WORKING CAPITAL FINANCE IN TIGRAI: EVIDENCE FROM MANUFACTURING MICRO AND SMALL – SCALE ENTERPRISES

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Introduction: Background of the Study: Micro and Small – scale Enterprises (MSEs) creation and development play a crucial role in all economies (developed and developing countries). The importance of MSEs is explained in different studies in terms of job creation, income generation, innovation, growth and utilization of local materials (Rahilatu 2011, OECD 2009, Padachi *et al.*2012).

MSEs face countless problems in their start – up as well as subsequent operations The major problems faced by entrepreneurs are undercapitalization, the small sizes of enterprises, dearth of tangible assets, high risk rating, tariff policy, low productivity among Entrepreneurs, high mortality rate, lack of infrastructural facilities and access to finance (Inang and UKpong, 1993). Similarly a study on women owned MSEs in Addis Ababa revealed that access to sufficient credit, lack of enough working space, and high costs of raw materials,

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are found to hinder women's enterprise growth. (Rahel and Issac, 2010). Furthermore, according to the ILO (2009) the main factors affecting small businesses are access to finance and low demand. The report also showed that ensuring adequate working capital to be a concern of MSEs.

These sources of finance available to MSEs can be classified as formal credit (including bank loans and bank overdrafts, and government financing) and informal credit sources such as credit unions, equb, borrowing from friends and relatives, supplier credit etc (Godfried A. O. and Song G. P. 2000).

SMEs have traditionally faced difficulty in obtaining formal credit or equity. According to Aidis (2005) traditional commercial banks and investors have been reluctant to service SMEs. The main reasons for this are firstly creditors and investors perceive them as high risk because of inadequate assets, low capitalization, high mortality rate etc. Secondly, creditors and investors get it difficult to assess their credit worthiness due to information asymmetry that arises from luck of accounting records, inadequate financial statements and business plan. And finally, high transaction costs arising from lending small amounts to these enterprises.

Rahilatu (2011) argued that the three major financing problems for entrepreneurs in Nigeria are interest rate, luck of collateral and high interest rate in the same order.

Financing decision refers to both for long term and short term financial needs. Long term finance related to funds raised for investment on fixed assets. On the other hand short term finance relates to funds raised for short term investments. Working capital finance (wcf) is the term used to refer to the latter type of finance. According to Bhunia (2010) since wcf is part of the total amount invested on assets, it constitutes an important part of the overall financing decision.

Working capital (wc) can be financed by short – term or long – term sources. Long-term funds can be obtained from owners (referred to as equity capital) or from long-term borrowing (long term debt). WC has two parts permanent working capital and temporary working capital. Permanent wc is the excess of the current assets over the current liabilities. According to Gitman (2000) the permanent portion of wc should be supported by long-term sources. Hence long term funds are available to cover relatively small portion of working capital.

On the other hand, the short-term sources of wcf consist of trade credit, short-term loans, bank overdrafts, tax provisions and other current liabilities that can be used to finance temporary WC needs. But sometimes, if wc deficit exists, short-term funds can also be used to finance part of the non-current assets (Bhattacharya, 2001).

Financing preferences of MSEs are studied by different researchers using Myers' (1984) pecking order theory (Padachi *et al.* 2012). According to this theory firms use their retained profit to finance their working capital needs first, followed by debt and lastly by issuing equity capital.

Financing decisions of MSEs is affected by many factors including the level of education of the decision maker, the age of the business, the type of business, the use of family in the business, size of the business etc. (Padachi *et al.* 2012).

Statement of the Problem: For developing countries, Padachi et. al. (2012) argued that, SMEs are the useful bridges between the informal sector (family enterprises) and the formal one (corporate). Hence, the health of this sector is considered by policymakers to be highly important for the health of the economy.

The Ethiopian Government has recognized the role of MSEs as a strategy for poverty reduction and employment creation. This can be evidenced by its issuance of the first national MSE Development and Promotion Strategy in 1997. Besides, it has established the Federal MSEs Development Agency and issued Ethiopia's Industrial Development Strategy in 2003. Furthermore, the government has included MSEs in its five year Growth and Transformation Plan (GTP). These are additional evidences on the emphasis given by the government.

In Tigray, there are around 82,000 MSEs operating in five sectors viz. urban agriculture, construction, trade, service, and manufacturing. About 14, 000 of them are involved in the manufacturing sector – a sector which is very important to the economy and for which wc is more significant (Padachi, 2012).

According to Gitman (2000) ease of access to finance is an important factor when selecting the source of financing, besides it affects the risks and returns. Therefore, the different sources of finance available for working capital needs impose different challenges to MSEs. Working capital can be viewed as the lifeblood of businesses; therefore, while its effective management can enhance the success of a business, its inefficient management or neglect can lead to failure (Padachi et. al. 2012). From this, it can be understood that research in wc finance for manufacturing MSEs, is imperative.

Although there are a few studies in developed countries that addressed financing and capital structure of small enterprises, there are limited researches conducted in the developing ones

(Padachi et. al. 2012). Despite its importance, as far as to the knowledge of the researchers, very little is known about working capital financing in Tigray.

To fill the above gap, the researchers are motivated to assess the working capital financing practices of manufacturing MSEs in the region.

Objectives of the Study: General Objective:

The main objective of this study was to analyze the working capital financing practices of manufacturing MSEs in Tigray.

Specific Objectives:

Specifically, this study has the following objectives:

- To identify the sources used to finance wc needs of manufacturing MSEs in the region
- To investigate the major wc financing problems faced by manufacturing MSEs in the region
- To analyze the wc financing preferences of manufacturing MSEs in the region
- To examine the extent of use of bootstrap as mechanism to finance working capital needs of manufacturing MSEs in the region

Justifications of the Study: Micro and Small – scale Enterprises (MSEs) play a crucial role in an economy by creating job opportunities, generating income, contributing to GDP and utilizing local resources etc. They also serve as a bridge between the informal sector (family owed business) and the formal (corporate) one. The manufacturing sector of an economy is very important in its contribution to GDP and employment creation. Therefore, to preserve the health of the overall economy, the health of manufacturing MSEs should be the concern of policy makers.

