

# **Determinants of Financial Inclusion for Youth entrepreneurship: Evidence from Addis Ababa City and Shirka Wereda**

## **Community Based Monitoring System (CBMS) Project**

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## **ABSTRACT**

The objective of this study is to identify the factors which affect youth financial inclusion in Ethiopia. A total of 4928 observations have been surveyed from two areas.

The study used binary logit analysis to identify what factors contribute for the youth to be financially included. In addition, to investigate the preference of the youth from available financial provider multinomial logistic regression has been utilized. Moreover, to reveal the degree of usage of financial services ologit analysis has been used. At the end propensity score matching has been used to see the effect of financial inclusion on youth income.

Data from total of 4928 youth has been collected and found that 43 % are male and 57 % are female respondents.

The findings reveal that 65.32 % of the respondents are financially excluded. It also shows females are more highly excluded than male population. The econometric analysis shows that financial literacy, religion, repayment period, age, technology utilization and access to informal sectors has an effect on youth to be financially included. Specifically financial literacy, cost of capital, regulatory and legal environment, collateral, male gender and informal access contributes positively for financial inclusion. However Religion, repayment period and loan size affects youth financial inclusion negatively.

In reference to the findings provision of financial training, efforts to comply financial service with religion, introducing latest technology, and restraints on pledging collateral have to be made so as to improve the status of youth financial inclusion in the area.

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## CHAPTER ONE

### 1. INTRODUCTION

#### **1.1. Background and Justification of the Study**

Unemployment is a major challenges which affect the day to day life of the youth population of the modern era. Despite recent improvement, unemployment and underemployment still are serious problem in Ethiopia (Nayak, 2014). Age range analysis shows mostly unemployment is observable on youth. Youth in urban areas are vulnerable to the problem of unemployment. The 2013 Ethiopian national labor force survey result reveals that the unemployed population of the country was 1,981,165 with unemployment rate of 4.5 percent. This indicates 5% are unemployed from economically active individuals above ten years old.

As a means of tackling the unemployment problem, promoting entrepreneurship, self-employment and small businesses expansion have become central to foster job creation and economic growth (Garrido, et al, 2012).

A fluid economic system consist of successful, growing and integrated micro, small and medium-sized enterprises to achieve economic and employment growth and ensure the competitiveness of an area. MSEs are the heart of effort of productive employment system. For example in America these type of business generates 50% for private sector and more than 65 percent of the total new jobs for the past 15 years (Garrido, et al, 2012). To create job opportunities, ensure integration, and support self-employment for unemployed workforce supporting MSEs is the driving force. Regardless of its size every business needs access to financial resources which ensures start-up, facilitates growth and maintains successful development. However, the major challenge of MSEs is 1/3<sup>rd</sup> of don't have access to financial services to have the benefit of potential growth. (Garrido et al, 2012). The problem is more pronounced among women micro and small business owners as International financial corporation (IFC) has predicted that globally a \$300 billion difference in financing exists for formal, women-owned small businesses, and greater than 70 percent of women-owned MSEs have insufficient financial services Females are more likely to be financially excluded, perhaps due to their underprivileged status (Samra, 2012).

Gichuki et al (2014) also stated that the fundamental element for the development of an MSEs is access of finance specifically bank finance. Data collected by the World Bank indicates to do business the main obstacle is access to finance. Access to appropriate financial services and

capital is needed, not only for the population that has traditionally been served, but also for the many more thousands of entrepreneurs, micro and small businesses, with less than ten employees that now face similar difficulties accessing traditional sources of credit (Garrido, et al, 2012).

In Africa the emergence and growth of MSEs have linkage with challenge to access finance. Retained earnings, loan association as well as informal saving are the main source of capital for MSEs. These sources are thought to be not secured and unpredictable. Considering the high risk of default and insufficient financial facilities, access to finance is not good for MSEs. Considering inability to repay loans, poor guarantee and absence of information, Africa's MSEs rarely meet FSPs conditions Gichuki et al, 2014).

