

Small and Medium Enterprise Access to Finance in Ethiopia: Synthesis of Demand and Supply



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HESPI is a non-profit, non-political research institute that conducts economic, social and policy oriented research to promote high quality policy analysis and advisory service to assist African government, the private sector and other stakeholders with a special focus on the IGAD sub-region. HESPI conducts commissioned studies and interacts with principal institutions and entities to address the challenges the region faces. HESPI's focus also covers institutional capacity building and instilling values for better management of social and broad based sustainable economic growth aimed at prosperous future for the region.

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Table of Contents

Acknowledgment	1
Abstract:	2
1. Introduction	3
2. Literature review	5
3. Data source and methodology	8
4. Results and discussion	12
4.1. Major constraints of SMEs	12
4.2. Regression Results - Demand Side Analysis.....	18
4.3. Supply Side Analysis.....	23
4.4. SME finance in Ethiopia – Where from here?	30
5. Conclusion	33
References	35

Abstract

This paper reports an in-depth study into demand and supply issues relating to Small and Medium Enterprises (SMEs) access to finance in Ethiopia. The demand side analysis is done using primary data collected from 519 business firms drawn from the major towns in Ethiopia. Similarly, information for the supply side analysis was collected from 8 banks and 3 Micro Finance Institutions.

The logit model is used to analyze determinants of firms' access to finance from formal financial institutions. We added a measure of credit constrained status of firms by classifying firms into three ordinal categories - Not Credit Constrained, Partially Credit Constrained and Fully Credit Constrained – and analysis was made using order logit model. Similarly, descriptive analysis was used to analyze data collected from banks and MFIs.

Results indicate that banks and MFIs engagement in financing SMEs in Ethiopia is limited. The demand side findings and analysis revealed that access to finance is significantly influenced by the age of the firm, firm's previous engagement with banks, experience of the manager and whether firms are managed by the owner (owner-manager) or not. In a similar fashion, SMEs specific factors such as poor financial records of SMEs, lack of adequate collateral, SMEs poor management of risks, and informalities of SMES are the major obstacles underlined by banks and MFIs to their engagement with SMEs. In general, young firms who do not have adequate managerial and operation experience, and those with inadequate collateral are highly credit constrained.

Key words: Bank financing, Demand and Supply, Financial Constraint, Small and Medium Enterprises, Ethiopia

JEL: D22, G21, G30

1. Introduction

Small and Medium sized enterprises (SMEs) have usually been perceived as the dynamic force for sustained economic growth and job creation in developing countries. They play multifaceted role such as boosting competition, innovation, as well as development of human capital and creation of a financial system.

With increased urban population dynamics of Sub-Saharan Africa (SSA), the importance of SMEs is also growing. In SSA, given the rapid rural-urban migration and deficiency to absorb this migration, SMEs have become important urban economic activities particularly in providing urban employment. In similar fashion, in cities and towns of Ethiopia, SMEs and the informal sector are the predominant income generating activities and thus they have a significant contribution to local economic development and used as the basic means of survival (Gebre-egziabher and Demeke, 2004).

The SME sector in Ethiopia is taken as an instrument in bringing about economic transition by effectively using the skill and talent of the people particularly women and youth without demanding high-level training, much capital and sophisticated technology. The Small and Medium Enterprises informal and Small Manufacturing Enterprise sector (SMEs) contributed value added of Birr 8.3 million in 1996. Based on the 1992/93 data, this figure constitutes about 3.4% of the GDP, 33% of the industrial sector's contribution and 52% of the manufacturing sector's contribution to the GDP of the same year (Gebrehiwot, 2006). The development of the sector in Ethiopia is believed to be the major source of employment and income generation for a wider group of the society in general and urban youth in particular. The five-year Growth and Transformation Plan (GTP) of Ethiopia envisages to create a total of three million micro and small scale enterprises at the end of the plan period (NBE, 2011). Citing the source from the Federal Micro and Small Enterprise Development Agency (FMESDA), the EEA Research Brief noted that a total of seventy thousand five hundred (70500) new MSEs were established in 2011/12 employing eight hundred six thousand three hundred (806300) people across the country. The performance is below the target set in GTP (EEA, 2015).

The financing of small and medium enterprises (SMEs) has been a topic of keen interest in recent years because of the key role that SMEs play in economic development and their potentially important contribution to economic diversification and employment (Ayyagari et al., 2007 cited in Berg and Fuchs, 2013). Numerous studies have discussed that SMEs are financially more constrained than larger firms in both developed and developing countries. In developing economies including Sub-Saharan Africa, SMEs are typically more credit-constrained than large firms, severely affecting their possibilities to grow (Beck et al, 2005; Beck and Demirguc-Kunt, 2006; Beck et al, 2006; Ayyagari et al, 2008; Beck et al, 2008; Ayyagari et al, 2012). Calomiris and Hubbard (1990) noted that when the company is smaller, the restrictions on credit are greater. Furthermore, according to Beck et al. (2006) cited in El-Said et al. (2013), small firms consistently report more financing obstacles than medium and large enterprises. Smaller, younger and domestic—as opposed to foreign-owned—enterprises report more financing obstacles even after controlling for other firm characteristics. The probability that a small firm lists financing as a major obstacle (as opposed to moderate, minor or no obstacle) is 39% compared to 36% for medium-sized firms and 32% for large firms.

Small firms mainly borrow funds through the informal financial market, while larger firms obtain funds from the formal market (Beck et al. 2006 cited in El_Said et al. 2013)

Therefore, reducing this financing gap in low-income countries should raise the incentive to create SMEs and consequently improve economic growth and increase job creation. In addition, improving SMEs' access to finance is significantly important in promoting performance and firm productivity (World Bank, 2015).

In Ethiopia, despite the enormous importance of the SME sector to the national economy with regards to job creation and the alleviation of abject poverty, many of the SMEs are unable to realize their full potential due to the existence of different factors that inhibit their growth and performance. One of the leading factors contributing to the unimpressive growth and performance of the enterprises is limited access to finance (Wolday and Gebrehiwot, 2004). In a similar way, comparing small and large firms the World Bank finds that small firms face more challenges in obtaining formal financing than large firms; they are much more likely to be rejected for loans, and are less likely to have external financing (World Bank, 2015).

The financing gap to SMEs in Ethiopia can be attributed to both the demand side and supply side. The demand side has to do more on the characteristics of enterprises that limit their ability to fulfill the criteria for bank loans leading to financial limitations. The supply side could be more related to the banking sector reform and the perceived risks by banks to finance SMEs. In Ethiopia, despite the introduction of banking sector reform in 1994 that led to expansion of the banking industry, SMEs' problem of credit access has persisted implying that changes in the banking sector structure *per se* are not sufficient to introduce competition in the banking industry and an improvement in SME credit access (Ashenafi, 2012).

In this paper, we analyze the financing gap of SMEs in Ethiopia and recommend ways of addressing the financing gap. Specifically, the study addresses a) the financing needs and financing options of SMEs in Ethiopia, b) Key constraints of SMEs access to finance, c) extent of banks and MFIs involvement with SMEs, and the drivers and obstacles of SME bank financing, and d) the impact of existing government policies and potential areas of government involvement. Unlike many previous studies that address either the demand side or the supply side limitations of access to finance (see for e.g., Petersen and Rajan, 1994; Wiedmaier-Pfister *et al*, 2008; Ngoc et al., 2009; Ghimire and Abo, 2013) this study synthesizes both the demand side and supply side constraints.

The rest of the paper is organized as follows. Section 2 deals with literature review. Data source and methodology is dealt in section 3. Section 4 investigates the issue of access to finance both from the demand and supply sides using descriptive statistics and econometric techniques, and section 5 concludes.

2. Literature review

The debt financing gap of SMEs has been a point of discussion in the literature for some time now. Some studies focused on SMEs difficulties in accessing finance often called demand side characterization of the problem while others presented the main issues in bank lending practices called supply side characterization. Understanding SMEs problem of access to finance (or financing gap) implies describing the various limitations in both the demand side and supply side. The supply side constraints focus on the source of finance, i.e., if appropriate sources of finance are not available on terms and conditions suitable to SMEs (European Commission 2001). Whereas, the demand side constraints explain if entrepreneurs or firms do not make use of existing financing opportunities due to shortage of good project, lack of persuasive business plans or the legal status of the firms.

Due to the sensitive and competitive nature of the banking sector, where obtaining information on lending practices may break business confidentiality, supply side studies especially on bank finance compared to studies into other forms of SMEs finance are relatively rare (Deakins et al. 2008). Since banks are not able to control all actions of borrowers due to imperfect and costly information, they formulate the terms of the loan contracts in such a way as to reduce the risks associated with borrowing. In the absence of sufficient financial information especially in developing countries like Africa where there are no credit bureaus, banks generally rely on high collateral values, which according to bank reduces the risks associated with the problems of adverse selection and moral hazards resulting from imperfect information (Nott, 2003). According to this argument, it is clear that banks try to mitigate the lending risks through a capital gearing approach instead of focusing on the future income potential of SMEs. Therefore, collateral has become essential prerequisite to access bank loans (AfricaPractice, 2005). Another way in which banks react to the market imperfection is by reducing the maturity of their outstanding loans. Shorter loans allow banks to monitor more frequently the firms' performance and, if necessary, vary the terms of the contracts before losses have accumulated (Hernández-cánovas and Koëter-Kant, 2008). Consequently bank financing to SMEs in Africa is less significant and more of short term than other developing countries (Martinez Peria, 2009). Small and Medium Enterprises in Africa are less likely to take loans from financial institutions than in any other developing regions; but many of firm and country level covariates explaining access to finance remain the same inside and outside Africa (Beck and Cull, 2014). Bank loans devoted to SMEs in Africa average only 5.4 percent while in other developing countries it amounted around 13.1 percent. And bank lending to such enterprises are costly compared to other developing countries. Fees charged on SME loans in Africa is almost twice as high as in other developing economies (Martinez Peria, 2009).

The demand side studies suggest that, whilst overall the majority of SMEs appear not to have difficulties obtaining external finance, there is evidence to indicate that a number of groups and sectors do face distinct challenges in accessing finance (Deakins et al., 2008). The fundamental reasons behind SMEs credit demand can be found in their peculiar characteristics. Issues that involve factors such as inadequate flow of information, inadequacy of collateral, SMEs-bank relationships, business and entrepreneurial factors and legal status of the firms are often stated as major demand side constraints.

The existence of information asymmetry issues between banks and the potential SME borrowers have severe implications in the lending methodologies used by loan officers, i.e., bank loans depend highly on high collateral values. Johnsen and McMahon (2005) stated that because of collateral firms with more intangible assets tend to borrow less, compared with firms with more tangible assets. Beck et al. (2008) found that small firms use less external finance than large firms (especially in terms of banks and equity finance) because their lack of collateral.

Alternatively, a good lender-borrower relationship is acknowledged as a way to overcome asymmetry of information and inadequacy of collateral issues (Ghimire and Abo, 2013). When there is imperfect information, which is recurrent in most SMEs cases particularly in developing countries, a lender-borrower relationship becomes the main source of information and vital for loan approval. Mills et al. (2006) show a positive correlation between a good lender-borrower relationship and the approval of a loan. Preferences will be given to firms which have established a strong and durable relationship with their banks and abide by all previous contractual arrangements. Petersen and Rajan (1994), Berger and Udell (1995), Miller (1995) discuss the importance of borrowers' lending history in obtaining bank loans. Being in the business for many years suggest that firms are competitive and have accumulated sufficient assets to meet the collateral requirements of the banks. In addition the financial track record facilitates the evaluation of the lending proposals making it easier for SMEs to obtain loans from banks.

