Financial Literacy and its Determinants: An Empirical Evidence from Maichew Town of Tigray

Hailekiros Nigus Adhana

Lecturer at Department of Accounting & Finance, Raya University
Email: keyzeway@gmail.com

Abstract: Possessing basic financial knowledges is vital for individual and societal wellbeing. For granted that, this study sought to explain financial literacy and its determinants, from uncovered financial-economics setting. For this purpose both quantitative and qualitative data were collected through self-administered questioner from random samples of 271 civil servants, working in Maichew Town of Tigray. Both descriptive and explanatory study designs were employed for the purpose of this study. Financial literacy as dependent variable, expressed in terms of binary outcomes, was regressed on predictor variables of Age, Gender, Income level, Work experience, Field of study, Marital status, Field of study, Access to financial news, and dependents in household. Hence logistic regression was run on stata 12 statistical software. In this study Gender, Field of study, Access to financial news, and presence of dependents on household were found to have a significant effect on financial literacy level of respondents. Whereas the variables age, work experience, religion, marital status, education level, and income level were found to have no statistically significant relationship with financial literacy.

Key words: Financial literacy, determinants, civil servants, Maichew

1. Introduction

Following the imperious developments in technology, financial markets are rapidly changing with interminably new financial innovations and more complex financial products. Unlike what it has been in the past, currently, the range of financial products people have to choose from is enormous. Correspondingly, the implications of decisions relating to those financial products for individuals' wellbeing are greater today than ever before (Annamaria 2019). To this end, therefore, it would be of paramount importance to investigate the knowledgeability and informed decision-making ability of individuals.

The term Financial Literacy connotes various meanings to different people. The concept is evolving in different aspects over time and across spaces. Some authors state it as a broad concept comprising of understanding of economics and, how economic conditions and circumstances affect decisions made by households, while others narrowly understand it as merely concerned with money management; budgeting, saving, investing, and insuring (Ali and Meysam 2018). These divergences in defining financial
literacy, bestowed with its newness (Knoll and Houts 2012), beckoned difficulties in precisely establishing and measuring the construct.

Leaving the arguments over the concept aside, however, researchers and organizations have tried to offer some conceptual definitions pertaining to financial literacy in a manner that enhances comparability and consistency across evidence bases (Angela et al. 2009). In view of that, the President's Advisory Council on Financial Literacy outlines financial literacy as the “ability to use knowledge and skills to manage financial resources effectively for a lifetime of financial well-being” (Annual Report to the President 2009). Sanjib (2016) also defined financial literacy in short as possession of knowledge and understanding about one’s own financial affairs.

Financial literacy, as a research area, is a new rapidly evolving body of knowledge under the spectrum of financial economics. Although the history of people’s concern over their financial affairs traces itself back to ancient times, it was not until the 21st century that the issue of financial literacy gained researchers’ attention (Lubis 2018). Since recent years, as stated by Harsha (2013), it has begun to be a prominent agenda for academicians, business practitioners, government agencies, societal organizations, and policymakers, across the globe. This contemporary evolvement in financial literacy can be attributed to the fact that financial institutions are becoming innovative with financial products and services which are complex for their beneficiaries (Elizabeth and Murray 2018; Kusum 2018). Moreover, the recent financial crisis also signaled a need to investigate the financial literacy of consumers (Luksander, Béres, et al. 2014).

Largely convinced by its significance for individual and societal wellbeing and in pursuit of new knowledge in finance, scholars have now started to place an emphasis on financial literacy. Few studies, such as (Lewis and Linda 2009; Harsha 2013; Tue 2017; Philippas and Tzora 2017; Kusum 2018; Rahman et al. 2018; Annamaria 2019), have been undertaken in the past few years. On top of that, most of the previous research works have disappointingly reported low levels of basic financial literacy even in developed Anglo-Saxon countries (Bhushan and Medury 2013). Thus, the issue what is really contributing for this low level of financial literacy? Remains as highly baffling as it is. This study is, therefore, designed to examine financial literacy and its determinants in a completely under-explored financial-economic setting, Ethiopia.

The fact that individuals are not rational decision-makers, is the heart of behavioral finance. In other words, behaviorists in the field of finance are convinced by the existence of pertinent psychological factors in financial decisions. As stated by Edwin and Sunit (2013), they propose some modifications in finance predictions to account for how people actually behave in economic situations.
Many academicians and practitioners residing in the standard finance camp, however, are yet to apprehend the effect of human emotions and cognitive errors on the decision-making behavior of individuals (Michael 2006). For these reasons, researches in behavioral finance are scarce. The financial literature has, for long, been narrowly concerned on the standard finance topics, to the neglect of behavioral finance (Edwin and Sunit 2013; Tesi 2013). Thus, the existing gap in behavioral finance literature reveals a need for further investigations on the issue.

