHG emission significantly increases the cost of mitigation and adaption to climate change. The delay in GHG emission reduction could harm more low income sub-Saharan African countries because they are the first to suffer by climate change due to their geographic location, climate-sensitive sectors such as agriculture, and poor institutions and infrastructure. Considering this, Ethiopia incorporated the issue of climate change in its development strategy called the CRGE. It plans to limit emission of GHGs.

The production and consumption activities of micro and small enterprises could entail emission of greenhouse gases such as carbon dioxide. As shown in the above sections, although they are few in number, some enterprises use fossil and biomass fuels such as firewood for their business operations. These are some of the contributors of the emission of GHGs. In an effort to investigate the climate change mitigation potential of micro and small enterprises in Ethiopia, in the baseline survey, we asked the enterprises if they had engaged in any GHG emission reduction activities.

Table 60 reports engagement of MSEs in Ethiopia in emission reduction activities. No more than 4% of all MSEs in our database are engaged in any emission reduction activity. When comparing by size, about 2.4%, 3.4%, and 7.1% of the micro, small, and medium enterprises, respectively, have been engaged in emission reduction activities. The low level of emission reduction activity is expected because most micro and small enterprises may have limited knowledge, resources, and skills to get involved in such activities. The mechanisms often used to reduce emissions are reducing energy consumption, replacing fuel use (transmission to clearer fuel), and using input efficiently.

Table 60: Enterprise GHG emissions activities

	Micro	Small	Medium	Total
Does your enterprise have GHG emissions activities?				
Yes	2.79	3.97	8.21	3.66
No	97.21	96.03	91.79	96.34
Total	100	100	100	100

4.11. The business environment and growth constraints of MSEs

A. Challenges for Operation and Growth of Business

Entrepreneurs running MSEs within the manufacturing sector are constrained by various challenges that impede smooth operation and growth of businesses. In this regard, we asked the entrepreneurs to rate among some of the most common challenges within the sector as 1st, 2nd and 3rd most important challenge to the daily operation and growth of their company.

In general, the major challenges for daily operation and growth of the businesses of MSEs in the manufacturing sector are lack of adequate working premises, lack of access to credit and shortage of power supply. Table 61 reports the rank of major challenges faced by the sample MSEs disaggregated by size and Addis Ababa versus regional cities category. The ranking of these constraints for each city is also presented in appendix A, Table A.19.

Table 61: Major challenges for the operation and growth of MSEs

Variables	Location (cities)		Firm size			All
	Addis A.	Regional cities	Micro	Small	Medium	
First most important factor that impedes the operation and growth of business, (%)						
Lack of adequate working premise	22.5	28.8	28	23.7	21.1	25.3
Lack of access to credit	13.5	19.9	17.7	16	9.1	16.4
Electricity (power supply)	13.2	12.3	11.1	13.5	20.1	12.8
Finding customers	12	8.1	10.3	10.5	5.5	10.2
Lack of business support services	8.4	11.2	11.7	8.5	6.5	9.7
Others	30.4	19.7	21.2	27.8	37.7	25.6
Total no. of observations	4441	3665	3291	4507	308	8106
2nd most important factor that impedes the operation and growth of business, (%)						
Lack of adequate working premise	15.3	22.2	20.8	17.3	10.4	18.5
Lack of access to credit	14.7	18.6	17.7	16	10.8	16.5
Electricity (power supply)	11.4	12.3	11.2	12	15.6	11.8
Lack of business support services	11.1	11.9	12.3	11.1	8.9	11.5
Others	47.5	35	38	43.6	54.3	41.7
Total no. of observations	3953	3351	2994	4041	269	7304
3rd most important factor that impedes the operation and growth of business, (%)						
Electricity (power supply)	13.7	14.7	14.3	14	15.1	14.2
Lack of access to credit	10	13	13	10.6	5.4	11.3
Lack of business support services	10.9	11.8	9.7	12.5	10.7	11.3
Other	65.4	60.5	63	62.9	68.8	63.2
Total no. of observations	**3089**	**2517**	**2282**	**3119**	**205**	**5606**