Furthermore, the time of maturity or duration required by firms to repay loans may also impact the SMEs accessibility to bank finance. Long-term loans are more difficult to obtain than short-term loans for simple reason that long-term loans require a long-term appreciation of the borrower's creditworthiness and involve elements of uncertainties. However, short-term contracts enhance the profile of the firms for future long-term contracts. It is referred to as a signaling instrument used by bankers (Flannery, 1986). Thus, short-term loans enable the lender to acquire qualitative information which reduces the problem of information asymmetry, moral hazards and adverse selection (Diamond, 1991). Empirical investigations conducted by Ortiz-Molina and Penas (2008) show that short loans facilitate SMEs' access to loans and reduce the problems associated with information asymmetry.

Owner's and manager's characteristics affect SMEs ability to access finance especially from formal financial institutions. The entrepreneurs' behavior has profound consequences on how the business is run. Schmitz (1982) highlighted that the small scale producers in developing countries fail to expand primarily because they lack managerial ability. For this reason, entrepreneur related factors take a priority position in all credit assessments by the borrowers. Kumar and Fransico (2005), found a strong education effect in explaining access to financial services in Brazil. In a study conducted on UK SMEs, Irwin and Scott (2009) observed that graduates entrepreneurs had the least difficulties in raising finance from banks. Similarly, using data from SSA, Aterido, et al. (2013) found that the level of education of the owner is positively related with access to formal banking services. Owners with higher education are more likely to use and have access to formal loans.

In addition, firm level characteristics such as age, size, location, industry, and organizational structure are key determinants in accessing banks' credits. In terms of size, banks tend to issue more credit to large firms as compared to smaller firms. In China, Honhyan (2009) found that the investment portfolios of larger firms were more diversified, which lessen the probability of failure and makes banks more confident to issue loans based on their expertise and large assets structures. Furthermore, Cassar (2004) found a positive correlation between the size and banks' willingness to provide credits. Aryeetey et al. (1994) in Ghana observed that large firms were more favored by banks than small and medium-scale firms in terms of loan processing.

Additionally, young ventures at start-up levels may not have the level of expertise and success history required. Klapper et al. (2010) found that young firms (less than four years) rely more on internal financing than bank financing. Similarly, Woldie, et al. (2012) in Tanzania observed that firms at start-ups and less than five years depended more on informal financing sources. Using data from African countries, Beck and Cull (2014) showed that older firms are more likely to have a formal loan than their younger counterparts. It is generally expensive and difficult for new firms to acquire bank financing, mainly due to the information asymmetry problem and high collateral requirements (Ngoc et al. 2009).

Similarly, the location of the enterprises also plays an important role in their creditworthiness level. Berger and Udell (2006) found that the geographical proximity of SMEs to their respective banks affect positively the banks' decision-making. It enables the loan officers to obtain better environmental information about the borrowing enterprises. Gilbert (2008) pointed out that urban firms have better chance in accessing credits from banks than those who are in rural areas or poor urban areas.

The industry or sector in which the company operates may also impact the decision of banks while appraising loan proposals. Myers (1984) argued that the industry may not determine the capital structure of SMEs but can indirectly influence the firm's asset structures. Abor and Biekpe (2007) found that the Ghanaian firms involved in agricultural or manufacturing sector have higher capital and asset structures than those operating in wholesale and retail sectors. Subsequently these assets can be used as potential collateral values for banks and encourage them to issue bank loans. However, the firms using rentable assets or having low assets structures, as is the case with service businesses, are subject to low financial access due to scarcity of collateral values.

Finally, poor previous experiences or other reasons often referred to as "reputational effects" discourage SMEs borrowers to apply for bank loans. For example, some borrowers may be discouraged from applying for external finance due to a first refusal, their ethnicity, sex (being female entrepreneur) and bureaucracies (Deakins et al., 2010). Some SME owners do not even apply for loans because they think they could be rejected. The problem of gender issues is mainly related to female applicants. Female owners are more restricted to loans than men (Abor and Biekpe, 2007). A study in USA demonstrated that women are unlikely to repay debts (Mijid, 2009). Evidence has also been found in Australia and UK where women are discouraged to apply for loans as they think their application would be rejected (Freel et al. 2010). Consistent with this, Asiedu et al. (2013) found that female-owned firms in SSA are more likely to be financially constrained than male-owned firms. Aterido et al. (2013) also

showed the existence of an unconditional gender gap in Sub-Saharan Africa in access and use of financial services by enterprises and households.

This paper contributes to the growing literature on SME finance. Its purpose is to shed light on current trends and practices in bank financing of SMEs in Ethiopia where the banking system is dominated by government owned banks. The Ethiopian case is interesting because government owned banks dominate the Ethiopian banking system and this makes of Ethiopia an exception within SSA and across the developing world where banking systems have much higher shares of private and foreign participation.

3. Data source and methodology

The data considered in this analysis was obtained from primary sources. Banks and Micro Finance Institutions were the main source of information for the supply side analysis and for the demand side analysis, information was obtained from selected SMEs.

Sampling:

Data collection for both the supply and demand side was administered on selected samples. For the supply side, the sample is drawn from state owned and private banks. The table below shows list of banks with their number of branches, capital and year of establishment. There are a total of seventeen commercial, one business and construction, and one development bank in Ethiopia. Three of them are state owned and the remaining 16 are private banks. All of these banks are domestic banks, for the National Bank Proclamation no. 592/2008 prohibits foreign nationals and banks to operate in the banking business.

Table 1: Capital and Branch Network of the Banking System in Ethiopia at the Close of June 30, 2015

	Year of Establishment	Branch Network			Capital (in million Birr)		
		Regions	Addis Ababa	total	Share (%)	Share (%)	
Public Banks							
Commercial Bank of Ethiopia	1963	785	192	977	36.3	10,716.40	34
Construction and Business Bank	1975	69	51	120	4.5	731.2	2.3
Development Bank of Ethiopia	1909	31	1	32	1.2	2269.2	7.2
Private Banks							
Awash International Bank	1994	95	112	207	7.7	2,540.30	8.1
Dashen Bank	1995	76	88	164	6.1	2,377.20	7.5
Abyssinia Bank	1996	64	72	136	5.1	1,594.30	5.1
Wegagen Bank	1997	63	56	119	4.4	2,061.90	6.5
United Bank	1998	62	66	128	4.8	1,475.00	4.7
Nib International Bank	1999	50	65	115	4.3	1,925.30	6.1
Cooperative Bank of Oromia	2004	106	35	141	5.2	1,058.70	3.4
Lion International Bank	2006	50	38	88	3.3	601.6	1.9
Oromia International Bank	2008	103	49	152	5.6	771.7	2.4
Zemen Bank	2008	5	2	7	0.3	650	2.1
Bunna International Bank	2009	47	35	82	3	559.3	1.8
Berhan International Bank	2009	32	39	71	2.6	622.3	2
Abay Bank	2010	70	19	89	3.3	591	1.9
Addis International Bank	2011	10	22	32	1.2	399.6	1.3
Dehub Global Bank	2012	13	9	22	0.8	202.6	0.6
Enat Bank	2012	5	6	11	0.4	392.1	1.2

Source: National Bank of Ethiopia (2015)

Commercial Bank of Ethiopia (CBE) which is one of the state owned banks is the largest bank in the country in terms of market share, total capital and number of branches. As of June 2015, CBE's market share in terms of capital is 34% and 36.3% in terms branches (table 1). Moreover, in terms of loans and advances, CBE's market share as of 2014 was 53% (CBE, 2015) implying that the combined market share of all other commercial banks is less than 47 percent in terms of loan out reach. Awash International Bank and Dashen Bank, which are the first two private banks in the country, follow the CBE in terms of capital and branches. As of June 2015, Awash International Bank has a total of 207 branches of which 112 branches are located in Addis Ababa and the remaining 95 branches in regional towns. Similarly, Dashen Bank operates through a network of 164 branches throughout the country of which 88 are in

Addis Ababa. The remaining banks have smaller market shares with fewer branches mainly in the Addis Ababa and less paid up capital.

For the sample selection, banks that operate in the market for five years or more were chosen. Accordingly, out of the total of 19 banks, four banks namely Enat Bank S.C, Dehub Global Bank, Addis International Bank and Zemen Bank were not included in the sample. The first three being young that were established after 2011, while the last one mainly targets clients in the upper quintile with minimum deposit amount of Birr 25,000 (more than USD1000) making it less relevant for SME lending. Accordingly, only 15 banks were included in the sample out of which eight banks - all the three state owned banks, Awash International Bank, Dashen Bank, Wegagen Bank, Cooperative Bank of Oromia and Oromia International Bank - responded. These nine banks have a combined market share of 66.6% in terms of branch network and 64.9% in terms of capital (table 1). Analysis was made based on information obtained from these eight banks.

Besides banks, Micro Finance Institutions (MFIs) are instrumental in providing financial service (both lending and deposits services) particularly to micro, small and medium enterprises in Ethiopia reaching out to more than three million five hundred thousand (3, 500,000) customers. Currently, there are 35 MFIs serving millions of people in the lower income quintile throughout the country. However, the market is dominated by few MFIs. According to the National Bank of Ethiopia annual report, the five largest MFIs, namely Amhara Credit and Saving Institutions S.C (ACSI), Dedebit Credit and saving Institutions S.C (DECSI), Oromia Credit and saving S.C (OCSSCO), Omo Microfinance S.C. (Omo) and Addis Credit and Saving Institution (ADCSI) accounted for 84.2 percent of the total capital, 93.4 percent of the savings, 89.3 percent of the credit and 89.7 percent of the total assets of MFIs at the end of 2014/15 (NBE 2015). For the sample, all the top 5 and two other MFIs namely Agar and Wisdom were selected. However, only three MFIs namely DECSI, OCSSCO and Agar responded and analysis was made based on information obtained from these three MFIS.

The questionnaire for the supply side which comprised about 50 questions was divided into four sections. The first section focused on the banks' or MFIs' involvement with SMEs, asking about information on loans and deposits, pricing, maturity, products offered, obstacles and drivers of SME lending, banks' or MFIs' attitude towards SME lending and government policy, and the outlook for SME banking. The second section focuses on the competitiveness of SME lending including the size and prospect of SMEs market in Ethiopia, the level of competition in SME lending, and the major players in SME financing. In section three, the focus was on government programs or specific policies affecting SME finance. Finally, section four focuses on banks' or MFIs' policies and procedures towards SME financing which includes assessing if banks have a well-defined process to determine the SME target market, types of financial products banks and MFIs provide to SMEs, and whether or not scoring models are used to select SMEs for financial service.