Individuals have to possess better financial literacy during their lifetime (Philippas and Tzora 2017), so as to make an informed judgment on various financial decisions relating to borrowing, investing, and retirement planning (Tue 2017). Of course, in an attempt to appreciate the vital importance of financial literacy and following the emerging complexity in the financial system, which entailed difficulty for consumers, researchers and policymakers started to thematize financial literacy at the forefront of finance literature (Annamaria and Olivia 2014; Thomas 2010). Besides, the recent financial crisis is believed to have contributed for financial literacy to appear as global concern (Rahman et al. 2018). The findings in the extant literature are also mixed, primarily due to, the lack of common conceptual definition (Kamakia et al. 2017).

Enhancing financial literacy is especially of paramount importance to developing countries as it is helpful in enhancing an inclusive financial growth and a key for achieving other poverty reduction initiatives (Matewos et al. 2015). Nevertheless, as can be evidenced from the preliminary studies (Annamaria et al. 2009; Lewis and Linda 2009; Matewos et al. 2015; Lantara and Kartini 2015), the inquiries on financial literacy are confined to the developed economy settings, specifically in USA and European Union member countries. Only a few researches, such as (Ansong and Gyensare 2012; Kamer et al. 2019; Kefel 2010; Shibia 2016; and etc.), have been conducted in underdeveloped economies. Thus, there is also a literature availability gap in the developing economies, to which Ethiopia belongs.

Besides, as per the knowledge and access of the researcher, only just the studies by (Tsigereda 2014; Assefa and Rao 2018; Matewos et al. 2018; Habtemariam 2018; Kumaran 2019), have been conducted to date to investigate the issue of financial literacy in Ethiopia. On top of this, all these researches, with the exception of Habtemariam (2018), simply strained to assess the implications of the levels of financial literacy on personal financial management, with no regard to its determinants. Hence, alike the other developing economies, there exists a huge gap in establishing financial knowledge insights in the Ethiopian financial system. Induced by the aforementioned gaps,
therefore, this study tries to assess the levels and determinants of financial literacy in the Maichew town of Tigray region, Ethiopia.

1.1. Objectives of the study

The general objective of this study is to determine the level and determinants of financial literacy of civil servants in Maichew town. While attempting to achieve the general objective, the study also sought to accomplish the following specific objectives.

- To assess the financial literacy level of the students.
- To examine the effect of gender on financial literacy.
- To assess the influence of Age on financial literacy.
- To determine the effect of income level on financial literacy.
- To know the bearing of educational level on financial literacy.
- To assess the effect of access to financial news on financial literacy level.
- To examine the effect of having dependent families on financial literacy level.
- To examine the effect of the field of study on financial literacy.

1.2. Research hypothesis

On the basis of the extant literature (Chen and Volpe 1998; Ansong and Gyensare 2012; Bhushan and Medury 2013; Luksander et al. 2014; Lantara and Kartini 2015; Karaa and Kuğu 2016; Tue 2017; Laxmi and Maheshwary 2018), this study has developed the following testable hypotheses:

- H₁: The level of financial literacy of the respondents is low.
- H₂: Females have statistically significant low financially literacy than males.
- H₃: Older individuals are more financially literate than younger ones.
- H₄: Individuals with high income level are more financially literate than those with low income level.
- H₅: individuals with High Education level are better financially literate than those with low education level.
- H₆: Work experience of respondents has a positive significant effect on their financial literacy.
- H₇: Individuals with conjugal marital status are better financially literate than those who are single.
- H₈: Individuals who have access to financial news are more financially literate than those who have not access to financial news.
- H₉: Those who specialized in Business and Economics are more financially literate than those who are non-business and economics majors.
- H₁₀: Those who have dependents in household are more financially literate than those who have no dependents.
2. Literature review

2.1. Defining and measuring financial literacy

The concept of financial literacy is new for academics and scholars are yet to arrive at consensus (Kamakia et al. 2017). Individuals and organizations who initiated research on financial literacy insisted using their own definition and measurement (Remund 2010). Hence, the way it is defined in the literature greatly varies from study to study (Rasoaisi and Kalebe 2015). Even a glimpse look in several preliminary studies would substantiate the assertion that the concept of financial literacy seriously lacks a precise definition.

Several conceptual definitions, each with differing dimension of financial literacy, have been documented by those previous researches (Oscar and Andreas 2017). Nonetheless, having an established definition is central to ensure comparability and relative consistency across findings of studies (Pokrikyan 2016). Besides, devising a single standard definition and common view on its components are very fundamental to construct a standard measurement of financial literacy (Nicolini and Haupt 2019). In light of this, therefore, the term financial literacy could be systematized as conceptual definition and operational definition, i.e., measurement issue (Remund 2010).

According to Ali and Meysam (2018), the terms financial education, financial capability, and financial literacy are interchangeably used in the literature, and so are the reasons for not having a concise definition and concept. Correspondingly, many other studies itemized different concepts as dimensions of financial literacy. Huston (2010), asserts financial literacy as a composition of financial knowledge and application of the knowledge. Remund (2010) also views financial literacy as the bundle of understanding financial concepts, and possessing the ability and confidence to manage personal finances through sound financial decisions, while remaining vigilant to life events and dynamic economic conditions. Moreover, another most recent study by Swiecka et al. (2020) framed financial literacy in terms of three aspects; financial knowledge, financial behavior and financial attitude.