Accordingly, about 55% of the entrepreneurs raised either of these three as the first important factor that hinders the daily operation and growth of their business. The lack of working premises is more frequently raised among entrepreneurs in regional cities and those from micro enterprises (about 28% of them). The same pattern was observed on these

entrepreneurs on challenges related to access to credit. Shortage of electric power supply was more frequently raised by entrepreneurs from medium sized firms (about 16% of them). The challenges of finding customers and lack of business support services were raised on average by 10% of the entrepreneurs from each category. However, these two challenges were relatively less mentioned by entrepreneurs from medium sized firms. Most of those entrepreneurs who didn't rate these four challenges as their first important challenge rated them as their second important challenges (about 58% of them). In fact about 35% of those entrepreneurs rated lack of working premises or lack of access to credit as the second most important challenge. Lack of access to credit, shortage of electric power supply and lack of business support services popped up frequently as the 3rd most important challenge to the daily operation and growth of businesses.

5. Summary and Concluding Remarks

This study is the output of a long-term research programme of the EDRI on Entrepreneurship and Small Business Development (ESBD) in Ethiopia. A census of small and random sample of micro manufacturing enterprises operating in the ten largest cities of the country were considered to collect a high quality quantitative data from 8174 enterprises on various issues. The programme has a broad objective to produce evidence-based knowledge through rigorous research and build a strong and more integral knowledge support system to underpin future policy analysis in small business development.

According to this survey, the geographical distribution of the manufacturing MSEs in the 10 largest cities of Ethiopia is uneven-particularly skewed to Addis Ababa. The MSE sector in the country is dominated by young firms started from the scratch which calls for a conscious strategy to promote start-ups. The role of the government in providing working premises (for more than a third of manufacturing MSEs) is higher and encouraging though renting from private remained a huge burden for majority (about 40%) of enterprises.

The owner-managers of sample manufacturing MSEs are mostly characterized by adults with the average age of about 38 years, married, Christian orthodox and male. The gender gap in owning/managing the MSEs looks substantial. Most of the entrepreneurs had a formal education with 33%, 17%, and 12% high school TVET, and university (first degree and above) graduates, respectively. The survey result depicts a positive picture of the small enterprise economy in Ethiopia where Entrepreneurship is a conscious choice made by the vast majority of entrepreneurs in the formal manufacturing sector seeking better profitability opportunities.

In 2016/17, the total labor force employed by the Manufacturing MSEs in the 10 largest cities of the country was estimated to be 113,705. However, the quality of the jobs created by MSEs are questionable as most of the

positions are temporary, with low level of remuneration, minimal net employment addition per annum, high employees' turnover, and low occupational safety and health. The TVET and college graduates of the MSE workers constitute smaller fraction of the total labor force engaged in the sector, 7 and 6 percent, respectively in the 2016/17.

Manufacturing MSEs in our study areas are obliged to deal with a large number of customers to sell their produces showing that there is no adequately well-established and stable market linkages. The marketing strategies highlighted in the MSE development strategy of Ethiopia do not seem well utilized to benefit more enterprises. For instance, in our survey it is only 6% of the sample enterprises reported that they have benefited the subcontracting arrangements to get market for their output. About 20-25% of MSEs had different practices of innovation induced by increasing competition.

Enterprises' average investment in fixed assets generally declines after start up. Enterprises located in Addis Ababa tend to invest more on land, buildings and other capital goods (such as factory shades) as opposed to enterprises in regional cities which tend to invest more in machineries and equipment. Majority of the enterprises (about 70%) had no access to credit from any of the potential sources owing to highly collateralized financial environment. According to this survey, about two-third of the loan applicants rejected by formal financial institutions are rejected due to lack of collateral or guarantor. Following the financial constraints, and thus lack of working capital, MSEs in Ethiopia operate below their capacity, with a capacity utilization rate of 54.5%.