The "MSEs Development Strategy" which has been published in November 1997 by the Ministry of Trade and Industry of Ethiopia enlightens an approach to eliminate the challenges of MSEs. The program indicates how to act with regard to the creation of MSEs and handle cases related to the expansion and establishment of MSEs. Moreover, specific supports are: provision of incentives, facilitating access to finance, promotion of partnerships, access to market, access to finance, access to appropriate technology, access to information and advice, infrastructure and institutional consolidation of the private sector and access to market (Girma, 2015).

Though efforts have been made to promote SMEs in rural area the country is set 150<sup>th</sup> country with full challenges for the population to access credit (World Bank 2012). Particularly, youth are often excluded from access to formal financial services, as FSPs have neglected youth or offered them services that were not adapted to their characteristics and needs. Reasons for this financial exclusion include legal restrictions, high transaction costs and negative stereotypes about youth.

Financial inclusion is defined by Sarma (2012) as the activity of making access to finance to all members of the community easy, available and usable. Financial inclusion is measured by the degree to which financial service providers offer unlimited financial services like deposits, loans, payment services, money transfer and insurance at reasonable cost to people, particularly, to the majority of disadvantaged and low income groups (Amidzic et al,2014 and Basavaraja ,2009).

Regulatory frameworks and inclusive policies that are both youth friendly and protective of youth rights are needed to increase youth financial inclusion. International, national and local governmental institutions and NGOs need to work on youth entrepreneurship and youth financial

inclusion to reduce unemployment and poverty, and achieve inclusive and sustainable development.

The UN has shown a commitment to youth financial inclusion through different programmes. Through programmes like UNCDF-YouthStart, more than 110,000 youth have opened a savings account in a formal FSP in sub-Saharan Africa. The Child and Youth Finance Movement has ensured outreach to over 18 million children and youth around the world. The United Nations Children's Fund (UNICEF) has also partnered with Aflatoun, a non-government organization based in the Kingdom of the Netherlands, to promote curricula facilitate youth learning in the areas of social responsibility and financial competency. Moreover, the UN Secretary-general made public the United Nation's commitment to the Child and Youth Finance Movement at the first Child and Youth Finance International Summit, which took place in Amsterdam in April 2012. The summit brought together 364 participants from 83 countries including 70 youth participants from 40 countries.

Tilahun (2017) has stated that the national financial inclusion strategy of Ethiopia has planned to achieve two overarching goals of Growth and Transformation Plan 2015/16-2019/20 by increasing domestic savings and jobs by fostering a vibrant productive sector emphasizing the two tracks of financial inclusion; saving mobilization and fostering job creation will support Ethiopia's transformation from agricultural to manufacturing industrial economy. Particularly, in the national financial inclusion strategy has set certain targets to be achieved by 2020. Those targets include; 40 percent of adults will save money at regulated financial institution, 5 percent of adults will report insurance policy, 80 percent of adults will live within the maximum of 5 kilometers from formal financial service providers, and increasing micro and small enterprises lending by 15percent. The strategy has indicated that, Building good roads for the delivery of a range of financial products and services through modern payment infrastructures is one of the preconditions for financial inclusion. Payment infrastructures enable financial inclusion facilitating the emergence of products and services that are delivered through cost effective channels like mobile phones and internet. According to this strategy, priority will be given to broaden the electronic network of individual banks and micro-finance institutions. It is mentioned that digitalization of payments is critical for expansion of financial services and usage. Priority actions for the national financial inclusion strategy include reviewing the role,

regulation and oversight of technological service providers, given their potential to facilitate adoption of transaction accounts and the emergence of convenient and ubiquitous access points. Though efforts are made to promote financial inclusion, evidence from the Global Findex 2014 database indicates that youth make up a disproportionately large share of unbanked persons worldwide. Global figures highlight the fact that 46 per cent of youth (aged 15 to 24) have an account at a formal financial institution, compared with 66 per cent of adults (aged 25 and above). Just 18 per cent of youth report having saved formally in the past year, in comparison to 30 per cent of adults, and 5 per cent report having borrowed formally, compared to 12 per cent of adults (see table 1). According to this Findex survey, in Sub-Saharan Africa, the level of youth financial service participation in saving account ownership, having credit and deposited in financial service providers is 20, 3, and 11 percent respectively. In the same way, Sykes, et al (2016) has also indicated that 77.4 percent of youth in sub-Saharan Africa don't use personal financial services from formal financial institutions and only 6 percent of them have personal services from formal financial institutions. Comparatively, 18.9 of the youth have a personal service from informal sources. Zeru (2010) has stated that more than 2/3 of the Ethiopian population has access to an informal finance provider such as "Iddir" (death benefit) and Iqqub (rotating cash credit and savings organizations). So, it is essential to look at the ways of integrating the formal financial system (specially, loan system) with these kinds of informal credit and saving organizations to ease the access of financial services.