Nonetheless, the definition given by the Organization for Economic Cooperation and Development (OECD) is, by various scholars, regarded as broad and encompassing (Karaa and Kuğu 2016). It outlines financial literacy as a “combination of knowledge, behavior, and attitude necessary to make sound financial decisions and ultimately achieve individual financial wellbeing” (OECD 2011). As explained by Kimiyaghalam and Safari (2015), the conceptual definition of financial literacy could also be summarized from the extant literature as a composition of four dimensions; knowledge of financial concepts, ability in managing personal finance, skill in making financial and confidence on future financial planning.
According to several preliminary studies financial literacy is key for financial wellbeing of a society (Rasoaisi and Kalebe 2015). From the personal finance perspective, only financial literate consumers, as outlined by Bhushan and Medury (2013), will sail through tough economic times as they might have accumulated savings, purchased insurance and diversified their investments.

2.2. How financial literacy is measured?

Even in the absence of a common conceptual definition, researchers attempted most to operationalize the concept of financial literacy. In fact the way they put it into operational terms greatly varies across studies. It is apparent from the extant literature that the concept financial literacy is broad in scope. Given that breadth and its relative newness as research field (Knoll and Houts 2012), the measurement issue of financial literacy posits another difficulty (Kunovskaya et al. 2014).

In his review of 71 articles Huston (2010) established lack of conceptualization and definition of the construct, content of the instrument, and interpretation of the instrument as three barriers for having a standardized financial literacy measure. Hence, different studies have used different measurement items in a way that includes the variety aspects of financial literacy; financial knowledge, financial skills, financial behaviors, and etc. However, some of the financial literacy aspects such as financial behaviors and skills are found relatively complex to measure (Luksander, Béres, et al. 2014). What is more on this issue is, a newly emerging sect, Islamic financial literacy, is also contending for the biasedness of the financial literacy construct for the inclusion of unlawful elements such as interest and other concepts that are not under the philosophy of Islamic finance (Rahman et al. 2018). Therefore, the measurement issue of financial literacy is yet to be standardized.

Moreover, Huston (2010) summarized that majority of the studies he reviewed have used financial literacy and financial knowledge interchangeably in developing the financial literacy construct. Similarly, Kimiyaghalam and Safari (2015) appraised that, despite the fact financial literacy is more than just knowledge, the studies in the literature most dominantly defines and measures financial literacy in terms of financial knowledge. With the intent of maintaining comparability with the extant literature and induced by the studies of (Ansong and Gyensare 2012; Bhushan and Medury 2013; Rasoaisi and Kalebe 2015; Chatterjee 2018; Nicolini and Haupt 2019), this study ruminates only financial knowledge as a proxy for financial literacy.
2.3. What determines financial literacy?

According to findings of earlier studies conducted on the subject, several demographic, socio-economic, background and behavioral factors are said to affect the level of financial literacy (Lantara and Kartini 2015; Venkataraman and Venkatesan 2018; Jamaludin et al. 2019). Factors such as gender, age, marital status income level, education level, work experience, religion, place of residence, dependents, and field of study are among the mostly cited determinants of financial literacy. Moreover, access to financial information is also considered to have significant implication for financial literacy level of individuals (Karaa and Kuğu 2016; Mbarire and Ali 2014).

Ansong and Gyensare (2012) assessed financial literacy in 250 randomly selected undergraduate and post graduate students of Ghana and concluded age, work experience and mother’s educational level as positive predictors of the variations in financial literacy level. In that study, however, level of study, work location, father’s level of education, access to media, and source of education on money affairs were to have an insignificant relationship with financial literacy. Bhushan and Medury (2013) conducted a survey on 516 salaried individuals of the Himachal Pradesh district of India and found that gender, education, income, nature of employment and place of work have significant influence on financial literacy levels of salaried individuals, while age and geographic region have no significant effect on financial literacy.

In a study by Mouna and Anis (2016), a total of 350 Tunsian stock market participant households were surveyed and it is reported that age, education level and annual income have a significant positive relationship with financial literacy. In their theoretical review of financial literacy literatures, Laxmi and Maheshwary (2018) concluded that age, occupation, Income level, type of family, attitude and behavior towards investment avenues are significant factors affecting the levels of financial literacy. Norman et al. (2019), also conducted a study to examine the demographic determinants of financial literacy, and concluded that education, gender, and geographic location were significant determinants of financial literacy, while age and income level were not significant determinants. It should, therefore, be noted that selection of explanatory variables used in this study is primarily motivated by previous empirical findings.

3. Methodology

This study aims to determine the levels and determinants of financial literacy. Thus, both descriptive and explanatory types of research designs are pertinent for the purpose of this study. According to (Kothari 2004) descriptive research designs are used to describe the characteristics of a particular individual or groups, or specific situations. Descriptive research designs are employed in this study to describe the financial literacy level of the
salaried individuals and variety patterns and behaviors of the socio-economic factors. The explanatory research design, also called causal design, is used to explain the cause and effect relationships among different variables; dependent and independent variables. In this study the effect of the socio-economic and demographic factors on financial literacy will, therefore, be addressed by explanatory research design.