There has been an encouraging effort by the government, via the TVET and other agencies, and other stakeholders to provide manufacturing MSEs with different types of business development services (BDS). These services are more on trainings aimed at soft sill developments such as technical skill and Kaizen trainings but low outreach in business counseling services. In addition, the female targeted support services given to female entrepreneurs running the MSEs in the manufacturing sector is low (about

11.3%) and this could be one reason for low participation of women in owning/managing enterprises in the manufacturing sector. However, a more rigorous study on BDS aimed at assessing its impact, outreach and sustainability is required.

Unlike other studies conducted on MSE development particularly in developing countries, this study tried to assess the greening of MSEs. The study revealed that most of MSE operators have awareness on the environmental legal requirements though compliance of these environmental laws as well as practice of conducting environmental impact assessment (EIA) is minimal. It is encouraging that most of the MSE in Ethiopia use green and renewable energy and have good practice in turning off lights and unplugging their machineries when they are not in use. However, majority of the MSEs do not have wastewater treatment and solid waste storage facilities.

Lack of adequate working premises, lack of access to credit and shortage of power supply are the three most important factors impeding the operation of manufacturing MSEs in urban Ethiopia. The government and other stakeholders need to work hard in a coordinated manner to solve these problems and create enabling business environment in order for the infant manufacturing enterprises to thrive.

A number of research papers dealing with each issues highlighted in these report are underway by the research team (authors of this paper and other researchers) using this reach dataset and other sources. Therefore, readers are highly advised to read those papers for more detail analysis, conclusive findings, and policy implication on each theme.

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Appendix A: Additional results from the survey data disaggregated by sample Cities

Table A.1: Means of acquiring current business by city (%)

City	Inherited	Started from the scratch	Purchased	others	Total
Addis Ababa	1.7	95.6	2.6	0.1	100.0
Adama	0.4	83.9	15.7	0.0	100.0
Jimma	1.0	78.9	19.7	0.3	100.0
Bahir Dar	0.9	98.6	0.4	0.2	100.0
Dessie	3.8	95.8	0.4	0.0	100.0
Gondar	1.5	98.5	0.0	0.0	100.0
Dire Dawa	1.2	98.8	0.0	0.0	100.0
Hawassa	1.5	98.0	0.4	0.0	100.0
Jigjiga	1.9	98.1	0.0	0.0	100.0
Mekelle	0.9	98.6	0.3	0.3	100.0
Total	1.5	95.7	2.7	0.1	100.0

Table A.2: Primary challenge of a cooperative business (%)

City	Diverse interest of members	Excessive involvement of the organizers	The risk of total closure when some members want to leave	Management difficulty	None	Others	Total
Addis Ababa	46.8	3.7	5.3	18.1	24.4	1.8	100
Adama	33.3	0.0	4.2	45.8	16.7	0.0	100
Jimma	29.5	5.1	2.6	20.5	42.3	0.0	100
Bahir Dar	23.1	3.9	8.7	14.4	46.2	3.9	100
Dessie	23.5	5.9	7.8	3.9	56.9	2.0	100
Gondar	37.9	0.0	17.2	6.9	31.0	6.9	100
Dire Dawa	36.0	0.0	4.0	32.0	28.0	0.0	100
Hawassa	30.0	1.3	0.0	14.2	53.2	1.3	100
Jigjiga	54.6	0.0	0.0	9.1	36.4	0.0	100
Mekelle	81.0	0.0	4.8	9.5	4.8	0.0	100
Total	39.1	3.0	4.6	16.8	34.8	1.7	100

Table A.3: Sex and average age of entrepreneurs' by city

City	Sex (%)			Average Age in years
	Male	Female	Total	
Addis Ababa	79.16	20.84	100	11.8
Adama	74.33	25.67	100	10.9
Jimma	86.73	13.27	100	10.0
Bahir Dar	82.51	17.49	100	10.2
Dessie	82.2	17.8	100	10.0
Gondar	81.31	18.69	100	9.9
Dire Dawa	79.51	20.49	100	10.6
Hawassa	83.01	16.99	100	11.7
Jigjiga	96.15	3.85	100	10.3
Mekelle	85.76	14.24	100	9.5
Total	81.08	18.92	100	11.0

Table A.4: levels of entrepreneurs" education (%)