There are many reasons that account for the failure of businesses. One of them is access to finance. Finance may be needed to start a new business or to cover subsequent operating need. It can be for acquisition of fixed assets or to invest it in working capital.

Working capital is an important part of the overall financing decision of a firm. Many firms fail because of improper management/neglect of their working capital. For manufacturing enterprises, wc has a significant importance. However, MSEs face countless problems to obtain finance. Such enterprises suffer from information asymmetry, luck of collateral, inadequate capital, to list a few, which lead to be denied for access to finance from the formal credit lines.

Therefore, this study assessed the wc financing practices and the major problems encountered by manufacturing MSE. The outputs of this study are helpful to managers/directors of manufacturing MSEs in the region by indicating how to get ride off those financing problems. It will also help policy makers for their formulation of policy guidelines. Furthermore, it can be used by other researchers for further investigation.

Scope and Limitations of the Study: Any research can't be undertaken without delimiting its area of coverage. Like other studies, the current study has its scope restriction. Accordingly, this study was conducted in the regional state of Tigray a region where Adigrat University (the funding institution) is found. And although, it could be conducted for enterprises of all size only MSEs are targeted in the study. Working capital is of greater importance to manufacturing enterprises than others. Hence non – manufacturing MSEs are also excluded from the study.

Like many others, this study is not free from limitations. It suffers from the following limitations. The first limitation is it didn't use documentary data. Accounting records of the sample enterprises could provide ample additional information. However, since majority of sample enterprises don't have accounting records it was impossible to do so. The second limitation is that data was not collected from credit suppliers such as banks and micro credit enterprises. Thirdly, as a matter of chance, there was no enterprise from the Agro-processing sub-sector was selected in the sample enterprises, hence those are not included in the analysis.

Research Design: This third chapter of the report basically deals with the research design. It explains the alternative research methods and those selected for this study with the justifications thereon. It is composed of four sections. The first section describes the study area briefly. The second section is concerned with the sources of data and the methods of data collection. In the third section, the sampling methods employed are described. The fourth one deals with the method of data analysis used in the study.

Description of the study area: Situated on the Northern tip of Ethiopia, the State of Tigray is comprised of 4 administrative and one special zone, 35 woredas and 74 towns. The region is bordered by Eritrea in the north, the regional State of Afar in the east, the State of Amhara in the south, and the Republic of the Sudan in the west. It has an estimated area of 80,000 square kilometres.

According to the 1994 Census the state's population size was 3,136,267 of which 1,542,165 were males and 1,594,102 were females. The urban residents of the region number 468, 478 and its rural residents 2,667,789. In terms of religion 95.5% of the population are Orthodox Christians, 4.1% and 0.4% are Muslims and Catholics respectively. Regarding ethnic composition, 94.98% are Tigraway, 2.6% Amhara, 0.7% Erob and 0.05% Kunama. Tigrigna is the working language of the state.

As stated earlier, large number of MSEs is operated in the region. Although they contribute to the socio – economic development of the region, they get less attention of researchers in addressing their financing problems especially for their working capital needs. Besides, Adigrat university has the responsibility of supporting the region in its research and community services. It is for those reasons that this region is selected for study.

Sources of Data and Methods of Data collection

Sources of Data: There are two types of data that researchers can use in their study. Those are primary and secondary data. Secondary data are data that are already collected by others and which have passed through some statistical process. It is easy to collect secondary data and it is also less costly source of data. Despite those merits collecting secondary data has its own disadvantages. It is argued that secondary data may suffer from reliability, sustainability and adequacy. On the other hand primary data are those which are freshly gathered for the first time, hence are believed to be original. The reliability of this type of data is better than the secondary one. However, it is both difficult and costly gather primary data. The choice of source/s of data depends on a lot of factors. The nature, scope and object of enquiry, availability of funds and time and the level of precision required should be considered in selecting a specific source of data.

By taking the above factors in to account, the current study used primary source of data that were collected using schedules and interview.

Methods of Data collection: Since the study has both qualitative and quantitative aspects (mixed approach), the method of data collection was designed in such a manner that enables to collect qualitative and quantitative data. Under quantitative research the strategies of inquiry can be experiments and surveys (among others), and data is collected using preset standardized instruments (such as questionnaires and schedules) that can generate relevant statistical data.

As it is previously stated, primary data was used for the current study. Primary data can be collected in different ways. Observation, interview, questionnaire and schedules are some of the most widely used methods. In this current study both schedules and interview methods were employed.

So far as the general form of a questionnaire is concerned, it can either be structured or unstructured questionnaire. Structured questionnaires are those questionnaires in which there are definite, concrete and pre-determined questions. The questions are presented with

exactly the same wording and in the same order to all respondents. Resort is taken to this sort of standardization to ensure that all respondents reply to the same set of questions. The form of the question may be either closed (i.e., of the type 'yes' or 'no') or open (i.e., inviting free response) but should be stated in advance and not constructed during questioning. Structured questionnaires may also have fixed alternative questions in which responses of the informants are limited to the stated alternatives. Thus a highly structured questionnaire is one in which all questions and answers are specified and comments in the respondent's own words are held to the minimum. When these characteristics are not present in a questionnaire, it can be termed as unstructured or non-structured questionnaire. More specifically, we can say that in an unstructured questionnaire, the interviewer is provided with a general guide on the type of information to be obtained, but the exact question formulation is largely his own responsibility and the replies are to be taken down in the respondent's own words to the extent possible; in some situations tape recorders may be used to achieve this goal. (Kotari, 2004)

The schedule method of data collection is very much like the collection of data through questionnaire. It has a set of questions (similar to questionnaire). But unlike the questionnaire, the set of questions are not distributed (sent) to respondents. Instead enumerators are used who ask the questions to respondents and fill the responses on the space provided for recording the responses on the material (set of questions). Enumerators explain the objectives of the study and help respondents in case they face any difficulty.