3.1. Research area

Maichew, also Maichew (Tigrinya: ከማይጨው, "salt water"), is a town and woreda in the souzern zone of Tigray Region, Ethiopia. It is located at 665 km north of Addis Ababa along Ethiopian Highway which runs to Mekelle (the capital city of Tigray region) with an altitude of 2479 meter. According to Ethiopia’s agro-ecological setting, Maichew and its environs are classified under the Weinadega (semi-temperate zone). Maichew is located in the endoreic basin of the Afar Triangle. The streams near Maichew do not reach the ocean. Based on the 2007 national census conducted by the Central Statistical Agency of Ethiopia (CSA), this town has a total population of 23,419, of whom 11,024 are men and 12,395 women. 95.28% of the population said they were Orthodox Christians, and 4.24% were Muslim. The 1994 census reported it had a total population of 19,757 of whom 8,894 were men and 10,863 were women.

Southern Tigray is one of the Zones in Tigray region of Ethiopian. It is bordered on the south and west by the Amhara Region, on the north by Debub Misraqawi (Southeastern) Zone, and on the east by the Afar Region. This zone is comprised of five woredas; namely, E/Alaje, Raya Alamata, Endamekhoni, Ofila and Raya Azebo, and three town administrations of Maichew Town, Korem Town and Alamata Town. Based on figures from the Central Statistical Agency in 2005, this zone has an estimated total population of 1,239,988, of whom 610,164 are men and 629,824 are women; 361,252 or 29.1% of its population are urban dwellers. With an estimated area of 9,310.96 square kilometers, Debubawi has an estimated population density of 133.18 people per square kilometer. The shaded region on the following map designates the southern zone of Tigray.

3.2. Population and sample size

The aim of this study is to assess financial literacy and its determinants among civil servants in Maichew town. The target population of this study is, therefore, all civil servants working in the town. According to the reports obtained from Maichew town administration office of civil service and social security, there are a total of 1,638 civil servants among which 1,020 of them are men while the remaining 616 are women. Due to economical and procedural matters it seems impractical to administer the survey over the total salaried individuals. Thus, taking some representative units, technically called
samples, is intuited as appropriate way to deal with. For that matter, sample size for this study is determined using the formula developed by (Yamane 1967) as follows:

\[ n = \frac{N}{1 + N \times (e^2)} \]

Where:
- \( n \) = sample size
- \( N \) = target population
- \( e \) = margin of errors (5% in this case)

Accordingly, the sample size for this study is determined as follow:

\[ n = \frac{1,638}{1 + 1,638 \times (0.05^2)} \approx 32 \]

3.3. Data and instrument

Data for this study are collected through self-administered questionnaire. The questionnaire designed for this study primarily contained two major parts. The first part covers socio-demographic and economic data of the respondents, where respondents are asked to provide genuine response about their age, gender, marital status, education level, work experience, monthly income, dependents on household, field of study, and whether they have access to financial news. The second part of the questioner consists of 5 questions related to financial literacy, adopted from (Lusardi and Mitchell 2011) and other subsequent studies on the subject. Those said five questions have been applied in several studies, mainly due to their relative precision (Karaa and Kuğu 2016). Those five questions cover the concepts of basic numeracy, compound interest, inflation, time value of money, and money illusion.

3.4. Variables description

Dependent variable: In this study financial literacy is the dependent variable. As pointed out by extant literature, this concept is yet to have a standardized measurement and studies are using different tailored made techniques of measuring financial literacy. Some have measured it in blended terms of financial knowledge, skill, behavior, and confidence, while others narrowly defines it in context of financial knowledge only (Ansong and Gyensare 2012; Bhushan and Medury 2013; Rasoaisi and Kalebe 2015; Chatterjee 2018; Nicolini and Haupt 2019). Persuaded by those previous researches, therefore, this study opted to define and measure financial literacy in a manner similar to the latter ones.

According to Razali (2018), a respondent who scored greater than or equal to three points out of the five questions, adopted from (Lusardi and Mitchell 2011), is considered as high
financially literate, whereas one who scored less than three points is considered as low financially literate. In view of that, this study classified respondents into high and low financially literate categories, based on their score points, and thus considers financial literacy as dummy variable.

**Independent variables:** In view of the extant literature and greatly induced by (Chen and Volpe 1998; Ansong and Gyensare 2012; Bhushan and Medury 2013; Luksander et al. 2014; Lantara and Kartini 2015; Karaa and Kuğu 2016; Tue 2017; Laxmi and Maheshwary 2018), Age, Sex, Marital Status, Work Experience, Religious faith, Level of Education, Field of Study, Income Level, access to financial news, and the presence of dependents on the household were used as independent variables in this study. Each of those variables, along with the dependent variable, are described as follow:

*Table 1: Descriptions of study variables*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description of the variable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent</strong></td>
<td></td>
</tr>
<tr>
<td>Financial literacy</td>
<td>Dummy variable that takes 1 if the respondent scored more than three on the financial literacy test and 0 otherwise.</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>Continuous expressed in terms of the years since the birth of the respondent.</td>
</tr>
<tr>
<td>Sex</td>
<td>Dummy that takes 1 if female and 0 otherwise.</td>
</tr>
<tr>
<td>Marital status</td>
<td>Nominal that takes the values 1 if single and 0 if conjugal.</td>
</tr>
<tr>
<td>Dependents</td>
<td>A dummy variable that takes the value 1 if the respondent has economically dependents upon him and 0 otherwise.</td>
</tr>
<tr>
<td>Work experience</td>
<td>Continuous expressed in terms of number of years the respondent has been in service.</td>
</tr>
<tr>
<td>Education level</td>
<td>Interval in nature that takes the value of 1 for high school and below, 2 for diploma, 3 for BA degree, and 4 for Masters and above.</td>
</tr>
<tr>
<td>Field of study</td>
<td>Nominal that takes the value of 1 for Business and Economics and 0 otherwise.</td>
</tr>
<tr>
<td>Access to financial news</td>
<td>It is a dummy variable that takes the value 1 if the respondent has access to financial news and 0 otherwise.</td>
</tr>
<tr>
<td>Income</td>
<td>A continuous variable that takes the value of the natural logarithm of respondent’s monthly salary.</td>
</tr>
</tbody>
</table>

3.5. **Model specification**

The dependent variable used in this study is dichotomous that takes the value of either 0 or 1; where 1 is for high financial literate and 0 is for low financial literate. The association between such types of binary dependent variable and set of predictor variables are better dealt through models other than the linear regressions. Given the better interpretational simplicity from its Probit counterpart, and induced by several preliminary studies on the
subject (Beal and Delpachitra 2003; King 2014; Thapa and Nepal 2015; Oseifuah et al. 2018), the logit regression model of the following formula is used in this study:

\[
P(Y = 1/X) = \frac{e^{\beta'X}}{1 + e^{\beta'X}}
\]

\[
P(Y = 0/X) = 1 - \frac{e^{\beta'X}}{1 + e^{\beta'X}} = \frac{1}{1 + e^{\beta'X}}
\]

This probability model is a regression of the conditional expectation of Y on X given as follow:

\[
E(Y \mid X) = 1(F(\beta'X_i) + 0(1 - F(\beta'X_i)) = F(\beta'X_i)
\]

Where the \(F(\beta'X_i)\) term is the cumulative distribution function of a symmetric probability distribution usually called the standard logistic function. Since this model may not give warrant of linearity in the association, the coefficients of the equation doesn’t necessarily indicate the effect of the independent variables on the dependent variable. For that matter, the logit model used in this study is estimated by using the maximum likelihood method of estimation. To analyze the impact of the socio-economic and demographic factors on the level of financial literacy, the following empirical model is specified for this study:

\[
\text{logit(Pr. (Y = 1|X)) = logit (Pr. FL = 1/X) =}
\]

\[
= \beta_0 + \beta_1.(Gndr) + \beta_2.(Ag) + \beta_3.(Incmlv) + \beta_4.(EduL) + \beta_5.(Wexp)
\]

\[
+ \beta_6.(Marst) + \beta_7.(AcsFn) + \beta_8.(FldS) + \beta_9.(Dep) + \varepsilon
\]

Where:

\(Pr. = \text{the probability of a respondent being high financial literate}\)

\(Y = \text{the dependent variable, level of financial literacy}\)

\(X = \text{the set of predictor variables}\)

\(FL = \text{Financial Literacy}\)

\(Gndr = \text{Gender of a respondent that takes 0 if he is male and 1 if she is female.}\)

\(Ag = \text{Age of a respondent expressed in terms of years.}\)

\(Incmlv = \text{respondent’s monthly salary.}\)

\(EduL = \text{Education level achieved that takes the value of 1 for Diploma and below, 2 for BA degree, and 3 for MSc. degree and above.}\)

\(Wexp = \text{Work experience expressed in terms of years.}\)

\(Marst = \text{Marital status of a respondent that takes 0 if he/she is conjugal and 1 if he/she is single.}\)

\(AcsFn = \text{Access to financial news that takes the value of 1 if a respondent has access to finance related news and 0 otherwise.}\)

\(FldS = \text{Field of study that takes 0 for None-Business and 1 for Business and Economics related.}\)
\( \beta_0, \beta_1, \beta_2 \ldots \beta_9 = \) the coefficients of the regression model.

\( \epsilon = \) error term

4. Results and Discussions

4.1. Descriptive statistics

To apprehend the basic characteristics and patterns of the data sets different relevant descriptive statistical measures are employed in this study. As the variables used in this study are composed of both discrete and continuous, different statistical measures such as mean, standard deviation, minimum and maximum values, and frequencies and percentages are jointly used to describe the variables.

As indicated in the table below, a total of 271 usable questioners were returned and of those participated in this study, 169 representing about 62.36% are males while the remaining 102 that represents 37.64% are females. The reason for this much statistical range in gender ratio might be attributed to the cultural stigma of the society. It is true that until very recent years they were only the males that are assigned to take off-home duty. Of the total participants, 93 that takes about 34.32% are diploma complete and below, 168 that make up 61.99% of the respondents have got Bachelor degree, and only 10 in number that comprises 3.69% have attained an MSc. degree and above. 154 of the respondents that represents 56.83% are conjugal (either are still in marriage relationship or divorced or widowed), whereas the remaining 117 that take up to 43.17% are still single.