Educational status	Addis Ababa	Adama	Jimma	Bahir Dar	Dessie	Gondar	Dire Dawa	Hawassa	Jigjiga	Mekelle	Total
No formal education	1.3	4.2	0.3	4.8	3.4	6.2	2.9	0.4	2.9	4.7	2.4
Primary (1-8 grade)	19.2	26.4	34.3	24.2	23.7	20.5	23.1	19.6	28.2	33.2	22.8
High school (9-12)	34.3	33.3	37.3	38.9	45.8	47.5	41.2	32.5	41.8	37.4	36.2
Vocational school (10+ or level 1-4)	18.2	14.6	16.1	17.3	18.2	14.5	11.1	28.5	2.9	11.0	17.0
Diploma (non-vocational)	12.2	10.7	5.1	3.5	3.8	5.9	10.7	6.3	4.9	5.0	9.3
First degree (BA, BSc, BEd)	12.7	9.6	6.5	9.5	4.7	4.2	10.3	11.1	18.5	8.1	10.8
Masters' and PhD	1.9	1.2	0.3	1.6	0.4	0.9	0.0	1.5	1.0	0.5	1.4
Others	0.1	0.0	0.0	0.2	0.0	0.3	0.8	0.0	0.0	0.2	0.1
Total	100	100	100	100	100	100	100	100	100	100	100

Table A.5: Primary reason to become an entrepreneur (%)

Reason	Addis Ababa	Adama	Jimma	Bahir Dar	Dessie	Gondar	Dire Dawa	Hawassa	Jigjiga	Mekelle	Total
No wage job alterative	4.8	5.4	3.4	5.5	3.4	9.8	8.6	5.3	17.3	4.7	5.3
Lost previous job	3.0	1.9	0.7	0.9	0.4	0.9	9.0	1.3	8.7	1.9	2.6
Saw a market opportunity	35.8	46.4	46.6	44.2	27.5	38.3	44.3	12.1	47.1	26.2	34.7
Wanted to continue family business	3.9	2.7	9.5	6.4	19.9	7.1	3.7	3.7	5.8	1.9	4.5
Allows me to balance family and work life	11.4	11.9	13.6	10.3	19.9	11.6	7.4	28.1	1.0	18.1	13.3
Wanted to be my own boss	37.8	31.0	26.2	23.9	22.0	29.1	21.7	44.3	11.5	45.0	36.0
Post-retirement source of income	2.4	0.0	0.0	7.8	6.8	2.4	5.3	5.0	8.7	2.3	3.1
Others	0.8	0.8	0.0	1.2	0.0	0.9	0.0	0.2	0.0	0.1	0.6
Total	100	100	100	100	100	100	100	100	100	100	100

Table A.6: Average number of workers engaged per enterprise by city and type of worker in 2016/17

City	working owner	paid worker	unpaid worker	Total
Addis Ababa	2.7	8.0	0.1	10.9
Adama	1.5	5.5	0.3	7.3
Jimma	2.5	3.6	0.1	6.2
Bahir Dar	1.6	4.4	0.3	6.4
Dessie	1.9	2.8	0.7	5.4
Gondar	1.4	3.8	0.4	5.7
Dire Dawa	2.6	5.2	0.2	7.9
Hawassa	2.7	7.0	0.1	9.9
Jigjiga	3.4	5.8	0.0	9.3
Mekelle	1.1	3.6	0.3	5.0
Total	2.3	6.4	0.2	8.9

Table A.7: Average number of workers per firm under different category of interest

City	production workers	female prod workers	permanent workers	female permanent workers
Addis Ababa	8.7	2.9	3.4	2.6
Adama	5.3	1.2	1.1	1.4
Jimma	5.3	0.7	0.1	0.4
Bahir Dar	4.9	1.4	0.2	1.1
Dessie	4.1	0.9	0.1	1.1
Gondar	4.3	0.7	0.1	0.7
Dire Dawa	6.8	1.4	0.8	0.2
Hawassa	8.0	1.9	0.8	1.8
Jigjiga	7.1	0.7	0.3	0.1
Mekelle	3.3	0.3	0.2	0.7
Total	7.0	2.0	2.0	1.8