To collect information from the demand side, a survey questionnaire that included questions on constraints that SMEs face ranging from infrastructural to access to finance was administered to a sample of 519 SMEs from seven major cities in Ethiopia (i.e. Addis Ababa, Dire Dawa, Hawassa, Adama, Kombolcha, Dessie and Mekelle). The cities selected are the

major cities where the country's SMEs are highly concentrated. A stratified sampling procedure along with simple random sampling was followed. The total sample size was first distributed to each city proportionate to number of SMEs found in each city. Once the sample for each city was determined, following the national classification, the sectors in each city were classified into 5 industrial classes – manufacturing, construction, trade, service and urban agriculture. The sample size for each city was proportionately distributed to each industrial class based on the number of establishments in each class. List of firms in each industrial class for each city was obtained and sample firms from each class were selected from the list at certain interval with a random start. The table below shows distribution of sample firms by industry type and location.

Table 2: Distribution of sample firms by type of business and location

Type of business	Addis		Dire		Hawassa	Konbolicha	Mekelle	Total
	Adama	Ababa	Dessie	Dawa				
Manufacturing	21	82	1	23	29	1	16	173
Construction	11	64	0	6	14	11	2	108
Trade	10	5	5	4	9	0	50	83
Service	19	22	0	11	15	14	24	105
Agriculture	4	9	7	9	9	5	7	50
Total	65	182	13	53	76	31	99	519

Research Methodology

Both descriptive statistics and econometric analysis was used. The supply side information was analyzed mainly using descriptive statistics. Tables, graphs and summary statistics were used to summarize the supply side information and some aspects of the demand side information. Besides, descriptive statistics, the logit model was used to determine the covariates of the likelihood of having a loan from a formal financial institution.

The logit model is extremely flexible and widely used function, and leads itself to meaningful interpretations when the dependent variable is dichotomous outcome. It is a powerful tool in its ability to estimate the individual effects of the continuous or categorical variables on the qualitative dichotomous dependent variable (Wright, 1995).

The dependent variable in our model is whether firms benefit from banking facilities or not. It is a categorical variable with a value of 1 when a firm benefits from banking facilities and 0 otherwise. This is regressed against factors that possibly limit a firm's access to bank loan. The model is specified as follows:

$$Z_i = \beta_0 + \sum_{j=1}^n \beta_j X_{ji} + U_i$$

Where Z_i is the dependent variable with a value of 1 when firm i benefits from banking facilities and 0 other wise. X_{ji} are a vector of explanatory variables which include age of the firm, size of the firm (small or medium), economic activities of the firm, legal status of the firm, previous lending history, age and experience of firm's manager, geographical location etc. And finally U_i is the discrepancy term.

In line with the existing literature, we expect that larger and older firms are more likely to report that they have benefited or had benefited a loan. In this regard, medium enterprises are likely to have more access to finance than small enterprises. The firm-level characteristics also include a dummy variable indicating whether the principal owner of the enterprise is female, which we expect to have a negative coefficient based on the literature (Demirguc-Kunt et al. 2013). We also include dummy variables describing each firm's organizational type (sole proprietorship, partnership, Shareholding Company and joint venture). We expect that simple organizational forms, such as sole proprietorships, might find it more difficult to establish credit histories and amass collateral that would enable them to borrow from external sources.

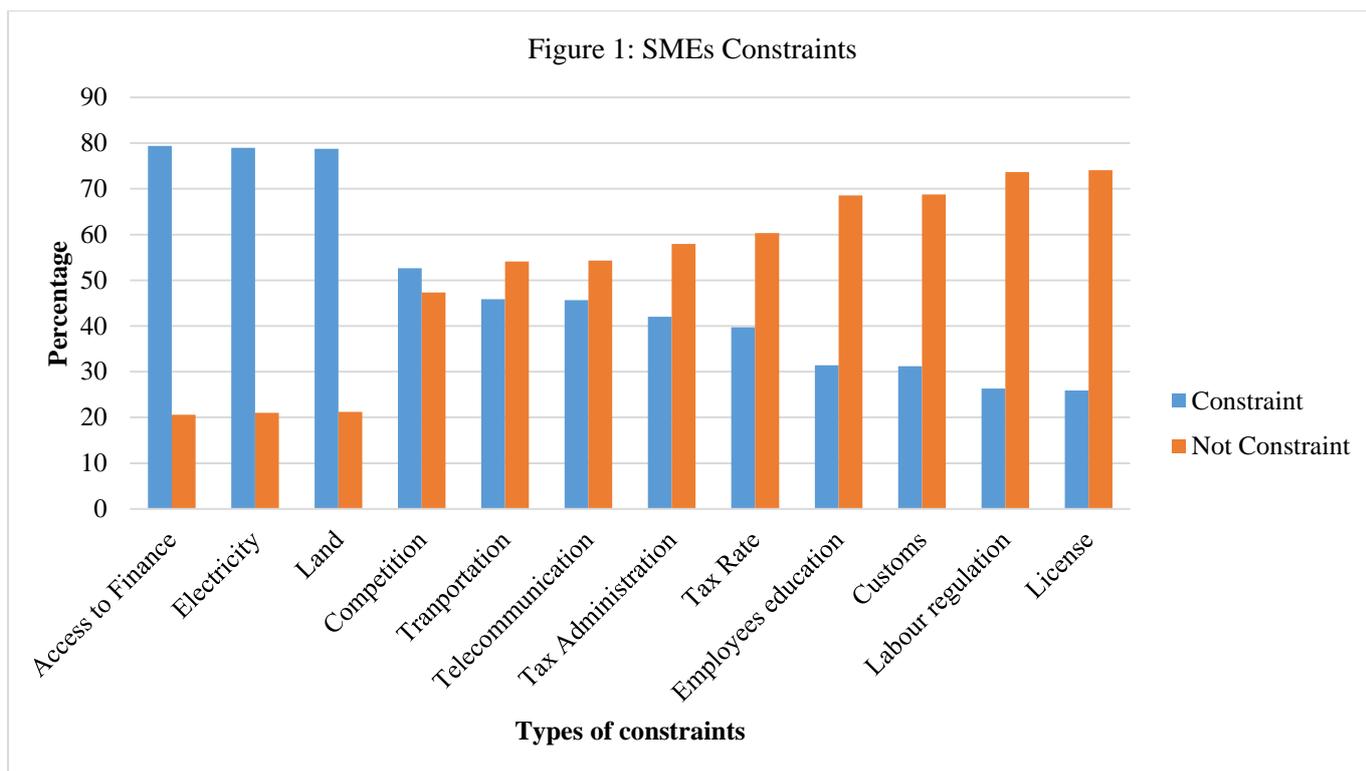
The above dichotomous classification of access to credit does not tell us the extent to which firms are credit constrained. The fact that firms do not have access to credit does not necessarily mean that they are credit constrained. They could be credit constrained, for example, firms with many good projects but are unable to borrow from external sources, or they could also be credit unconstrained, i.e., firms do not require external financing for their own reasons – either for religious or because they have enough capital or they run out of good projects and hence do not require external financing. To further analyze the factors that influence credit constraint, we followed Kuntchew et al. (2014) and classified firms into three – not credit constrained, partially credit constrained & fully credit constrained. Ordered logit model was used to analyze the three category classification of credit constraint.

4. Results and discussion

4.1. Major constraints of SMEs

In the business enterprise survey, respondents were asked about different possible obstacles to their current operations of their establishments ranging from infrastructure and service to access to finance and obstacles related to labour. Respondents were asked to rate the degree of the obstacles on a scale ranging from no obstacle to very severe obstacle. However, the scales were further reduced into two – obstacle or no obstacle - by categorizing the no obstacle and minor obstacle into no obstacle, and the remaining three, i.e., moderate obstacle, major obstacle and very severe obstacle, into obstacle. The answers to the constraint questions were subjective but they contribute to a better understanding of the nature and degree of constraints SMEs face in Ethiopia.

Figure 1 below reveals the result. The constraints that small and medium enterprises encounter include infrastructure and services (e.g., lack of power, telecommunication, transport and customs issues); market competition; access to land; tax rate and administration; labour constraints; and access to finance issues.



The figure reveals that access to finance is the leading constraint reported by nearly 80 percent of the business enterprises interviewed followed by access to electricity mainly in the form of power outage, and access to land. Existing labour regulations and business license and permits are the least constraints reported only by less than 30 percent of the sampled business enterprises. This is consistent with other studies and reports carried out in other countries. For example, Ghimire and Abo (2013) found that the majority of firms (66.7%) in Cote D'Ivoire identified lack of adequate finance as their main challenge. Similarly, Wodle, et al. (2012) found that the development of 35% of the Tanzanian SMEs were all restrained by their inaccessibility to finance.

Since the central theme of this paper is on access to finance and since access to finance is the leading constraints of SMEs in Ethiopia as stated above, we look in more detail about the nature of constraints of access to finance in the sections that follow.

Source of Initial Capital:

Table 3 below shows the source of initial capital. Own savings is the major source of capital. Close to 68% of the firms reported that they financed their initial capital out of their own savings. Following own savings, the second most important source of initial capital is credit from MFIs with 15% of the firms reporting credit from MFIs as the major source of their capital, followed by grants from family and friends. The source of initial capital from formal banks is almost non-existence. Less than 0.5% of the firms reported to have bank loans to finance the initial capital.

Table 3: Source of initial capital

Source of initial capital	Frequency	Percentage
Credit from banks	2	0.32
Credit from MFIs	92	14.51
Personal finance (own saving)	431	67.98
Trade credit from suppliers	2	0.32
Trade and/or grant from government institutions	6	0.95
Credit and/or grant from NGOs	9	1.42
Loans or equity from friends and relatives	27	4.26
Venture capital fund	19	3
Grants from family and friends	46	7.26

Source: Computed from own survey

Capital Structure of Working Capital and Fixed Assets:

Table 4 shows that for both medium and small firms, the major source of working capital is retained earnings. It accounts for more than 88% of the working capital requirement of small and medium firms. Bank financing of working capital accounts for slightly more than 1% of medium firms and slightly more than 0.5% of small firms. Following retained earnings, purchase on credit from suppliers and advance from customers is the next major source of working capital followed by borrowing from non-bank financial institutions. Consistent with this, the World Bank report shows that most SMEs rely on internal financing, and/or short term credit from suppliers. Only rarely SMEs recur to a direct loan from banks or other financial institutions to finance their working capital needs (World Bank, 2014). Similarly Kauffmann (2005) and Padachi *et al* (2011) found that SMEs main source of capital are their retained earnings and informal savings and loan associations.

Table 4: Mean of proportion of working capital financed by firm size

Means of finance	Size of firm		
	Medium	Small	All size
Internal fund/retained earnings	88.8	87.9	88.1
Borrowed from bank	1.2	0.6	0.8
Borrowed from non-bank financial institution	4.7	4.6	4.6
Purchased credit from suppliers and advance from customers	4.9	5.3	5.2
Other	0.4	1.2	1.1

Source: Computed from own survey

Table 5 below indicates that the use of bank overdraft facility is quite low, although there is a marginal difference between medium and small firms. The fact that firms use less overdraft facility may not necessarily mean low demand for overdraft facility. It could rather mean SMEs in Ethiopia do not have good financial indicators and payment credit history which will enable them to get the necessary trust by banks to use overdraft facility. On the other hand, the high interest rates banks charge businesses could make them to be cautious to choose overdraft after checking all sources of cash.