Majority of the respondents, 190 in number or about 70.11 in percentage, are none-business majors, while only the remaining 81 or 29.89% are business and economics majors. 131 out of the total 271 respondents that represent about 48.34% have no access to financial news, be it from print or digital media, while the remaining 140 or just 51.66% of the total have access to financial news. 113 of the participants (about 41.70%) have no economically dependents, whereas the remaining 158 that represent 58.30% of the total have economically dependents. This is also true as education in the nation is of recent phenomena.

Table 2: descriptive statistics of discrete variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Categories</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gndr</td>
<td>Male</td>
<td>169</td>
<td>62.36</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>102</td>
<td>37.64</td>
</tr>
<tr>
<td>EduL</td>
<td>Diploma &amp; below</td>
<td>93</td>
<td>34.32</td>
</tr>
<tr>
<td></td>
<td>Bachelors</td>
<td>168</td>
<td>61.99</td>
</tr>
<tr>
<td></td>
<td>Masters &amp; above</td>
<td>10</td>
<td>3.69</td>
</tr>
<tr>
<td>Marital status</td>
<td>Single</td>
<td>117</td>
<td>43.17</td>
</tr>
</tbody>
</table>
One objective of this study is to describe financial literacy level of the respondents. In view of that, financial literacy is statistically tabulated in the above table, and the majority of respondents fall under the low financial literacy group. About 72.69 percent of the participants, which is 197 of the 271 in number, have scored below three score points out of the five financial literacy questions, while only 27.31% of the respondents have managed to score above three points out of the five questions. Plainly, therefore, it is robust to conclude that the respondents have low financial literacy. Obviously, several previous researches as well have reported a low level of financial literacy (Mbarire and Ali 2014; Sjam 2015; Wanjiru 2017), and hence this research is consistent with them at all. In this respect the study conducted by Habtemariam (2018) also reported a low level of financial literacy in owners/managers of small and micro enterprises in Addis Ababa city administration.

As indicated in the table below, the minimum age score of the participant is 20 while the maximum is 50. And more, the respondents have a maximum of 20 years work experience only. The minimum monthly salary of the respondents is birr 1137 while the maximum is birr 9525. There is a huge dispersion in the income of the respondents as there is a standard deviation of Br. 1505.66 and a range of Br. 8388 in income level.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>271</td>
<td>30.15</td>
<td>5.52</td>
<td>20</td>
<td>50</td>
</tr>
<tr>
<td>Income</td>
<td>271</td>
<td>4236.33</td>
<td>1505.66</td>
<td>1137</td>
<td>9525</td>
</tr>
<tr>
<td>Work experience in years</td>
<td>271</td>
<td>5.158672</td>
<td>3.856777</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

4.2. Model diagnosis tests

To test for the model specification, a test called linktest, have been performed. This linktest uses the linear predicted value (_hat) and linear predicted value squared (_hatsq) as predictors to rebuild the regression model. In order for a model to be considered well specified, the linear predicted value (_hat) should be statistically significant with P-value
of less than 0.005 (P < 0.005), at the 95% confidence interval, whereas the linear predicted value square (_hatsq) must be statistically insignificant with P-value of greater than 0.005 (P>0.005). Insignificant (_hatsq) is associated with insignificant linktest. In this study the model is considered well specified as it is found to have an insignificant linktest.

**Table 4: linktest model specification test**

| FL   | Coef.   | Std. Err. | Z     | P>|z|   | [95% Conf. Interval] |
|------|---------|-----------|-------|-------|----------------------|
| _hat | .8944386| .1769845  | 5.05  | 0.000 | .5475553             |
| _hatsq| -.0753642| .0890605  | -0.85 | 0.397 | -.2499197             |
| _cons| .0705725 | .2033812  | 0.35  | 0.729 | -.3280473             |

Another diagnostic test, Hosmer and Lemeshow’s test, was used to test for the model fit. A common practice in this test is to construct a contingency table of 2 by 10 size, by combining the patterns formed by the predictor variables of the model. Under Hosmer and Lemeshow’s test, the larger the P-value is the better fit the model is. Accordingly, in this study the p value is 0.218, signifying the goodness of the model in its fit.

**Table 5: Hosmer's goodness of fit test**

<table>
<thead>
<tr>
<th>Numbers of observations</th>
<th>Number of groups</th>
<th>Hosmer-Lemeshow chi2</th>
<th>Prob &gt; chi2</th>
</tr>
</thead>
<tbody>
<tr>
<td>271</td>
<td>10</td>
<td>10.72</td>
<td>0.2180</td>
</tr>
</tbody>
</table>

The model was also tested for the possibility of multicollinearity and no serious such problem was observed, as the pairwise correlation among the independent variables is, all in all, less than 0.8, which is considered as the threshold.