Schedules have some advantages over questionnaire. Schedules reduce the non-response problem which is common under questionnaire. Besides, schedules enable enumerators to explain respondents when there are difficulties. Furthermore, data can be gathered timely and it can be gathered from both literate and illiterate respondents. It also minimizes the possibility of collecting incomplete or wrong information. Beyond this, personal contact of enumerators increases the attractiveness of the inquiry to respondents.

From the above discussion and considering the level of literacy our country, we prefer schedules to questionnaire. The schedule used for this study was designed to generate both quantitative and qualitative data. Both open ended and closed ended questions were included. Besides, to quantify the necessary data some questions required to rate to stated statements (Likert scale) and to state agreement or disagreement for a given idea or statement. In addition to this rank order method was used so questions were included that ask to rake a given set of alternatives.

The second method of data collection used for this study was interview. Qualitative researchers inquire data using interviews, case studies, narratives, ethnographies, or grounded theory studies. This study employed interview method to gather additional data to cross check those collected through schedules. Besides it was used to identify the bootstrap techniques used to finance WC needs.

Sampling Design: According to Kottari (2004) a 'Universe' or 'Population.' refers to all items of an area of study. And when data is collected from all items of the population it is known as census inquiry. Although census inquiry seems to be highly accurate, practically it may not. The reason is that since there are large numbers of observations a minor bias may grow larger and larger. Moreover, there is no way of checking the element of bias or its extent except through a resurvey or use of sample checks. Besides, this type of inquiry involves a great deal of time, money and energy. Therefore, when the field of inquiry is large, this method becomes difficult to adopt because of the resources involved. Therefore, this method is practically beyond the reach of ordinary researchers.

Hence, considering the cost and time of conducting census, it is appropriate to select some (a few) items from the population and

collect the data required. Sampling refers to the selection of a few items of the population the method of selection is known as sampling technique. The survey conducted in such a way is known as 'sample survey'. However, care should be made that the respondents in the sample be as representative of the total population as possible. (Kotari,2004).

Sample Size: Sample size is one factor that affects the reliability of a study. However, according to Sarantakos (2005), larger sample size may not necessarily lead to accuracy. Besides, there is no a single best way for determining the sample size (Fowler 1984). This shows that different factors should be considered in determining sample size. Those are availability of time and resources, the homogeneity of the population, the level of accuracy required etc (C.R. Kothari, 2004; Sarantakos, 2005). Considering the above factors the current study used 600 respondents. Furthermore, for similar reason, 20 owner managers/directors from among the 600 respondents were selected for in – depth interview.

The total sample size is prorated to each town in the proportion of the number of manufacturing MSEs operated. The following formula is used to do so:

Sample size for a town =

$$\frac{\text{Number of MMSEs in the town}}{\begin{array}{c}\text{Total number of} \\ \text{manufacturing MSEs in} \\ \text{the 6 towns}\end{array}} \text{*Total Sample Size}$$

Based on the formula:

Sample size for Aksum = $\frac{1871}{5737}*(600)$

= $\underline{195}$

The sample size for each of the remaining towns is determined in a similar fashion. Hence, the sample size in the sample towns is provided in the table below:

Table 1 sample size in each Town

S.N.	Town	Sample Size	Sample Percent
1	Aksum	195	32.5%
2	Mekelle	153	25.5%
3	Adwa	67	11.2%
4	Shire	66	11%
5	Adigrat	62	10.3%
6	Abyi-Adi	57	9.5%
7	Total	600	100%

Source: own Compilation

Sampling Method:

Purposive Sampling: Purposive sampling method was employed in this study for two purposes viz. selecting towns from which data was collected and select respondents for interview.

This method selects samples based on subjective criteria. The criterion used in this study is the number of manufacturing MSEs operated in the towns. From the towns in the region the top 6, based on the number of manufacturing MSEs operated in the town, were included in the sample. Since more manufacturing MSEs are operated in those towns, the researchers believe that they will be representative of the region. According to the recent information from the region's trade and industry office the top 6 towns are Axum, Mekkele, Adwa, Shire, Adigrat, and Abiy-Adi. Therefore, sample was selected from the aforementioned towns.

In addition to the schedules, the second instrument used to collect primary data was the interview. Hence, the sampling method to select respondents for interview was purposive sampling. The reason for this is that interview is needed basically to assess the extent of use of bootstrap finance for financing wc needs of manufacturing MSEs. Therefore, respondents who indicated the use of these techniques were selected purposively. Those respondents were more appropriate for the interview as it helped to elicit even more in-depth information.

Systematic Sampling: As stated earlier, schedules and interview methods were adopted to collect data. The schedules were administered

by enumerators who were employed for that purpose. Enumerators contacted owner managers/directors (the respondents) of the sample MSEs. The respondents were selected using systematic random sampling method. According to Yesgat (2009) to gather representative sample, appropriate sample frame, should be used. When a comprehensive sample frame is used each respondent will have equal chance of being selected. This avoids selection bias.

In this study the registry of MSEs development office of each town included in the sample were used as sampling frame. From this list enumerators randomly selected the first respondent and selected the remaining respondents based on the calculated sampling interval. As explained earlier, sample was selected for interview participants purposively.

Methods of Analysis: The data gathered through schedules and interview was first processed (edited, coded, classified etc) to prepare it for analysis. Then it was entered to SPSS and run. The research objectives (specific) require the data to be analyzed both qualitatively and qualitatively. Hence, the SPSS results are analyzed using both qualitatively and quantitatively.

The output is displayed using tables and charts. Besides there are descriptive narrations includes in the analysis.

Qualitative Analysis: According to Sarantakos (2005) qualitative research is not meant to test theory or hypothesis; hence no statistical method is used to analyze and present the data. After the data is gathered analysis of the findings are made in narration form using strong and complete words. In this study qualitative analysis was used to describe the sources of wc finance used by the MSEs. It was also employed to analyze the use of bootstrap finance as a means of financing working capital. Data gathered from interview was analyzed using this method.