Table A.8: Average monthly earning per production worker in 2016/17 by sex and city in Birr

City	Male	Female	Total
Addis Ababa	2308.2	1861.1	2225.7
Adama	2067.5	1512.0	1861.0
Jimma	1594.6	878.8	1569.2
Bahir Dar	1808.7	1274.5	1747.2
Dessie	1555.0	885.8	1533.9
Gondar	1746.2	1089.4	1684.2
Dire Dawa	1789.5	1391.2	1737.9
Hawassa	2244.2	1844.1	2406.3
Jigjiga	2066.8	1806.9	2062.2
Mekelle	1999.3	963.3	1935.8
Total	2135.2	1725.0	2076.9

Table A.9: Percentage of sales made to different end users in 2015/16 by city

City	private	government	Retailer	Wholesaler	Exporter	Manufacturer	contractor	others
Addis Ababa	55.6	13.6	18.9	5.2	0.3	1.4	3.8	1.3
Adama	73.3	2.9	17.9	1.2	0.0	0.1	4.6	0.1
Jimma	74.7	2.8	17.4	0.3	0.0	1.1	3.7	0.0
Bahir Dar	76.5	7.7	11.5	0.9	0.0	0.5	0.6	2.4
Dessie	67.9	2.3	17.8	0.4	0.0	0.6	0.6	10.4
Gondar	83.1	5.0	9.2	1.1	0.2	0.2	1.1	0.0
Dire Dawa	76.8	5.3	11.4	2.7	0.0	0.2	3.3	0.3
Hawassa	79.8	6.1	5.8	2.3	0.1	0.5	4.1	1.3
Jigjiga	82.5	5.8	7.5	0.2	0.0	0.0	3.7	0.3
Mekelle	82.6	2.6	10.5	0.2	0.0	0.5	3.5	0.2
Total	66.0	9.4	15.6	3.3	0.2	1.0	3.4	1.3

Table A.10: Percentage of firms who are currently sub-contracted to other firms by city

City	%
Addis Ababa	6.81
Adama	3.07
Jimma	0.34
Bahir Dar	8.48
Dessie	4.66
Gondar	1.48
Dire Dawa	8.61
Hawassa	11.33
Jigjiga	4.81
Mekelle	2.37
Total sample	5.93

Table A.11: Source of main productive inputs by city (%)

City	Private (non-state, non-FDI) enterprises	Foreign invested companies (FDIs)	State enterprises (SOEs)	Non-commercial entities and/or authorities	Direct Import	Others	total
Addis Ababa	86.2	1.0	8.1	1.0	2.6	1.1	100
Adama	83.1	0.4	9.4	7.0	0.1	0.0	100
Jimma	88.5	0.0	6.6	3.2	0.0	1.7	100
Bahir Dar	78.8	0.3	13.8	6.7	0.2	0.2	100
Dessie	70.1	0.8	25.7	2.5	0.0	0.9	100
Gondar	76.9	0.1	19.7	3.4	0.0	0.0	100
Dire Dawa	90.5	0.0	7.4	2.0	0.1	0.0	100
Hawassa	94.8	0.8	4.2	0.0	0.2	0.0	100
Jigjiga	95.2	0.0	2.4	2.4	0.0	0.0	100
Mekelle	93.6	0.1	5.8	0.3	0.1	0.1	100
Total	86.6	0.7	8.8	1.7	1.5	0.7	100

Table A.12: Percentage of firms that made different types of innovation over the last two years by location

City	made any changes/ improvements	process innovation	product innovation
Addis Ababa	61.79	30.3	27.77
Adama	58.66	36.33	31.64
Jimma	38.16	2.12	3.17
Bahir Dar	48.04	34.28	36.65
Dessie	54.42	32.3	34.07
Gondar	41.95	28.57	32.52
Dire Dawa	64.05	29.75	28.93
Hawassa	74.67	34.14	17.86
Jigjiga	50.5	26.73	18.81
Mekelle	55.82	18.32	17.74
Total	58.69	28.18	25.92

Table A.13: Enterprise's average investments in various fixed assets over time by city (in Birr)