Table 5: Percentage of enterprises using overdraft facility by size

Items	Small	Medium	All size
Have overdraft facility	1.12	2	1.28
Have no overdraft facility	98.88	98	98.82

Source: Computed from own survey

Table 6 indicates the proportion of business enterprise's total purchase of fixed assets. Like the financing of working capital, more than 90% of internal fund or retained earnings is financed for fixed assets due to the limited access to finance and due to reduction in credit from supplier channels.

Table 6: Mean proportion of purchase of fixed assets financing by size

Source of finance	Medium	Small	All size
Internal fund/retained earnings	89.6	93.6	92.6
Owner's contribution/issue new shares	0	0.5	0.4
Borrowed from bank	3.8	1	1.7
Borrowed from non-bank institutions	4.5	2.1	2.7
Purchase on credit from suppliers and advance from customers	0	1.5	1.1
Other	2.2	1.3	1.5

Source: Computed from own survey

Table 7 below shows the sources of credit facilities offered to SMEs. It clearly indicates that more than 50% of the overall establishments in the sample or more than 68 % of those who took credit from outside sources obtained their credit from Micro Finance Institutions (MFIs). Only 5.5% of all firms in the sample or 7.5% of the enterprises who took credit obtained their credit from banks, both private and state owned banks. More than a quarter of the firms did not obtain any form of credit since their establishment, i.e., they do not have credit history.

Table 7: Source of loan

Source of loan	Frequency	Percentage
Private commercial banks	12	2.75
State owned banks	12	2.75
Microfinance Institutions	219	50.11
Credit and saving institutions	30	6.86
Other sources	48	10.98
The business has never obtained credit	116	26.54

Source: Computed from own survey

When a loan application is made, it passes through a complex process before the loan request is analyzed and decided. Some of the requests could be accepted and others rejected. The table below shows the number of loan applications and their approval status.

Table 8: Loan applications in 2013/14 and their status

Type of firm	Loan Application		Loan status		
	Frequency	Percentage	Approved	Rejected	In Process
Medium	33	32.35	42.42	21.21	36.64
Small	119	26.74	36.97	31.93	31.09
All sizes	152	27.97	38.16	29.61	32.24

Source: Computed from own survey

In 2006 E.C. (i.e., 2013/14), only 28% of the business enterprises in the sample applied for a loan. Breaking the proportion of applicants by size, medium size firms who applied for a loan exceeds that of small firms, indicating the fact that loan applications increase with size. Out of those who applied, close to 30% were rejected and around 32% were in process. Only 38% of the loan applications were approved. The approval/rejection rate is higher/lower in medium firms than small firms, again firm size matters for loan approvals. While more than 42% of the loan applications by medium firms are approved, the approval rate for small firms is only 37%. The difference is even more vivid in the loan applications that were rejected. While only 21% of loan applications by medium firms are rejected, the figure for small firms is 32%, i.e., higher by 10 percentage points.

As indicated on table 8 above, the proportion of firms who made loan applications in 2013/14 is only a quarter of the number of enterprises in the sample. Enterprise operators were further asked why they did not apply for a loan. The following table summarizes the result.

Table 9: Reasons for not making loan applications in 2013/14

Reason	Medium		Small		All size	
	Freq.	%	Freq.	%	Freq.	%
No need for a loan	16	23.19	86	26.22	102	25.69
Application procedure were complex	9	13.04	52	15.85	61	15.37
Interest rate were not favorable	2	2.9	18	5.49	20	5.04
Collateral requirements were too high	21	30.43	73	22.26	94	23.68
Size of loan and maturity were insufficient			9	2.74	9	2.27
Do not think it would be approved	3	4.35	6	1.83	9	2.27
Religious reasons	3	4.35	13	3.96	16	4.03
Outstanding loans	12	17.39	59	17.99	71	17.88
Other	3	4.35	12	3.66	15	3.78

Source: Computed from own survey

The table indicates that the primary reason for not applying for a loan is that collateral requirements asked by banks are so high that most firms cannot meet them.

Collateral:

Small businesses are perceived as low creditworthy, so banks often require these borrowers to pledge collateral to guarantee their later payment. However, the property of small business

often does not satisfy the lenders. In developing countries, land and personal assets are most frequently accepted in the formal market.

Table 10: Kinds of collateral by size (%)

Type of collateral	Medium	Small	All size
Land, building under ownership of establishment	11.4	11.3	11.3
Machinery and equipment including movables	28.6	9.9	13.6
Account receivable and inventories	25.7	14.8	17
Personal assets of owner (house)	34.3	54.9	50.9
Other forms of collateral	17.1	12.7	13.7

Source: Computed from own survey

Unlike what is common in many developing countries, the contribution of land and buildings as collateral for SMEs' loans from banks and MFIs is minimal in Ethiopia. Only 11% of the firms reported to have used land and buildings owned by enterprises as collateral. Rather the most common form of collateral is personal assets of owners mainly houses owned by the operators. This is particularly so in the case of small enterprises. More than 50% of the small firms who borrowed from banks reported to have used personal assets as collateral. For the medium enterprises, the percentage is 34%. Following personal assets, machinery & equipment, and account receivables & inventories are important sources of collateral especially for medium enterprises.

The fact that land and building owned by establishments was not a major collateral in the SMEs in Ethiopia does not mean that land is not well accepted in the formal market. But most SME establishments do not fully own the buildings and premises on which they work. Out of the sampled establishments, only 13% and 9% own the buildings and premises on which they work respectively.

Loan to Value Ratio (LTV):

Lenders frequently underestimate collateral and then they offer a loan less than the value of collateral. The loan to value ratio which is a ratio of value of loan to value of collateral is most usually used to determine the effectiveness of collateral. It represents the exposure of the lender. Borrowers who have a lower LTV ratio are considered less risky to lenders because they have more equity in the value of the collateral. In the eyes of a lender, borrowers with a lower LTV, and thus more equity in their value of collateral, are less likely to default on their loans, and even if they did default, the lender would have a better chance of recovering the loan by selling the collateral for at least as much as they are owed for the credit. On the other hand, lower LTV would mean high valued collateral must be presented by the borrower in order to secure a loan. This could largely exclude borrowers without sufficient collateral.

The table below shows the ratio of value of loan to value of collateral by size of firms. It indicates that the LTV is 0.27 (27%) which means that the value of the collateral is four times the value of a loan (table 11). This is significantly higher than what we get in the literature, i.e., a lot of financial lenders require the loan to value ratio to be no more than 75%. Table 11 also indicates that the LTV ratio is different for medium and small enterprises. Small enterprises have a LTV which is almost half of the LTV of medium enterprises. While medium size firms'

value of collateral is slightly more than double of the value of the loan, for small firms the value of collateral is almost five times the value of loan.

Table 11: Value of loan to value of collateral ratio by size

Firm size	Ratio of value of loan to value of collateral
Medium	0.43
Small	0.23
All size	0.27

Source: Computed from own survey

4.2. Regression Results - Demand Side Analysis

In this section, we present logistic regression results of determinants of access to finance from the demand side.

a) Logistic regression results

Table 12 below presents the factors that determine SME credit access. The pseudo – R-Squared values (44.8 percent) is relatively sufficient fitted model. Firm size has entered with a negative sign but it is statistically insignificant. Unlike the findings in many cases, size (the distinction between small and medium) in this case does not significantly influence access to finance. This

Table 12: Results of logistic estimation – Probability of obtaining bank loan

	Coefficient	Z	P> z
Size of firm	-0.024	-0.066	0.947
Gender	0.385	1.159	0.246
Manager's Experience	0.090*	1.791	0.073
Manager's Age	0.002	0.115	0.909
Owner Manager	0.825***	2.71	0.007
Machinery	0.777***	2.721	0.007
Land	-0.941	-1.473	0.141
Building	0.299	0.523	0.601
Joint Venture	0.039	0.031	0.976
Partnership	0.419	1.244	0.213
Shareholding	0.467	0.834	0.404
Firm age	0.090**	2.167	0.03
Hawassa	1.198***	2.602	0.009
Dire Dawa	1.058**	2.097	0.036
Dessie & Kombolicha	0.6	1.066	0.286
Mekelle	1.316***	2.781	0.005
Adama	0.739	1.588	0.112
Loan history	4.279***	11.585	0
Manufacturing	0.912**	2.224	0.026
Construction	0.375	0.819	0.413
Trade	-0.168	-0.38	0.704
Agriculture	-0.248	-0.473	0.636
Constant	-3.315***	-4.391	0
Number of observations	511		
Pseudo R-Square	0.448		
Prob > chi2 =	0.0000		

*, **, *** p values associated with correlation significant at the 0.10, 0.05 and 0.01 level respectively

could be partly due to the fact that many of the medium firms in the sample are graduates from small firm and have not stayed in the market as medium firms for a long time.

The other variable that is not consistent with our prior expectation is sex of firm's manager/owner. The female manager/owner dummy enters with a positive sign but it is not statistically different from zero. Gender of the manager/owner does not significantly influence access to finance. Aterido et al. (2013) using data from African countries documented similar results. They did not find any significant relationship between female ownership or management and access to credit. They explain their findings with differences in key characteristics and a potential selection bias – enterprises with female ownership participation are smaller and younger, and female entrepreneurs are less likely to run sole proprietorships than men. Furthermore, female-owned firms are more likely to innovate and more prevalent in sectors that tend to rely less on access to external finance.

Manager's experience in managerial position and the owner-manager variables have entered with positive signs and are statistically significant. The more experienced a manager of a firm, the better the probability to have access to credit. Similarly, firms managed by the owner have better access to credit than otherwise. This could be due to the fact that in the presence of information asymmetry, experienced managers and owner-managers may form a good relationship with banks, which could be a source of information for the latter. This is consistent with other findings in the literature. For example, Mills et al. (2006) show a positive correlation between a positive lender-borrower relationship and the approval of a loan. Similarly, firm age has entered with a positive sign and is statistically significant. The older and more established firms are, the better their probability to have access to finance.

Another determinant factor for SMEs to have access to finance is their lending history. Lending relationships should be most valuable where information about a firm and its potential investment opportunities are most uncertain. This is especially true of small firms. They tend to be young and thus have little track record. They are often in new industries or markets, and thus firms against which they can be compared are also less common. Empirical research on lending relationships has thus focused on small firms. In the table above, loan history of firms has entered with a positive sign and is statistically significant implying that SMEs with previous lending history increases their probability of getting credit from banks. This is in conformity with previous findings (see for example, Petersen and Rajan, 1994; Berger and Udell, 1995; Miller, 1995) This could be due to the fact that firms with repetitive lending history could suggest that they are competitive and have accumulated sufficient assets to meet the collateral requirements of the banks. Moreover, banks can obtain a good financial track record of firms which in turn facilitates the evaluation of the lending request making it easier for SMEs to obtain loans from banks.

Switching to other firm characteristics of MACHINERY, it reveals that if in the last fiscal year the business purchases machinery, the business eagerly acquires a bank loan. The demand and purchase of MACHINERY play an important role in contributing to SME credit availability. Moreover, Machinery and equipment along with other movable assets are important sources of collateral.

Table 12 also presents that access to credit is higher in the manufacturing sector compared to other sectors. This is very much expected as the government is providing special attention to the manufacturing sector. One of the supports the sector gets is easy access to credit.

b) Ordered logit regression results.