Quantitative Analysis: Quantitative research approach is used to test theory. By reviewing the

existing literature it identifies a theory to be tested using data. Therefore, it uses statistical methods to describe pattern of behavior (Rudestam and Newton 2001).

In the current study, it is used to identify the WC financing preferences of MSEs in the region. It used statistical tools like mean, median maximum, minimum and standard deviations. To see whether sources of finance and/or financing preferences vary among industry and level of education of owner/managers of enterprises, different tests were used including the non-parametric test Kruskal-Wallis (K-W) test and pearson tests. chi-squarethe exist. According to Kottari (2004), the Kruskal-Wallis test is used to test the null hypothesis that 'k' independent random samples come from identical universes against the alternative hypothesis that the means of these universes are not equal. This test is analogous to the one-way analysis of variance, but unlike the latter it does not require the assumption that the samples come from approximately normal populations or the universes having the same standard deviation. (Kottari, 2004).

Results and Discussion: In the previous chapter, we have seen alternative research methods and the methods selected for this study with the related justifications. As indicated in there, data was collected using schedules and in-depth interview was conducted with selected respondents. The data gathered are presented and analyzed in this fourth chapter of the report.

The rest of the chapter is provided in three main sections. The first section deals with the general profile of respondents. In the second section, statistics concerning the sample enterprises as well as variables of interest is provided. Furthermore, the financing practices MSEs is presented and analyzed in the third one.

Profile of Respondents: This section provides general information about the respondents including their sex, age, marital status, religion and education.

Table 2: Sex, Age, Marital status and Religion of Respondents

| Sex	count	percent	Marital Status	count	percent
Male	326	54.3	Single	209	34.8
Female	274	45.7	Married	92	15.3
Total	600	100	Divorced	101	16.8
			Widowed	112	18.6
			Separated	86	14.3
			Total	600	100
Age	count	percent	Religion	count	percent
18 – 30	298	49.67	Orthodox	234	39
31 – 45	204	34.00	Muslim	190	31.7
>45	108	18.33	Protestant	122	20.3
			Catholic	54	9
Total	600	100	Total	600	100

source: Survey, 2014/15

Table 2 above summarizes the sex, age, marital status and religion of respondents. As it is revealed in the table, 54.3% of the respondents are male and the remaining 45.7% are females. Whereas 49.7% of the respondents fall under the age category of 18 – 30 years, the remaining 34% have ages ranging from 31 to 45 years. Only 18.3% constitute above 45 years of age.

When we see the marital status of respondents, majority (34.8%) are single followed by widowed (18.6%). Divorced and married respondents represent 16.8% and 15.3% respectively. The remaining 14.3% are separated.

Furthermore, the above table shows the religion of the respondents. Accordingly, Orthodox and Muslim respondents represent 39% and 31.7% of the sample. Protestant respondents account 20.3% with the remaining 9% being Catholic.

Figure 1: Level of Education .
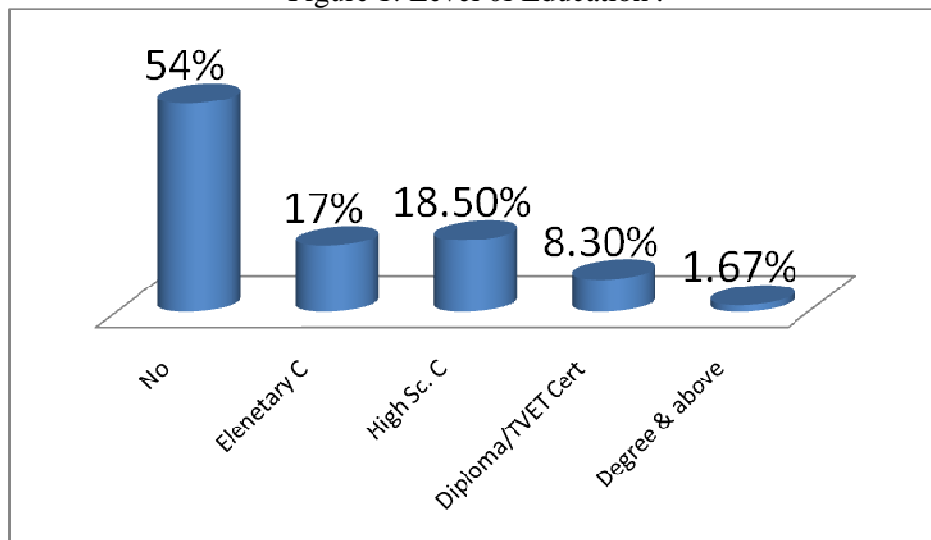
Source: survey 2014/15

The level of education of the respondents is provided in the chart above and in the next page. The above chart provides responses on the highest level of education of respondents. Accordingly, majority (54%) have no any formal education. Besides, 18.5% have completed high school with 17% completed elementary school. Respondents with diploma or TVET certificates are found to be 8.3%.

However, only 1.7% of respondents have first degree and above

Respondents without any formal education were asked whether they are able to read and write or not. The following pie chart summarizes the responses found. As it can be seen from the chart, while 56% of the respondents can't read and write the remaining 44% are able to.

Figure 2: Can read and write
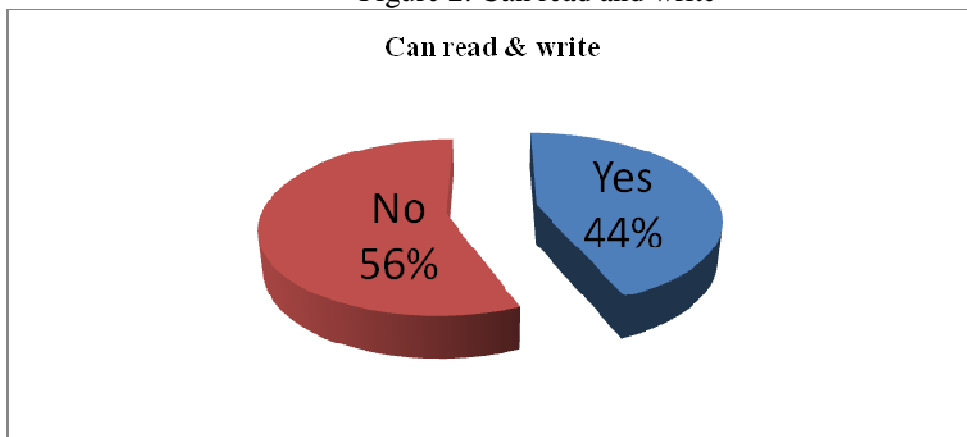
Source: Survey, 2014/15

Characteristics of Enterprises: This second section of the chapter is concerned with the profile of sample enterprises and the statistical distribution of the variables of interest. The ownership type of the enterprises, sub-sector and the main role of the owner/manager are provided

first followed by involvement of family members in the enterprise. Besides, the existence of assets for collateral and the statistical distribution for the size and age variables is given.