City	Machinery & Equipment		Building/premises		other capital goods		land purchase		total investment	
	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008
Addis Ababa	87925.5	71406.5	16092.6	14230.9	36912.7	31337.9	1698.8	4435.3	179236.0	168616.8
Adama	53827.3	43434.3	3342.9	2682.4	11585.4	8123.0	0.0	0.0	71308.9	59525.7
Jimma	16621.9	10069.7	1871.5	1161.4	3421.8	2890.0	0.0	34.5	25259.1	16652.1
Bahir Dar	19397.1	22730.6	1745.6	594.9	2827.3	2786.9	2222.4	14.1	26919.1	26632.2
Dessie	24740.9	16010.2	1848.8	1871.2	3927.6	1866.2	0.0	0.0	30639.1	20012.4
Gondar	19168.2	12451.0	947.4	1839.8	2560.9	2992.8	0.0	0.0	33927.4	77320.7
Dire Dawa	11709.9	15714.8	3310.0	2005.0	3655.4	3482.8	666.7	1762.3	19756.9	23033.6
Hawassa	35935.2	38616.6	4899.3	7000.0	5550.6	7027.5	0.0	223.7	44141.9	54881.3
Jigjiga	82736.0	38620.2	0.0	0.0	7096.6	2237.9	0.0	0.0	89843.8	41798.1
Mekelle	28175.2	32481.2	1858.0	2672.3	2442.3	3062.9	831.8	387.3	31808.2	38329.1
Total	61538.7	51397.5	9884.1	8883.4	22067.4	18748.6	1233.4	2533.1	115486.4	110552.9

Table A.14: Percentage of MSEs who had access to finance for working capital and investment by city and finance source

City	Banks		MFI		Government project		NGO		SACCOs		Informal Source	
	For Investment	Working capital	For Inv't	Working capital	For Inv't	Working capital	For Inv't	Working capital	For Inv't	Working capital	For Inv't	Working capital
Addis Ababa	5.07	5.75	18.94	19.9	1.09	1.4	0.58	0.62	4.16	4.67	8.88	10.81
Adama	6.51	7.28	7.28	5.75	0	0	0	0	1.53	1.53	0.38	0
Jimma	2.04	2.04	9.18	10.92	0.34	0.34	0	0	3.06	5.78	13.27	15.65
Bahir Dar	1.06	1.06	13.96	17.31	0.18	0.18	0.71	0.88	2.12	2.65	2.83	6.36
Dessie	0.85	1.27	19.07	22.88	0	0	0.42	0	2.54	2.54	3.39	9.75
Gondar	1.19	1.78	12.17	14.84	0	0	0.3	0.3	1.48	2.37	2.97	7.72
Dire Dawa	2.87	2.88	27.46	27.05	0	0	0.41	0.41	3.69	4.1	18.85	23.36
Hawassa	4.79	6.32	16.99	23.53	0.22	0	0.87	1.31	1.74	3.92	6.54	10.46
Jigjiga	4.81	4.81	8.65	7.69	0	0.96	0	0	0	0	15.38	15.38
Mekelle	2.46	5.18	23.56	29.26	0.34	0.25	0.25	0.42	5.08	5.43	11.53	22.22
Total	3.99	4.89	18.28	20.44	0.69	0.83	0.49	0.56	3.67	4.3	8.58	12.24

Table A.15: Formal loan application and success rate by size and city (%)

City	Applied for formal loan (%)	Successful applicant (%)
Addis Ababa	42.1	73.8
Adama	18.8	61.2
Jimma	15	54.6
Bahir Dar	23.1	39.7
Dessie	27.1	53.1
Gondar	15.4	48.1
Dire Dawa	48	69.2
Hawassa	57.1	62.6
Jigjiga	25	50
Mekelle	49.8	79.4
Total	39.4	70.9

Table A.16: Average Capacity utilization rate of enterprises by location and size (%)