In the logistic regression above, we have indicated the determinants of access to credit. However, access to credit could be determined by supply and demand considerations. Firms with little external borrowing may be very constrained (many good projects but they are unable to borrow) or very unconstrained (they have run out of good projects and thus do not need any external capital). Thus the classification of firms based on whether they have a loan from banks (external finance) or not may not indicate whether a firm is credit constrained or not. Firms that do not require external financing for their own reasons (either because they have enough capital or they run out of good projects and thus do not need external capital) are not credit constrained but are considered as firms without access to finance in the above classification.

Thus we need a variable which measures the firm's credit-constrained status, i.e., how credit constrained the firm is. To measure the short fall between the firm's demand for capital and the supply which is available from external sources, we followed the measure of credit constraint proposed by Kuntchev et al. (2014), in which they classified firms into four categories: Not Credit Constrained, Maybe Credit Constrained, Partially Credit Constrained, and Fully Credit Constrained. However, for our analysis we merged the Not Credit Constrained and Maybe Credit Constrained into one as the distinction is blurred in our case. Thus, we used a three category classification – Not Credit Constrained, Partially Credit Constrained and Fully Credit Constrained – in this analysis.

Definition of Credit-Constrained Firms:

Using our survey data and following the definition used by Kuntchev et al. (2014), we construct three major groups that measure the extent that firms in our sample were credit constraint or not.

The first group called Fully Credit Constrained (FCC) includes the firms that meet all the following conditions simultaneously.

- A. Did not use external sources of finance for both working capital and investments during the previous fiscal year;
- B. Do have a loan outstanding at the time of the survey
- C. Either applied for a loan during the previous fiscal year and were rejected or did not apply for a loan during the previous fiscal year and the reason for not applying for a loan was other than having enough capital for the firm's needs.

In general, fully credit constrained firms have no external loans because loan applications were rejected or the firm did not even bother to apply though they needed additional capital.

The second group called Partially Credit Constrained (PCC) includes firms that meet the following conditions:

- A. Used external sources of finance for working capital and/or investments during the previous fiscal year and/or have a loan outstanding at the time of the survey, and
- B. Either did not apply for a loan during the previous fiscal year and the reason for not applying for a loan was other than having enough capital for the firm's needs. Some of these reasons may indicate that firms may self-select out of the credit market due to prevailing terms and conditions, thus some degree of rationing is assumed, or applied for a loan and was rejected.

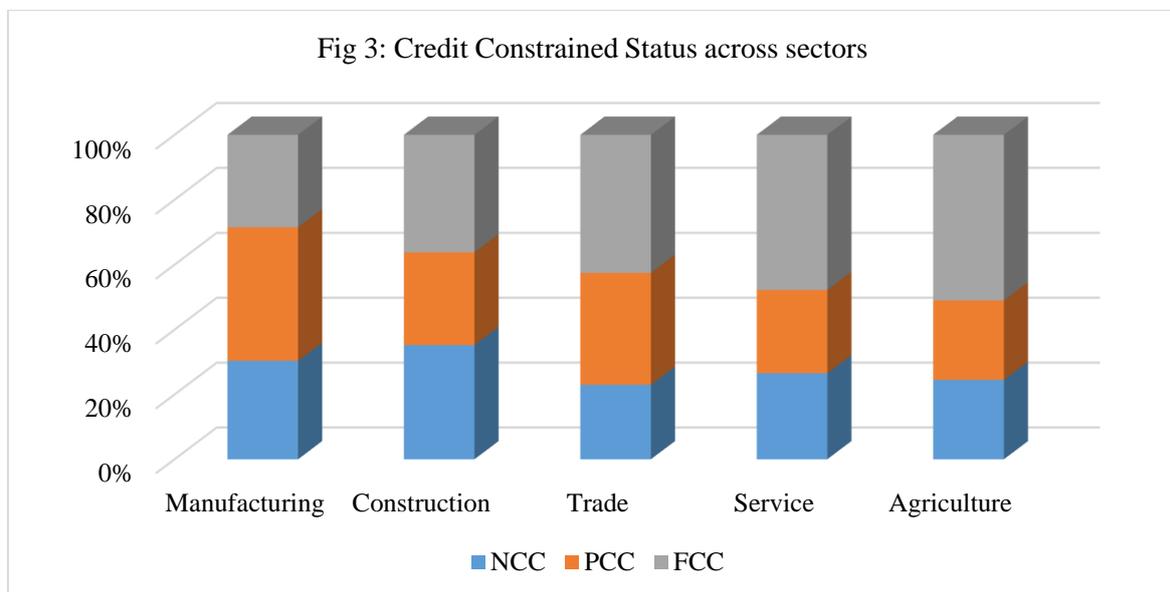
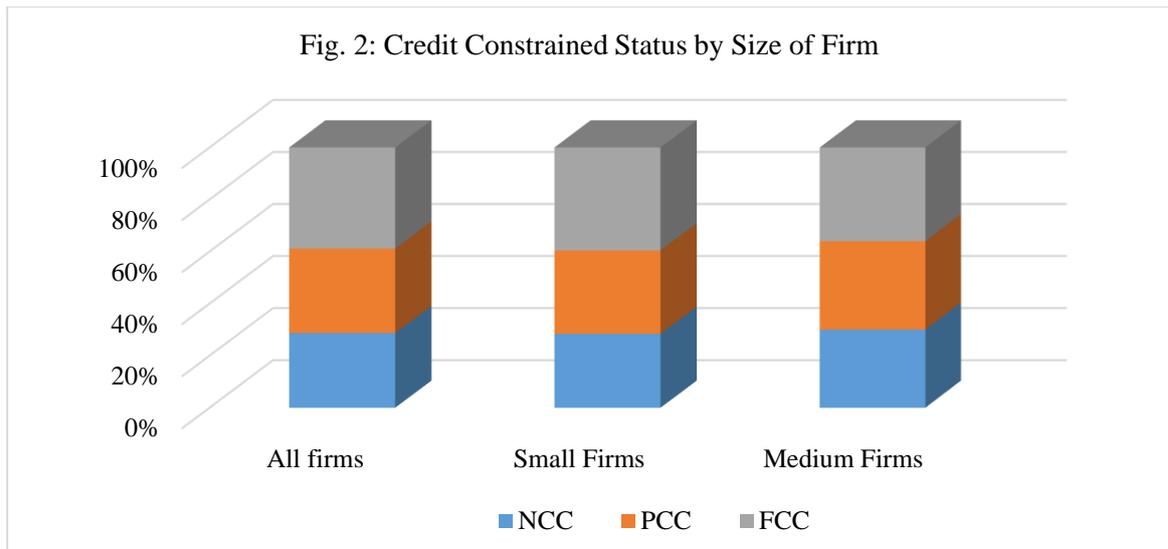
However, firms in this group manage to find some other forms of external finance and consequently, they are only partially credit constrained.

The third group called Non Credit Constrained (NCC) includes firms that fit into the following description:

- A. Used external sources of finance for working capital and/or investment during the previous fiscal year and/or have a loan outstanding at the time of the survey;
 - B. Applied for and obtained a loan during the previous fiscal year
- OR
- A. Did not apply for a loan during the previous fiscal year;
 - B. The reason for not applying for a loan was having enough capital for the firm's needs.

In general, this group of firms could include both firms that use external finance and the ones that do not. The important characteristic of this group is that either they obtained the loan they requested or independently of its current level of external finance, they are happy with their current financing structure of both working capital and investments.

Figures 2 and 3 below present the distribution of credit constrained status by size and sector respectively. The distribution of credit constrained status between small and medium firms are very similar. There is almost no distinction between small and medium firms as far as credit constraint is concerned. In terms of the sectoral distribution of credit constrained firms, figure 3 shows that manufacturing firms followed by firms in the construction sector are more likely to be less fully credit constrained than firms in the other sectors. Perhaps this should not come as a surprise as the current government policy highly favors the manufacturing sector through increasing access to finance and other supports needed to develop the sector.



To more formally test the association between firms characteristics and credit constrained status, we consider an ordered logit model in which the dependent variable is the ordinal variable: 1 = NCC, 2 = PCC and 3 = FCC. Thus higher values of the dependent variable denote higher levels of credit constraint.

Table 13 below presents the results of the regression. All the variables that significantly influence access to finance in the logistic regression on table 12 except machinery remain significant. SME's level of credit constraint is negatively affected by the experience of a manager, whether the owner himself/herself is the manager, age of the firm and its loan history, i.e., whether or not the firm had records of previous loans. The only exception is machinery. It has entered with a positive sign and was statistically significant in the logistic regression, but its influence on making firms credit constrained is not significant. In general, young firms which do not have significant lending history are the once that are highly credit constrained.

Table 13: Results of ordered logit

	Coefficient	Z	p> z
Size of firm	-0.10741	-0.447	0.655
Manager's sex	0.04006	0.175	0.861
Manager's Experience	-0.06757*	-1.727	0.084
Manager's Age	0.00265	0.258	0.797
Owner Manager	-0.39533**	-1.968	0.049
Machinery	0.24977	1.326	0.185
Land	0.33605	0.764	0.445
Building	-0.25232	-0.624	0.532
Joint Venture	0.50253	0.681	0.496
Partnership	0.11262	0.53	0.596
Shareholding	-0.50506	-1.338	0.181
Firm age	-0.05364*	-1.833	0.067
Hawassa	0.11052	0.377	0.706
Dire Dawa	-0.22066	-0.615	0.538
Dessie & Kombolicha	0.07746	0.207	0.836
Mekelle	0.25745	0.866	0.386
Adama	0.39243	1.213	0.225
Loan history	-1.76792***	-9.455	0
Manufacturing	-0.3086	-1.127	0.26
Construction	-0.37702	-1.228	0.219
Trade	0.04599	0.151	0.88
Agriculture	0.33231	0.906	0.365
cut1			
_cons	-1.93744***	-3.887	0
cut2			
_cons	-0.27019	-0.552	0.581
PsuedoR-Sq~d	0.11		
No.ofobs.	511		
Prob > chi2 =	0.0000		

*, **, *** p values associated with correlation significant at the 0.10, 0.05 and 0.01 level respectively

4.3. Supply Side Analysis

In this section, we present how formal financial institutions such as banks and MFIs are involved in SME lending and how differences in supply side practices and policies affect SMEs access to finance.

Banks involvement of SMEs lending:

Table 14 below presents distribution of number of loans and average loan size by source of loan where the latter is categorized into MFIs, banks (both state owned and private commercial banks), and other sources.

Table 14: Share of number of loans and average loan size

Source	Share of number of loans	Average loan size in Birr
MFIs	68.22	141996.2
Banks	7.48	1131739.0
Other Sources including Credit and Saving Inst.	24.3	101995.6

Source: computed from own survey

The table indicates that most SMEs (more than 68 percent of those who obtained loan in the previous fiscal year) obtain loans from MFIs. Banks share of the number of loans provided in the previous fiscal year is slightly more than 7% indicating that banks involvement in financing SMEs in Ethiopia is small. In a similar notion, a study by the World Bank finds that the share of SMEs lending in overall lending portfolio is only 7% which is among the smallest in Sub Saharan Africa as well as far below that of developing countries (World Bank, 2015).