Table 3: Type of ownership, sub-sector and main role of owner managers

Ownership	count	percent	Sub-Sector	count	percent	Main Role	Count	Percent
Proprietor	341	56.8	M & WW	157	26.2	Overall resp	411	68.5
Partnership	107	17.8	Tex.	163	27.2	Purch & pro	63	10.5
Association	152	25.4	F&Bev.	74	12.3	Admn & fin	98	16.3
Total	600	100	Leth.	59	9.8	G. Manager	28	4.7
			Hacr.	47	7.8	Total	600	100
			Total	600	100			

Source: survey,2014/15

The above table indicates the ownership type of the sample enterprises, the sub – sector to which they belong and the main role of their owner manager or director.

As indicated in the table, majority (56%) of the enterprises are organized as sole proprietorships (owned by single person) followed by associations which account 25.5%. The remaining 17.8% are partnerships.

Similarly, concerning the sub – sector, textile takes majority (27.2%) of the sub – sectors followed by metal and wood work with slight difference (26.2%). While food and beverage, and leather and leather products represent (12.3%) and (9.8%) respectively, handcrafts accounts the remaining (7.8%).

Furthermore, from the same table, the main responsibility of respondents is found to be overall responsibility which takes the lion's share of 68.5%. Administration and finance and purchasing and production account 16.3% and 10.5% respectively. Only 4.7% of the respondents are found to be general managers. The majority of the owner/manager of the enterprises have an overall responsibility. This may make owner/managers of the enterprises busy so that they may not have enough time for assessing financial sources for wc needs.

Figure 3: Family Members Involved

The pie chart below shows the proportion of MSEs that involve family members in the enterprise.
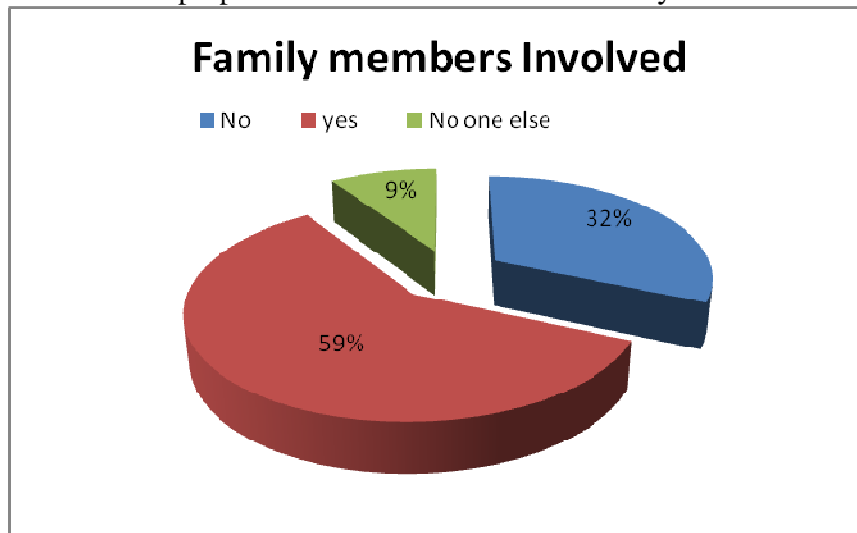
Source: survey 2014/15

As depicted in the pie chart (Fig.:3) 59% of the enterprises involve some family members in the activities of the business. While in 32% of the enterprises all participants are family members, only 9% don't involve any family member in the enterprise.

Existence of Assets for Collateral

Access to finance is believed to have close relationship with the existence of assets to be pledged as collateral. Especially to get formal working capital finance banks and other financial institutions require collateral. To see whether MSEs in the region suffer from access to formal working capital finance due to lack of assets to collateralize, respondents were asked whether their enterprise owns any property that can be used as security for loan.

Besides, finance literature shows that larger firms have better access to WCF from the formal sources because they may have collateral to secure loan. That means larger firms are expected to have invested in fixed assets and own property to pledge for loans. The responses found are provided the chart below.

Figure 4: Existence of Assets for collateral
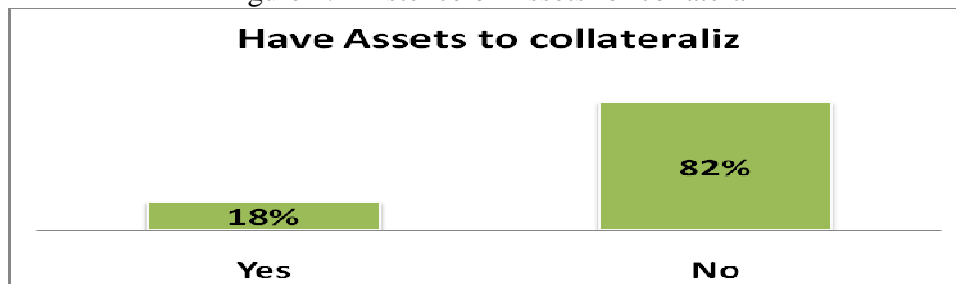
Source: survey 2014/15

As the above chart reveals, only 18% of the enterprises have reported to have asset that can be used to collateralize debt. The remaining, 82%, don't have any such asset. This indicates that MSEs in the region may not be able to access WCF from the formal lending institutions.