### 4.3. Regression analysis

To examine the determinants of financial literacy, the dependent variable FL was regressed on the independent variables gender, age, income level, education level, work experience, marital status, access to financial news, field of study, and the presence of dependents on the household. On this regard, as shown in the log likelihood chi-square value of 87.69, which is significant at 1% significance level, the independent variables in this model, altogether, are better in explaining the variations in financial literacy level than a model with no explanatory variable. In this regression gender, field of study, access to financial news, the presence of dependents on household are found to have a statistically significant effect on financial literacy level of respondents at 1% level of significance.
Table 6: logistic regression results

| FL          | Odds Ratio | Std. Err | Z     | p>|z| | [95% Conf. Interval] |
|-------------|------------|----------|-------|-------|----------------------|
| Gndr        | 0.131913***| 0.0576442| -4.64 | 0.000 | 0.0560175 to 0.3106357|
| Ag          | 1.039439   | 0.0519062| 0.77  | 0.439 | 0.9425251 to 1.146319 |
| IncmLv      | 2.936742   | 3.813254 | 0.83  | 0.407 | 0.2304683 to 37.42144 |
| EduL (BA)   | 1.304947   | 0.4918382| 0.83  | 0.407 | 0.6234083 to 37.42144 |
| EduL (MSc.) | 0.1254632  | 0.167931 | -1.55 | 0.121 | 0.0091032 to 1.729175 |
| Wexp        | 0.9152105  | 0.0637147| -1.27 | 0.203 | 0.798477 to 1.04901  |
| MarSt       | 1.139683   | 0.3969117| 0.38  | 0.707 | 0.5758907 to 2.255422 |
| AcsFn       | 4.349327***| 1.54658  | 4.13  | 0.000 | 2.166421 to 8.73175  |
| FldS        | 3.06365*** | 1.057331 | 3.24  | 0.001 | 1.557655 to 6.025692 |
| Dep         | 0.2845267***| 0.0954807| -3.75 | 0.000 | 0.1473937 to 0.5492462|
| Constant    | 0.003015   | 0.0136999| -1.28 | 0.201 | 4.09e-07 to 22.23446 |

Note: Variables marked *** are significant at the 0.01 level of significance. There are no significant variables at the other standard levels of significance.

Gender is found to have strong statistical relationship with financial literacy, at 1% significance level. Holding all other factors constant, the odds for being high financially literate are 86.81% lower for females compared to their male counterparts. Hence, H1 of this study is accepted. This finding corroborates the findings of earlier studies (Annamaria et al. 2009; Bhushan and Medury 2013; Luksander, Béres, et al. 2014; Potrich et al. 2014; Rasoaisi and Kalebe 2015; Tue 2017; Jeyaram and Mustapha 2015; Tahir and Alfred 2018; Norman et al. 2019). But also contradicts with the study conducted by Mbarire and Ali (2014), where women were found to be more financially literate than men. In other similar studies (Morgan and Trinh 2019; Rahmatia 2019), gender was found to have no statistical significant effect on financial literacy.

According to Lusardi and Mitchell (2014), the gender difference in financial literacy is persistent and widespread across surveys and countries. This could be partially explained in light of the traditional role model that women only have an incentive to invest in financial literacy late in their lives (Hsu 2011), the claim that there are differing levels of confidence (Koenen, et al. 2016), and the existence of diverging interests (Brown and Graf 2013). However, none of these approaches can entirely explain this gender difference (Stolper and Walter 2017), and thus further researches are required to close the
debate (Lusardi and Mitchell 2014). Obviously, numerous researches have documented that financial decision making among married people mostly vests on the hands of husbands, and thus it gives rise to the gender difference. This is particularly true of developing countries as women in such countries have no the empowerments to take part in the socio-economic and political affairs.

Access to financial news is also found to have a significant effect on financial literacy level of the respondents. From the output of the logistic regression, the odds for being high financially literate are 3.35 times larger for those who have access to financial news than those who don’t have the access. Accordingly, H7 of this study, which expected better financial literacy for those with access to financial news, is accepted. This finding supports the results of Karaa and Kuğu (2016), where social media users were found to be better financially literate than the none-users, and that of Mbarire and Ali (2014), where strong association between access to financial news and financial literacy was reported. But, the finding of this study contradicts the result reported by Ansong and Gyensare (2012), where access to media was found to have an insignificant influence in financial literacy. The positive contribution of access to financial news for financial literacy, found in this study, is justifiable as news outlets could help the users to rehearse some financial knowledges.

Field of study has significant relationship with financial literacy at 1% level of significance, where business majors have higher financial literacy than none-business majors. In this study the odds for being high financially literate are approximately 2.064 times larger for business and economics majors than none-business and economics majors. Therefore, the eightieth hypothesis of this study is accepted. This finding corroborates with earlier findings of (Chen and Volpe 1998; Rasoaisi and Kalebe 2015; Mbekomize and Mapharing 2015; Jamaludin et al. 2019). According to Chen and Volpe (1998), business majors are more financially literate because the curriculum requirement in the field provides them with opportunity to take finance and related courses. Similarly Jamaludin (2019), stated that business majors are more financially literate than the non-business majors as the syllabus in business programs is helpful in equipping them with financial knowledge. This statement is also supported by Chatterjee (2018), in which introductory finance courses offered in business schools were found to be contributing factors of financial literacy levels.