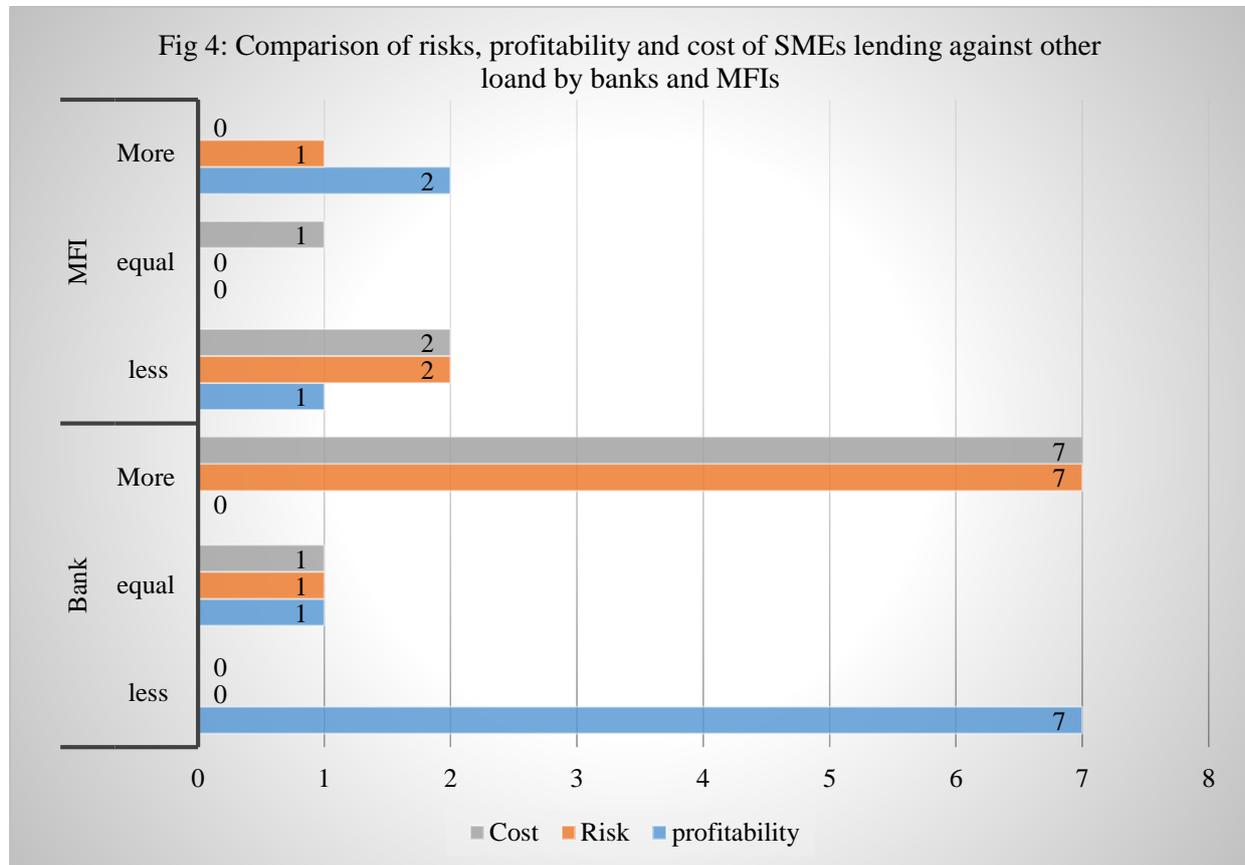
Table 14 also indicates that loans from banks and MFIs are different in terms of loan size. The average loan size from a bank is nearly eight times the average loan size from MFIs. The size of a loan is one way in which MFIs mitigate the risks associated with lending to SMEs. The other big difference between loans from MFIs and banks is the maturity period of the loan. Loans from MFIs have a short maturity period than loans from banks. A recent World Bank report on SME financing in Ethiopia indicates that the average loan maturity for SME loans from MFIs was 2.38 years while for the banks it was 6 years (World Bank, 2015).

Although accessing credit from MFIs is relatively easier for SMEs, the fact that the loan size is small could mean that MFIs may not meet the capital requirements of SMEs especially when the latter grows in size and operation. Similarly, when SMEs grow, they not only require more loans but also loans with longer maturity period.

Financial institutions assessment of risks, profitability and costs of SMEs financing

Banks and MFIs were asked to compare their SMEs financing with their other loans in terms of risks, profitability and costs. The figure below presents the comparison. Banks seem to have negative perceptions about risks and costs of SME lending than MFIs. Most banks (7 out of 8 banks) say SME lending is risky and costly than the banks' other forms of loans. But in case of MFIs, two out of three MFIs said that SME lending are less risky and less costly than other loans that they provide. Further, when the two groups were asked to compare profitability of SME lending compared to their loans to other clients, most banks (seven out of eight) said SME lending is less profitable than their loans to other clients. For MFIs on the other hand, SME lending is more profitable than other forms of loans that they provide. This difference in perception between MFIs and banks may have partly something to do with the nature of the

loan portfolios of the two groups. For banks, SME loans could be at the bottom of the hierarchy of individual loan sizes, i.e., SME loans could be small in terms of loan size compared to other loans that banks provide, whereas, for MFIs SME loan size could be at the high end.



Competitive environment to SME lending

The other area that banks and MFIs were asked their opinion was how competitive the environment to SME lending is. Banks and MFIs were asked how competitive the market is for SME lending, the market structure of SME lending and whether or not there have been changes over time in their lending in term of competition and entry.

Most MFIs (two out of three) and most banks (5 out of 8) believe that the market for SMEs lending in Ethiopia is not competitive and entry into the market is costly. Moreover, most banks asked believe that the market structure of SME lending is not dominated by any type of institution. It is rather segmented. However, most banks and MFIs confirmed that despite the market for SME lending being not competitive, slowly there are changes over time in their SME lending in terms of competition and entry.

Financial institutions policies and procedures towards SME finance:

In this section, we discuss Banks and MFIs policies and procedures towards SME financing. The questionnaire included a range of questions regarding banks and MFIs policies towards SME financing including whether banks and MFIs have a well-defined process to determine

the SME target market, whether banks and MFIs do reaching out to SMEs, whether banks and MFIs use scoring model or qualitative and quantitative analysis in their business model towards SMEs.

Survey result indicates that MFIs follow a well-defined process to determine the SME target market and sectors. The sectors they target include manufacturing, construction, service and trade. But in the case of banks, the response is mixed up. One half of the banks in the survey said they follow a well-defined process to determine SME target market whereas the remaining half said they do not have any defined process to determine SME target market. As far as reaching out effort is concerned, despite strong demand for SME financial products, both banks and MFIs still do a fair amount of reaching out.

In their business model, both banks and MFIs do not use scoring models to select SMEs for financial service. Rather they use both qualitative and quantitative assessments for their credit analysis. Figures 5 and 6 below present the qualitative and quantitative criteria banks and MFIs use when assessing SME loans. Qualitative criteria such as rating the quality of SME management and owner, SWOT analysis of the SME and other including business strengths, cash flow and nature of collateral are used. Similarly, banks and MFIs both commonly utilize quantitative measures to assess credit. Quantitative assessment including financial analysis of SMEs, projected sector trends and indicators and financial analysis of SME owners are used for credit analysis. Both MFIs and banks focus more on financial analysis of the SMEs than the other two criteria.

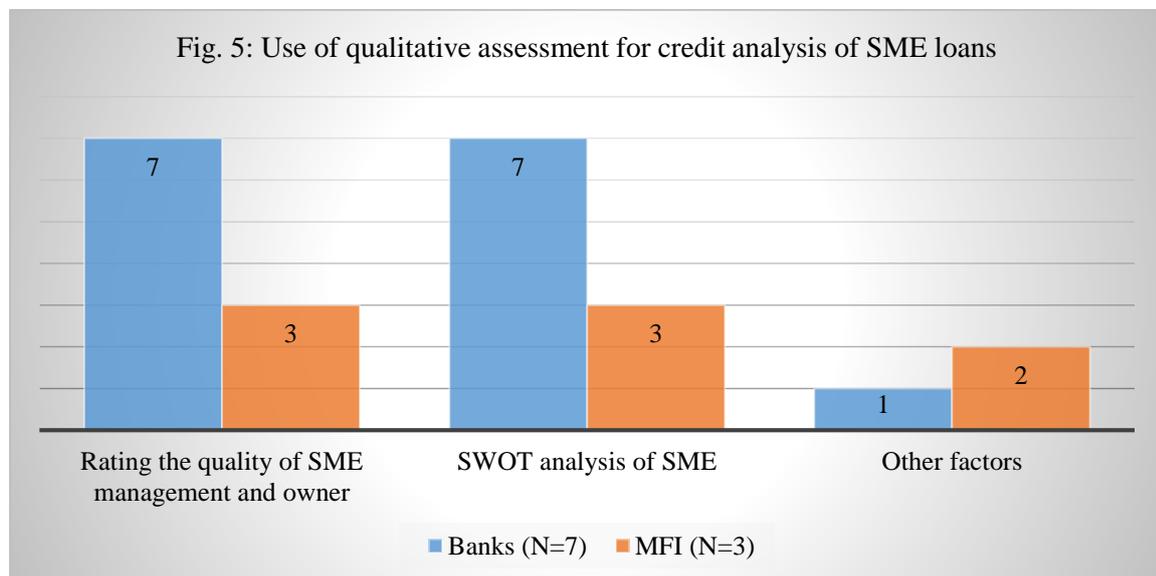
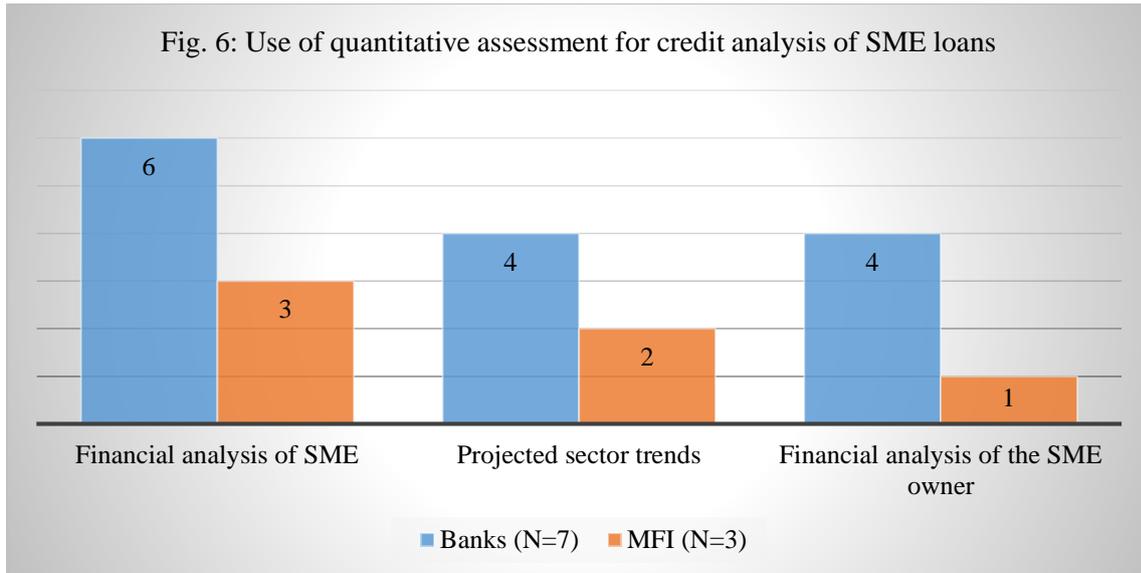


Fig. 6: Use of quantitative assessment for credit analysis of SME loans



Drivers and obstacles to SME financing

In this section, we briefly investigate what are the drivers that would trigger banks and MFIs interest in engaging in SME lending and also what are the biggest perceived obstacles that are preventing them to engage fully in this market segment.