Age and Size of Enterprises

The table below shows the descriptive statistics for the size and age variables of the sample enterprises.

The age of an enterprise refers to the length of time since establishment. It is computed by subtracting the year the enterprise is established from the year of data was collection (2014). The size of a firm can be measured in different ways. However, the most commonly used measures are number of employees, net assets and annual turnover. The table provides using those measures. Although it is possible to use net assets and annual turnover as measure of size, it can be difficult in that respondents may not state the true amounts. This situation was actually observed in the data collection as many respondents were hesitating while responding to such questions. For this reason those measures are not used in the analysis.

As it can be seen from the table (table 3) on average a firm employs 4 workers with the minimum and maximum employment size being 0 and 23 respectively. The median and standard deviation for this variable are 6 and 3.026 respectively. From the same table the average net assets of the sample enterprises are 34,500 and the maximum amounts to 74,000 ETBs with 310 ETBs being the minimum one. While the median value is 11,150 ETBs it has 0.987 standard deviations. On Average an enterprise's annual turnover (sales volume) is ETBs 52,000 while the maximum and minimum values are 67,000 and 950 ETBs respectively. The medial value for this variable is 36,700 and 1.240 standard deviation.

When we seen the age of the enterprises, we found that, on average, an enterprise is as old as 13 years. While the youngest enterprise has an age of 1 year the oldest is 29 years of age. The median and standard deviation for this variable are 9 and 1.258 respectively.

Table 4 Age and Size of Sample Enterprises

	Count	Min.	Max.	Mean	Median	Std. Dev.
Number of Employees	600	0	23	4	6	3.026
Age the business?	600	1	29	13	9	1.258
Size of enterprise in terms of:						
-Net assets in 2012/13	600	310	74,000	34,850	11,150	0.987
-Sales in 2012/13	600	950	67,000	52,000	36,700	1.240

Source: survey, 2014/15

Working Capital Financing Practices*:* The previous two sections, showed the general characteristics of respondents and the enterprises included in the sample. In this third section the WC financing practices of the enterprises presented and analyzed. The remaining part of the section is given as follows. The sources of WC finance used both start – up and for current needs is provided first followed by wc financing preferences. Then access to finance from financial institutions is examined.

Sources of Finance

The sources of financed used for working capital is provided in two categories viz. Start – up and current.

Sources of WC finance at start – up

Sample enterprises were asked the sources of funds used when they start the business and to rate the importance of the sources. A five point ordinal scale was used to collect the data where 5 represents most important and 1 for least important. The results found are provided the The table that follows.

Table 5 Mean values of sources of finance at start – up

Source	*Count*	Mean
Own Saving	488	4.45
DMF Loans	492	2.16
Bank loans	18	1.03
Loan from family and/or friends	544	3.08
Compensation from prior job	202	1.84
Suppliers credits	368	4.03
Advances from customers	267	2.61

Source: survey, 2014/15

In table 5 above, own saving is the most important source of financing wc needs at the start of the business with mean value of 4.45. The next important source is supplier credit (4.03 mean value). Loan from family and friends follows as an important source of WCF with 3.8 mean value. However, from the same table, bank loan and DMF loan are less important source used to finance wc needs. This indicates that MSEs in the region don't have access to the formal financial sources. With regard to loan from DMF, although more enterprises used it at the start of the business it is less important indicating that it is not suitable to finance current assets. The sources of finaces at the start of the business didn't show any significant difference among business characteristics (age, size, sub – sector) and education of owner/managers.

Sources of WC finance for current need

Sample enterprises were also asked about the sources of finance used to cover their WCR for current need (in the year data was collected or 1 year before). The table below summarizes the mean value of each source used in terms of their importance.

Table 6: Mean value of sources of finance for current need

Source	*Count*	Mean
Retained profits	489	4.01
Iqub	423	3.74
Bank loans	94	1.41
DMF loan	351	2.87
Loan from family and friends	432	1.84
Delay payments to creditors	398	3.16
Advances from customers	378	2.91*

Source: survey 2013/14

As revealed in table 6 above, retained profit has the highest mean value (4.67) indicating that reinvesting operating profit to be the most important sources of financing WC needs for current use. Iqub financing is the second most important (mean value of 3.74) source of finance for current needs. The third most important source for current WC need is found to be delaying payments to creditors. From the above analysis we can understand that when firms start to make profits they tend to shift their financing sources towards retained profits. However, loan from DMF and bank loan still remain less important sources for current WC needs with mean values of 1.41 and 2.87 respectively. Advance from customers is better sources of finance for current working capital requirements compared to the bank and DMF loans. Advances were less important at the start of the business but their importance is improved subsequently. This indicates that MSEs demonstrate their reputability and trust after they are well established. Hence, sources of wcf for MSEs are the result of personal and business ties.

Financing Preference

From the above two tables and analysis thereon, we have seen that the sources of finance that manufacturing MSEs used to cover their WC needs both when the enterprise starts business and subsequently. But this may not tell anything about their financing preferences. To better understand the financing preferences of those enterprises, respondents were asked to rank the preferred sources of finance for their current needs. The results obtained are displayed in the table 7 below:

Table 7: Mean ranks of preference of finance for current needs

	Source	Mean
1	Reinvest the operating profits in the company	1.23
2	Use Iqub as financing mechanism	2.91
3	Delay payment to suppliers	3.02
4	Borrow from friends and relatives	3.72
5	Get a long-term loan	4.71
6	Advances received from customers	4.98*
7	Sell some equity of the business	6.41

Source: survey 2013/14

As indicated in the above table, retaining (reinvesting) operating profit in the business is ranked first with mean value of 1.23 followed by Iqub financing (mean value of 2.91). Besides, borrowing from friends and relatives stood third as a preferred WC financing mechanism with 3.72 mean value. Furthermore, MSEs in the region prefer to delay payments to creditors of goods and services (mean value 3.02) as a means of financing their current working capital needs. Whereas the use of long term loan is ranked fifth with mean value of 4.72 advanced received from customers and sale of some business equity held the remaining ranks with mean values of 4.98 and 6.41 respectively.