City	Micro	Small	Medium	Total
Addis Ababa	50.5	58.8	68.0	57.1
Adama	47.5	60.2	67.5	53.6
Jimma	40.9	50.6	60.0	45.7
Bahir Dar	44.0	53.3	51.1	48.1
Dessie	43.0	47.1	70.0	44.8
Gondar	42.1	48.7	55.0	44.6
Dire Dawa	49.2	57.8	75.0	54.0
Hawassa	40.5	52.9	68.0	49.4
Jigjiga	43.4	57.0	66.0	51.7
Mekelle	56.2	60.0	53.8	57.2
Total	49.3	57.4	67.3	54.5

Table A.17: Main reasons for capacity underutilization (%)

Main reason	Addis Ababa	Adama	Jigjiga	Bahir Dar	Dessie	Gondar	Dire Dawa	Hawassa	Jimma	Mekelle	Total
Local raw materials and intermediate inputs shortage	15.1	24.6	9.7	7.7	20.2	8.0	7.2	4.6	8.2	14.5	13.4
Lack of working capital	47.8	52.4	59.2	58.4	36.8	54.8	53.6	64.6	71.7	55.8	52.0
Insufficient demand for the establishment's output	23.1	6.0	12.6	23.0	23.3	21.2	11.0	15.5	8.5	22.0	20.8
Skilled labor shortage	1.4	0.4	2.9	0.8	2.7	1.2	2.5	2.0	0.7	1.9	1.5
Unskilled labor shortage	0.2	0.0	0.0	0.0	0.5	0.0	0.8	0.2	0.0	0.5	0.3
Lack of necessary specialized technology	6.8	11.1	11.7	3.4	3.1	4.3	12.2	4.4	8.2	3.2	6.2
Others	5.5	5.6	3.9	6.8	13.5	10.5	12.7	8.7	2.7	2.1	5.9
Total	100	100	100	100	100	100	100	100	100	100	100

Table A.18: Percentage of MSEs with access to training on how to start business prior to establishing the business and different training types after establishment (%)

City	Training access before establishment	From those who has access to different training supports after establishment					
		Technical training	Marketing training	Financial management training	entrepreneurship	Kaizen	business counselling
Addis Ababa	32.5	76.7	44.2	54.7	52.3	70.3	14.7
Adama	11.9	68.3	33.3	40	35	31.7	9.2
Jimma	13.6	82.9	23.2	24.4	22	48.8	4.8
Bahir Dar	9.2	72.06	43.1	51	59.8	54.4	10.1
Dessie	18.6	74.3	41	45.7	50.5	56.2	17
Gondar	8.3	63.4	47.3	64.3	55.4	58.9	7.7
Dire Dawa	25.8	75.5	49.7	57.9	52.8	79	18.4
Hawassa	17.4	51.2	26.3	60.8	55.3	58.5	10.9
Jigjiga	9.6	50	35.7	35.7	21.4	42.9	0.9
Mekelle	8.4	74.8	33.6	38	20.5	22.05	6.3
Total	23.4	74.2	41.5	52.1	48.3	61.8	12.1

Table A.19: Top three constraints impeding business operation as perceived (ranked) by MSEs disaggregated by city

City	1st Ranked	2nd Ranked	3rd Ranked
Addis Ababa	Working Premise (22.2%)	Credit (13.4%)	Electricity (13.1%)
Adama	Working Premise (32.6%)	Electricity (28%)	Credit (11.9%)
Jimma	Working Premise (22.8%)	Credit (21.1%)	Electricity (15.7%)
Bahir Dar	Working Premise (30.6%)	Credit (22.8%)	Business support (10.6%)
Gondar	Working Premise (33.2%)	Credit (21.1%)	Business support (8.6%)
Dessie	Working Premise (23.3%)	Credit (19.1%)	Electricity (11.9%)
Dire Dawa	Working Premise (42.2%)	Credit (13.1%)	Market (9%)
Mekelle	Working Premise (29.1%)	Business support (17.7%)	Credit (14.6%)
Hawassa	Credit (37%)	Working Premise (22%)	Electricity (8.1%)
Jigjiga	Credit (17%)	Working Premise (14.4%)	Business support (14.4%)
Total	Working Premise (25.1%)	Credit (16.3%)	Electricity (12.1%)

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