Having dependents in household is also found to have a statistically strong relationship with financial literacy level of respondents. The regression output indicates that the odds for being high financially literate are 71.55% lower for those who have dependents compared to those who have no dependents in the household. Hence, the ninth
The other predictor variables included in this study; namely, age, income level, education level, work experience, and marital status are found to have no significant effect on the financial literacy level of respondents. Even though it is not significant, the odds for being high financially literate increases by approximately 3.94\% for each one year increase in age. Thus, in this study the third hypothesis, pertaining to the effect of age on financial literacy, is not accepted as age is found to have no significant implication for financial literacy. This finding is similar to (Norman et al. 2019; Bhushan and Medury 2013), where age is found to have positive relationship but statistically insignificant effect on financial literacy, nonetheless in contradiction with (Chen and Volpe 1998; Mbarire and Ali 2014), in which younger participants were found to be less financially knoweldgable.

In this study income level is also found to have no significant effect on financial literacy. The odds ration in the regression shows that individuals with higher income level may well have a 1.94 times higher level of financial literacy. Nonetheless, as this relationship is not statistically significant, the fourth hypothesis of this study will not be accepted. And this is robust enough to conclude that income level has no bearing on financial literacy. The finding of this study supports (Mbarire and Ali 2014; Norman et al. 2019) in which income level was found to have no siginificant association with financial literacy.

In this study, it is also found that education level has no significant influence on financial literacy. The odds ratio of education level indicates that individuals with Batchelors degree could have 0.266 times higher probability of being financially literate than the reference group, diploma holders and below. Conversely, those masters degree holders could have 2.076 times less probability of being financially literate than the diploma holders. In this regard, close investigation of the data shows that most of the Masters degree holders are from the non-business streams and have longer work experience, causing some degree of intricate interrelationship among field of study, education level, and work experience.

Thus, as a result of this interactional effect of field of study, education level, and work experience, masters degree holders are found to have lower financial literacy than the diploma holders. Nevertheless, the relationship between education level and and financial literacy is not statistically significant. Therefore, the fourth hypothesis of the
The result of this study corroborates with that of (Huston 2010; Rahmatia 2019), but contradicts with that of (Lusardi et al. 2009; Mbarire and Ali 2014; Norman et al. 2019).

Work experience is also found to have no significant effect on financial literacy level of the respondents. The odds for being high financially literate shrink by 8.48% for every one year increase in work experience of the respondents. This negative relationship is, however, insignificant and thus the fifth hypothesis of this study is not accepted. This finding contradicts the finding of Lantara and Kartini (2015), in which work experience was found to be a positive and significant determinant of financial literacy.

In this study it was found that single individuals are more financially literate than those conjugal. Though it is not statistically significant, the odds for being financially literate are 13.97% higher for the single respondents compared to the married/engaged ones. Thus, the sixth hypothesis of this study is not accepted, as marital status has positive but insignificant effect on financial literacy of the respondents. This finding is somehow in contradiction with the result reported in Luksander, Béres, et al. (2014), where married and divorced were found to have higher financial literacy scores than the unmarried respondents.

5. Conclusions and recommendations

This study attempted to describe the prevailing level of financial literacy and its determinant factors from a completely unknown financial economics setting. In general a very low level of financial literacy has been observed from the sampled units of 271 respondents. The low level of financial literacy is observed to be serious specially in females, as huge gender gap is reported under the logit regression analysis. Besides, business majors are found to be better financially literate than the none-business majors. Similarly, households who have access to financial news and/or have no dependent family members are better literate than those who don’t have access to financial news and/or have dependent family members. All those conclusions, combinedly, warrants the researcher to forward the following major recommendations:

Firstly, the low level of financial literacy observed highlights the need for provision of an enhanced financial education to the general public. As it is documented in the extant literature, financial literacy is significant determinant factor for financial well being of individuals and society at large. Owing to this importance, provision of financial education should receive priority as a public agenda. Of course, several universities, both public and private owned, operating in the nation have numerous business schools. But, all business and economics courses being offered in those institutions are mostly focused on business finances, to the neglect of behavioral finances. Therefore, revisiting
the existing curriculem to incorporate behavioral finance and economics courses to the existing ones, is one possible way forward to provide enhanced financial education. Further more, the public servants in the nation are most dominantly from none-business majors, where finance and economic courses are not offered at all. Thus, offering such courses as common courses at fresh man level is another possible remedy to tackle the prevailing low level of financial literacy.

Secondly, women should be empowered to participate more on the socio-economic affairs of the nation, so as to fill the gender gap in the financial literacy levels. Encouraging and educating females would enable them feel confident to take part in the financial planning and related decisions of their household. By doing so, women can be relieve from any financial problems that would happen to them as heads of a family.

Thirdly, owing to their role in influencing generations, different media platforms operating in the nation should work towards bringing financial literacy to the forefront of public attention, by hosting different shows and discussions, publishing financial articles and reviews, incorporating business news as news stories, and so on. Besides, policy makers should think of introducing financial planning as new scheme of family planning. As a result, the financial well being of the society and economic growth of the nation might well be achieved.

References