The above results indicate that firms don't want to bring new owners to the business. This result was confirmed in the in-depth interviews made with selected respondents. Interviewee No, 6, for example, described the situation as follows: "I don't want to raise working capital finance by selling my equity to others; because firstly, it affects my flexibility and power of decision making. Secondly, once people became your partners they dare to let you go out of the business and make it their own. For these reasons I won't try to do that."

These findings proof the pecking order hypothesis (POH). According to this theory, firms prefer to reinvest their operating profit as their first choice to finance their operations. Once their retained earnings are exhausted they tend to use borrowed funds. Firms tend to sale some of their equity only as their last choice of financing.

To see whether this financing preference differs among sub – sectors, differences in size, age and level of education of owner/manager, the non parametric test Kruskal – Wallis test was made. The results show that except for the sub – sector category where advances from customers showed weak significance, the remaining variables didn't differ among those variables.

The level of education of owner/managers is expected influence financing mechanisms in that the educated ones would use unusual sources of finance such as factoring, hire purchase, leasing etc. However, no evidence of this is found as there are no enterprises who used those sources of finance to cover their wc needs.

Besides, the age of an enterprise and its size are expected to influence financing practices enterprises. That is larger and older firms are expected to have better access to finance from financial institutions like banks. The reason behind is when firms get older and larger, they would invest in fixed assets and will have collateral to pledge loan. To see this the

existence of collateral was related to size and age of firm variables. However no significant difference was observed.

Access to WC finance from financial institutions Formal financial institutions are potential sources of finance for WC needs of enterprises. They provide loan and/or overdraft etc services for short term needs. To examine MSE's access to WCF from such institutions, respondents first asked about whether they have accounting records or were asked whether they have financed WC needs from those sources during the current or previous year (2013/14 or 1012/13). The responses found are provided in the table below.

Table 8: Have book in Bank and/DMF, can prepare business plan, use accounting records

Have book in bank and/or DMF	Yes	No
Count	494	106
Percent	82.3	11.7
Can prepare business plan		
Count	151	449
Percent	25.16	4.84
Have accounting records		
Count	74	526
Percent	12.3	87.7

Source: survey 2014/15

The table above shows the status of MSEs in operating bank/DMF account, ability to prepare business plan and use of accounting records. As can be seen from the table 82.3% or the enterprises have bank or DMF account while only 11.7 don't operate any account. From the same table only 25.2% of the enterprises can prepare their own business plan. But the majority (74.8) are not able to prepare it. In addition to this, most of the enterprises don't have accounting records (87.7%) with only 12.3% reporting to have some accounting record. From this we can infer that MSEs in the region have some information about financial institution and may get loan for their working capital needs as they are aware of the services provided by the institutions. On the contrary, since majority of the enterprises don't have accounting record and can't prepare business plan, they may not be able to access credit from the institutions as they may suffer from information asymmetry.

As revealed in the table below, Majority of the enterprises couldn't cover their WC financial gaps from the formal financial institutions (approximately 84% in the bank and 41% in the DMF category). As shown in the same table only about 16% of the enterprises has covered WCF needs from banks. Relatively higher proportion of MSEs accessed WCF from DMF (58.5%) than from the bank counterpart. This shows, generally, that formal financial institutions have ignored MSEs in providing funds for current needs although, relatively, DMF is better as source WCF for MSEs than banks.

Table 9 Have got WCF from Bank/DMF

Have Got WCF from Bank	Yes	No
Count	94	506
Percent	15.67	84.33
Have got WCF from DMF		
Count	351	249
Percent	58.5	41.1

Source: survey 2013/14

Problems in Obtaining WCF from Formal Financial Institutions

From the previous analysis we have seen that MSEs have difficulty of raising WCF from the formal financial institutions. To further investigate the major bottlenecks with those institutions, respondents were asked to state their agreement or disagreement for selected questions. The following two tables display the mean values of respondents that provided affirmative response for the stated statements. Summary of problems on banks is given first followed by DMF.

Table 10 Problems on the use of bank finance

Problem	Mean (%)
Banks are not willing to provide loans to MSEs	75
Banks require collateral to lend money	85
I don't have assets which can be used as collateral	82
Banks require books of accounts to lend money	73
Banks require business plan to lend money	42.3

Source: Survey, 2014/15

As provided in table 10 above MSEs in the region believe that banks are not willing to provide loan to MSEs (75%). Besides 85% said banks require collateral as security for loan. However, 82% or the respondents agreed that they don't have any asset that can be pledged for bank loan. Accounting record requirements is another problem hindering access to working capital finance from Banks. Only 42% stated that business plan requirement to be a problem.

To identify the problems to access working capital finance from MFIs, the status of MSEs on their use of micro finance to cover working capital financial needs was examined. To do this, owner/ managers of sample MSEs were asked questions related to the use of micro finance using a binary scale. The following table shows the percentage of responses that provided affirmative responses.

Table 11: Problems on the use of DMF

Problem	Mean (%)
DMF requires groupings to access finance	92
DMF require collateral to lend money	87
DMF doesn't provide loan unless previous loan is fully repaid	76
DMF charges high interest rate	26
It takes long time to get finance from DMF	20

Source: survey 2014/15

As indicated in the table 11, 92% of the respondents confirm that DMF doesn't provide loan other than on a group basis. Besides, 87% indicated that they didn't get working capital finance from the institution because of lack assets to be collateralized. Furthermore, approximately 79% stated that they were denied WCF for they didn't repay their outstanding loan. Only a few respondents had difficulty of securing WCF from DMF due to high interest rate (26%) and the length of time it takes to get finance (20%).

Working capital finance, as stated in the literature, is finance required for short term i.e. for less than one year. This is related with the expected cash flows of enterprises. Which means it will be repaid when the cash flows are collected. Hence, the differences in expected cash flows of enterprises don't allow them to be in group to get finance for WC needs. That means an enterprise may need cash s WCF for two weeks differs from another enterprise. Besides requiring MSEs to return any outstanding loan to provide them with new

financing is difficult for the enterprises since the financing requirement is just short term as stated earlier. The WCF (loan required for WCF) is expected to be repaid within one year or less as the expected cash flows occur.