Drivers of SME finance:

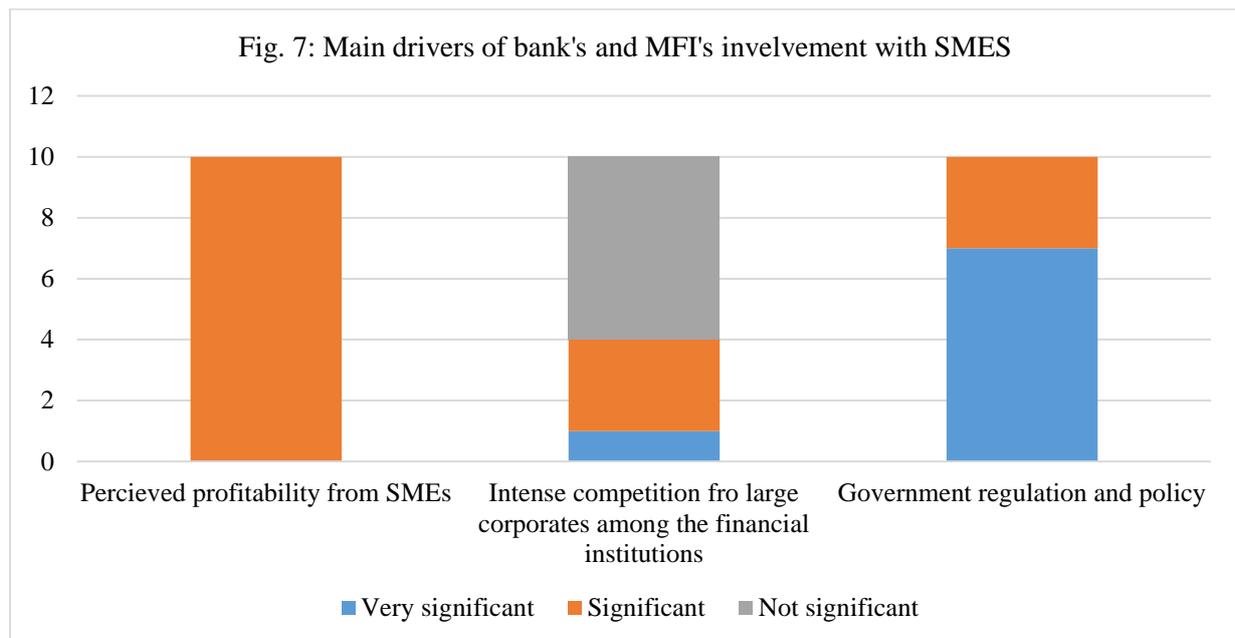
The questionnaire administered to banks and MFIs included questions on a set of potential drivers (this set includes drivers such as perceived profitability of SMEs, intense competition for large corporates, government regulation and policy and others) that banks and MFIs were asked to rate them as not significant, moderately significant, significant, very significant, and extremely significant. But for our analysis, we merged the moderately significant and significant as one and called it significant. Similarly very significant and extremely significant were merged into one and was called very significant. Thus, the rating is reported as not significant, significant and very significant. Fig 7 below shows the rating of the main driving forces.

First, government regulation and policy is cited by most as the very significant factor that drives banks and MFIs to engage with SMEs. SMEs especially the manufacturing sector is one of the sectors that is given due emphasis in the policies and strategies of the Ethiopian government. Since publicly owned financial institutions dominate both the banking and the microfinance sector in Ethiopia, it is natural that the financial institutions consider the government's regulation and policy (more of a political dimension) as the main reason for their engagement.

Second, banks and MFIs are motivated to engage with SMEs by the significant level of perceived profitability of the segment. All banks and MFIs involved in the survey stated that perceived profitability from SMEs is a significant driving force for their engagement with SMEs. The financial institutions consider that they will attain elevated profits that will more than compensate for the higher costs and risks of the segment.

Finally, for most banks and MFIs intense competition among themselves to finance large corporates is the least factor to push them to consider SME financing as an alternative area of engagement.

In general, government policy and profitability of the SME lending rather than competition among the financial institutions are the two major driving forces for banks and MFIs to engage in SME financing.



Obstacles to SME financing:

While banks and MFIs involvement with SMEs is mainly driven by the two factors mentioned above, it is also useful to assess the degree to which this involvement is affected by certain obstacles. The survey questionnaire administered to banks and MFIs investigated the main obstacles to SME financing by asking banks and MFIs to rank a set of potential obstacles to SME finance as either extremely important, moderately important, important, marginally important and not important. But for our analysis, the rates are reduced to three by merging together extremely important and moderately important; and important and marginally important. Thus, the rates used in the analysis are very important, important and not important. The obstacles included in the questionnaire were macro-economic conditions; government regulation towards the SMEs , banks and MFIs; legal environment; absence of clear policy towards the SMEs,; SME specific factors; competition in the SME sector among the financial sector; and lack of SMEs’ demand for financial services. Fig. 8 below presents the inhibiting factors as rated by six banks and three MFIs (9 in total). Below we discuss four of the most important factors perceived as obstacles by banks and MFIs

First, SME-specific factors are the only obstacle considered ‘very significant’ by all banks and MFIs. These are factors related solely to SMEs (i.e., intrinsic to their nature and behavior) and not to other firms that operate within the same regulatory and contractual environment. For

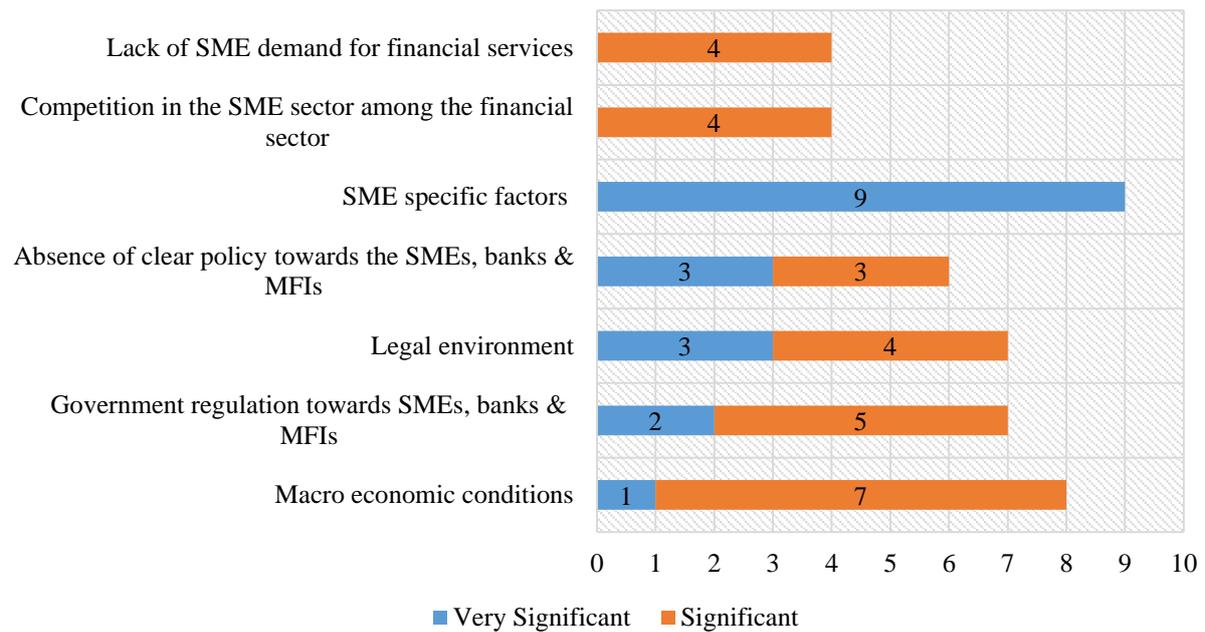
example, poor financial records of SMEs, lack of information about the SMEs, lack of adequate collateral, SMEs poor management of risks and informalities of SMEs are some of the SME specific factors that banks and MFIs perceive as obstacles to serving these firms.

Second, macro-economic conditions mainly in the areas of inflation, tax regulation and macroeconomic instability is considered a significant obstacle by eight of the nine financial institutions (one with a rate of ‘very important’ and the remaining seven rating it ‘important’).

Third, another relevant obstacle mentioned by seven of the nine financial institutions is the legal environment. The legal environment which includes lack of contract enforcement and judiciary inefficiency is indicated as very significant factor by three and significant by four financial institutions. If financial institutions operate in a well-functioning legal environment, they lend relatively more to SMEs. On the other hand, banks lend more to large enterprises and to the government if the legal system is unsound. Banks’ willingness to accept collateral depends on the bankers’ perceptions of the prevailing laws regarding collateral. In Ethiopia, there is no legally authorized body to register machinery and/or equipment for it to be held as collateral. Therefore, issues relating to collateral and weak contract enforcement inhibit secured lending and constraints access to finance for SMEs by posing high risks to the lenders.