Bootstrap Finance

An alternative mechanism of financing working capital needs of enterprises is using bootstrap finance. As indicated earlier in this chapter, 91% of sample enterprises have reported to involve their family members in the activities of the enterprise or all of them are family members.

The following table summarizes how family members are compensated in those enterprises.

Figure 5: compensation of family members involved
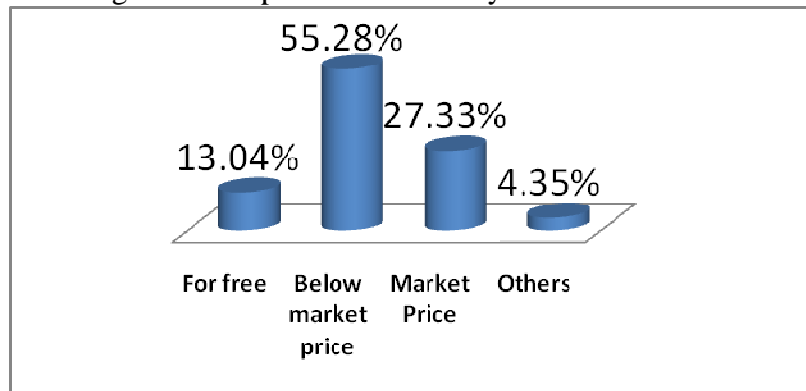
Source: survey 2013/14

The above diagram reveals that of the enterprises that involve family member only approximately 27% compensate them at the prevailing market price. Whereas the majorities, around 55%, pay them below the market price, family members in about 13% of the enterprises work for free. The remaining 4% are compensated in some other ways. This indicates that MSEs in the region use bootstrap financing for wc needs of the enterprises.

In addition to this the interview conducted with selected owner/manager of MSEs also confirms this fact. As expressed by interviewee number 8 and 17, family members are very use full to finance their working capital requirements. They used family labor during peak seasons. Further we found from the interview that owner/managers work for longer hours without additional payment (interviewee number 3, 7 and 17). Furthermore, as stated by interviewee number 13 and 19, the owner/managers don't enjoy luxury offices and office equipments. This helps to use the funds that could have been spent there for meeting the working capital needs of their enterprises.

Conclusions and Recommendations: The previous chapter provided the results of the study and the related discussion. Under this final chapter the researchers provided conclusions based on the finding and provided possible courses of action which they believe are appropriate. The rest part of the chapter is provided in two sections as follows. The first section gives the conclusions reached. And the second section gives the recommendations.

Conclusion: In this study we have tries to identify the wc sources of finance for MSEs in Tigrai. Besides the financing preferences of the enterprises and the major problems encountered in accessing wc finance is analyzed. Based on the analysis made in the previous chapter, the following conclusions are provided.

Manufacturing MSEs in the region use own saving, supplier credit, iqub and loan from family members (in that order) to finance their wc needs when they start business

After the MSEs start generating profit, retained profit becomes the most suitable source of finance for wc needs in addition to the aforementioned sources. And advances from customers increase its importance

However, MSEs in the region have no access to wcf from banks and microfinance institutions. This leads the enterprises to rely on informal sources of finance and base themselves on personal and business ties and relationships.

Although the enterprises know about the services provided by the formal financial institutions, they have no financial access from them. In the case of banks loan the enterprise don't even want to apply for loan because they feel that they will be denied. Hence, they refrain from applying for loan to avoid any transaction cost involved.

Regarding financing preferences, MSEs in the region follow the pecking order hypothesis in financing their working capital requirements. That means first they prefer to use their internal sources of finance (retained profit or income), after this source is exhausted they prefer to borrow rather than sell equity. Equity is used as financing source only as their last option. Therefore, MSEs in the region want to retain ownership of their business with in the family.

MSEs in the region have adequate information about the financial institutions and the services they provide. They have bank/DMF account, they know the problems associated with the institutions. Hence they don't suffer, on their part, from information asymmetry. However, those enterprises don't have accounting records and can't prepare business plan so that they may suffer from information asymmetry, on the part of the f/institutions, as the institutions can't assess the riskiness of their business.

Lack of collateral is the major problem of manufacturing MSEs in the region which prevents them from accessing finance from the formal financial institutions. This problem affects enterprises of all size, age, sub-sector (industry)

MSEs in the region perceive that banks are not ready to provide loan to MESs due to collateral requirement. That is why they don't apply for loan.

Loan for wc from micro finance institutions is not suitable for working capital. The reasons for

this that MFIs require provide loan on group basis. And no loan is provided unless previous loan is fully repaid.

MFIs also require business plan to get loan while the enterprises can't prepare it

Manufacturing MSEs in the region use bootstrap finance to some extent. The techniques used include use of family labor during peak business activities, working excess time without the need for extra payment, paying family members wages below the market rate, avoiding luxurious offices and furniture

Recommendation

Based on the findings and conclusions, the following recommendations are forwarded.

Banks should play an important role by increasing the amount of loans they provide to the larger companies where by those companies increase their trade credit facilities provided to MSEs.

Regarding MFI (DMF) the services provided by them should consider the special characteristics of loan demand for working capital purpose. Since wcf is required for shorter period (a year or less) the maturity period of their loans should match with this period. Separate working capital loan services can be appropriate in that borrowers will not be required to be in groups. Because, the time an enterprise wants wcf may not match with the time others require it. In addition to this any two different enterprises may not want funds for the same maturity period.

The requirement of MFI that borrowers should fully repay any outstanding loan before getting additional loan should be avoided. Because, the purpose that wc finance is being requested is expected to be repaid within 1 year or less when the expected cash flows come. It is different from loan needed to invest in fixed assets.

The government should provide training (say preparation of business plan) and introducing and/or improving the accounting systems of MSEs in the region. This can be done with the help of universities and TVET institutions in the country.

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