Fourth, regulations towards SMEs, banks and MFIs are regarded as significant by seven of the nine financial institutions. Financial institutions reported that there have been significant changes in the market for lending to SMEs which affected banks in terms of liquidity and overall competition in the banking sector. Banks and MFIs reported facing weak liquidity positions due to credit limits for SME and micro enterprise loans. The NBE directive no. SBB/53/2012 restricts commercial banks to go beyond 25% of their capital for single borrower and 15% of their total capital for a related party. Similarly, the NBE directive no. MFI/18/06 limits MFIs not to go beyond 1% of their capital for individuals who can provide collateral and not more than 4% of their capital for group collateral. These lending restrictions were imposed on private banks and then replaced by an NBE directive (MFA/NBE Bills/001/2011) which obliges commercial banks to allocate 27% of total loan disbursed during the month for the purchase of low interest bearing NBE bills. The NBE bill purchase requirement continues to severely constrain private commercial bank operations which in turn results in favoring existing, established clients when allocating loans as opposed to newer, riskier SMEs

Fig. 8: Obstacles to Banks and MFIs involvement with SMEs



4.4. SME finance in Ethiopia – Where from here?

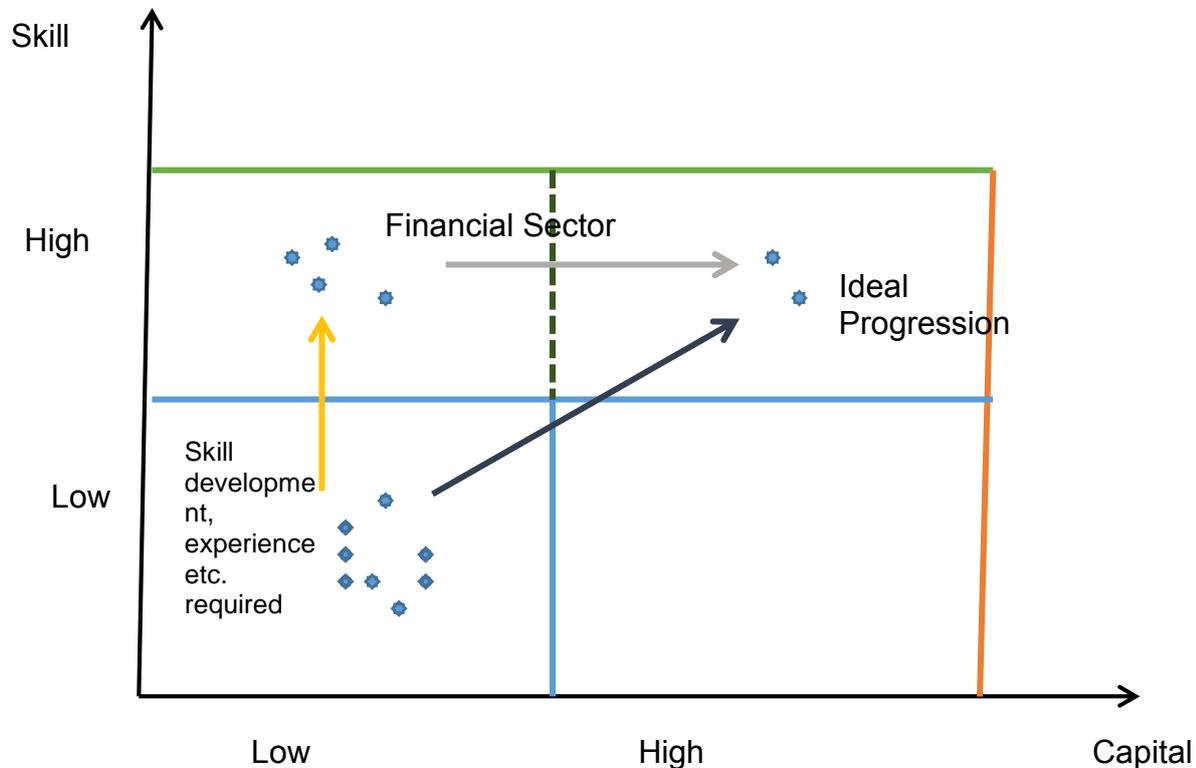
The previous sections provided analysis of demand side problems and supply side problems of SMEs access to finance from banks and MFIs. On the demand side, besides the issues of collateral, firms and managers’ experience play significant role in getting access to finance. Similarly, the supply side analysis reveals that SMEs characteristics which includes poor financial records of SMEs, lack of information about the SMEs, poor management of risks and informalities of SMEs deter banks and MFIs engagement in SME financing. It can be concluded from the demand and supply side analysis that young firms with little experience and inadequate collateral suffer most as far as access to finance is concerned. Figure 9 below presents the interaction of the demand side and supply side issues of access to finance of SMEs. Most SMEs in Ethiopia are concentrated in the first quadrant with low capital and low level of skills.

The arrow that runs diagonally through the matrix shows the ideal progression that should be aimed at, and can be achieved for example through a close supply-demand relationship (e.g. venture capital). However, such progression is not achievable on a large scale, because of the immensity of the SME sector and the logistic impossibility to accompany each of them on the difficult path to a high-skill high-capital status.

Financial institutions’ reluctance to give credit to young SMEs is out of a legitimate fear that firms can grow to the bottom-right (low-skill high-capital), which is an area of systematic risk for the financial sector and should be viewed a ‘no-go area’. Therefore, the possible progression for most enterprises will be to first develop the skills of the emerging enterprises, so that they will be able to formulate a qualified demand for capital. In governmental terms, this demand side challenge is regarded as the responsibility of the Federal Micro and Small Enterprises Development Agency (FeMSDA). However, the removal of the next barrier (bold dotted line on the graph) must happen in parallel, so that when demand is ready, supply is

immediately able to provide capital to high-skilled entrepreneurs. In order to achieve this movement and lessen the financial needs of SMEs, the following is recommended as a way forward.

Fig 9: Interaction between supply and demand for SME finance



Capacity building:

One of the major impediments to engage with SMEs underlined by Banks’ and MFIs’ was the SMEs specific factors mainly related to internal capacity of firms (see fig. 8). Our demand side analysis also indicates that young firms with limited managerial capabilities and experience, and limited collateral base are the ones that suffer most in terms of having access to finance. Thus, working on internal capacity building of firms ranging from entrepreneurial skills to enhancing their financial records and loan management skills increases the bankability of SMEs.

The Entrepreneurship Development Center (EDC) of UNDP Ethiopia together with the FeMSDA conducted a series of trainings targeting the SMEs’ owners to provide entrepreneurship skill. In addition to the support program, EDC also provides training on business development service advisory. Such capacity building interventions need to be strengthened and if possible need to be given in collaboration with financial institutions.

Equally important is to strengthen and expand the activities of the Credit Reference Bureau which was established under the National Bank Directive Number CRB/01/2012 so as to provide credit information system in timely fashion. The availability of factual and predictive credit information to the lending institutions will enable them to expand their lending business to the SMEs.

Alternative means of financing:

Collateral requirement is one of the impediments in fact the strongest one identified by firms in this survey that prevents them from accessing traditional forms of financing needed to acquire fixed assets such as machinery and equipment or to finance working capital. Therefore, introducing alternative means of financing that do not require strong collateral could reduce access to finance constraints of SMEs. One way is to look for specific transaction- and asset-based lending techniques that can be useful for catering to smaller and informationally more opaque companies. Leasing is asset backed and its applications are often assessed based on the project's capacity to service lease payments. Accordingly business and entrepreneurs that are denied traditional banking and commercial credit due to their lack of credit history and inability to provide sufficient guarantees can find a new financing alternative in the leasing market.

Despite the existence of a proclamation ratified in 1998 and amended in 2013 that set up the framework for capital goods leasing business, the leasing market in Ethiopia especially finance lease and hire-purchase business is significantly inadequate to provide the much needed push for SMEs by providing a new financing alternative. Thus, special attention need be given by appropriate government organ mainly the National Bank of Ethiopia to encourage financial and non-financial institutions to enter into the lease market as an alternative financing mechanism.

Finally, in the absence of SMEs financing strategies in the banks' finance culture, allocating special funding resources through the banking sector that targets SMEs could facilitate the sectors access to finance. Since there is good practice of diverting financial resources to targeted sectors by the government through the state owned banks mainly through the Development Bank of Ethiopia, the SMEs sector can also benefit from similar undertakings.

Financial innovation:

In Ethiopia, despite the introduction of banking sector reform in 1994 that led to expansion of the banking industry, there is a high concentration of financial institutions implying that changes in the banking sector structure per se are not sufficient to introduce the required level of competition in the banking industry. Furthermore, the NBE Directive No. SBB/50/2011 which raised the minimum paid up capital for establishing a bank from Birr 75 million to Birr 500 million has discouraged new entrants. There are reports that the minimum capital requirement is even further revised recently by the NBE in which banks in Ethiopia are supposed to work towards capitalizing their banks and attain a minimum threshold of 2 billion Birr at the end of the Growth and Transformation Plan II, i.e., by 2019. This not only discourages new entrants but even also threatens existing ones further reducing possible competition among financial institutions. The lack of competition in the financial sector does not promote financial innovation which includes new players and new products.

Thus looking for ways of financial innovation by existing and new financial institutions in Ethiopia could promote SMEs access to finance. One area of innovation is on the assessment and screening methods used by banks. The traditional assessment and screening technologies do not provide the required tools to reach young firms with limited or no borrowing history, with sufficient scales and control over risk. Thus employing innovative assessment and screening techniques such as psychometric and non-traditional applicant data to create a credit

score, which helps measure both risk and potential among loan seekers could widen the chance of reaching out small, young firms with limited borrowing history and limited collateral. Psychometric evaluates personal characteristics like honesty, ethics, drive, motivation, optimism, intelligence, and business skills. Armed with this information, lenders can lend to those who do not have a borrowing history or collateral. This is proven successful in initial pilots in South Africa and other countries (Beck and Cull, 2014).

Another innovative technique which can be drawn from MFIs practices is to consider financing as a package that includes loans as well as extension type services such as business development or entrepreneurial training can be helpful. Moreover, disbursing the loan in phases (two phases) could also reduce the risk of using the money for unintended purpose. In general, taking a page from the MFIs experience of micro financing might prove helpful for banks in approaching SMEs.

Policy focus:

Finally, as indicated on table 7 in section 4.1, most SMEs obtained their loans from MFIs than banks. However, it is important to note that as firms grow from micro to small and to medium, the firms potential growth could be high that they could be too big for MFIs. At the same time, they may not be established enough for banks. It is this segment that seems to be especially affected by shallow financial markets. Moreover, entrepreneurs that are of transformational type who often lead enterprises that often create jobs may not fit well to MFIs financing portfolios. For long-term effects on aggregate growth and job creation, a stronger focus of policy makers on transformational enterprises is therefore needed.

5. Conclusion

This paper has discussed demand and supply side research specifically conducted with SMEs, banks and selected MFIs on SMEs access to finance. It offered a comprehensive exploration of factors influencing SMEs access to finance.

The research started by first identifying the demand side problem of access to finance and then goes on to investigate the supply side focusing on banks' and MFIs' engagement with SME financing and the main drivers and obstacles for doing so.

To explore the demand side determinants of SMEs access to finance, detail information on firm specific characteristics, firms' constraints ranging from infrastructural, sales, market structure, firms capacity and labour was collected. Furthermore, detail questions on firms' access to finance were asked. The questionnaire was administered on 519 SMEs drawn from six major cities and towns in Ethiopian. Both descriptive and econometric techniques were used to analyze the data.

The demand side findings and analysis revealed that access to finance is significantly influenced by the age of the firm, firm's previous engagement with banks, experience of the manager and firms managed by owner (owner-manager).

Similarly on the supply side, private and state owned banks and MFIs were included in the survey. A separate questionnaire was prepared for the financial institutions. Results from the supply side indicate that financial institutions especially banks engagement with SMEs is low. Both banks and MFIs underlined that SMEs specific factors such as poor financial records of SMEs, lack of adequate collateral, SMEs poor management of risks and informalities of SMEs are the major obstacles to their engagement with SMEs.

In short, young firms who do not have adequate managerial and operational experience, and those with inadequate collateral are the highly credit constrained firms.

Another important issue to note is that MFIs are more engaged with financing SMEs than banks. Out of those who had access to finance from formal institutions, more than 68% had their access from MFIs. Only close to 8% had their finance from banks. Since the financing portfolios of the two are different (loans from banks are large in size with a relatively long maturity period than loans from MFIs), it has its own implications especially when firms grow. As firms grow, their debt financing need also grows both in term of the size of the loan and the maturity period of the loan. Moreover, enterprises that are of transformational type who often lead enterprises that often create jobs may not fit well to MFIs financing portfolios. All this demands for a better and wider engagement of banks with SMEs.

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