In Ethiopia alone, access continues to be a national issue as less than eight percent of Ethiopians has a formal bank account. The percent of borrowers is even smaller. Micro financial institutions reached 14.5 percent of households which are too small. There is empirical evidence that micro financial institutions are not in a right position to guarantee access to financial services for MSEs and poor part of the community. Micro financial institutions don't have the capacity to meet the need of urban and rural poor towards financial services. A majority of people in rural area and poor in urban areas haven't access to financial services. Small financial institutions like credit unions and cooperatives can't meet the credit requirements. Gebregziabher (2015) citing the enterprise survey conducted by from 2011-2012 by world bank, stated that despite the positive trend in saving, access to credit is problematic as only 6 percent of microenterprises and 1.9 percent of small enterprises have credit facilities. The Enterprise Surveys showed 41% of MSEs felt access to finance was a major constraint, although problems tend to be more complex than



this. Among firms who applied for a loan or line of credit in the last fiscal year, 57.3% and 87.9% of applications submitted by micro and small firms respectively were rejected. This all evidences justify that the country is far from achieving the strategic goal it has established to meet by 2020 and people, particularly, youth' exclusion from financial services remain a problem.

Thus, this study is intended to provide information (inputs) that can be used by local officials and policy makers for identifying the factors that are hindering micro and small business owners (particularly, youth entrepreneurs) from accessing financial services from formal financial institutions. In particular, this pilot study was designed to determine major determinants of financial inclusions for youth entrepreneurship in Addis Ababa and Shirka Wereda. Additionally, the study has explored the level of youth (male and female) financial inclusion in the Addis Ababa sub-city Wereda 10 and Shirka Wereda Gobessa town and Mitana Gado Kebele. Moreover, it has measured the impact of being financially included on youth (male and female) entrepreneurs' welfare in the Addis Ababa sub-city Wereda 10 and Shirka Wereda Gobessa town and Mitana Gado Kebele.

## **1.2.RESEARCH QUESTIONS, OBJECTIVES AND HYPOTHESIS**

### **1.2.3. RESEARCH QUESTIONS**

#### **Main research question**

Which factors of inclusive finance have an effect on youth' (male and female) financial service reception and preference?

#### **Specific Research Questions**

1. What is the level of youth (male and female) financial inclusion in the study area?
2. What is the level of youth (male and female) entrepreneurship in the study area?
3. What is impact of being financially included on welfare of youth (male and female)?
4. Does involuntary financial exclusion exceed voluntary exclusion among youth (Male and female)?

## **1.3.OBJECTIVE OF THE STUDY**

The general objective of this study was to identify determinants of financial inclusion for youth entrepreneurship.

### **Specific objectives of the study**

- To explore level of youth (male and female) financial inclusion in the Addis Ababa sub-city Wereda 10 and Shirka Wereda Gobessa town and Mitana Gado Kebele.
- To explore the level of (male and female) youth entrepreneurship in the Addis Ababa sub-city Wereda 10 and Shirka Wereda Gobessa town and Mitana Gado Kebele.
- To measure the impact of being financially included on youth' (male and female) welfare in the Addis Ababa sub-city Wereda 10 and Shirka Wereda Gobessa town and Mitana Gado Kebele.
- To compare the prevalence involuntary and voluntary financial exclusion of youth (male and female) in the Addis Ababa sub-city Wereda 10 and Shirka Wereda Gobessa town and Mitana Gado Kebele.
- To identify which factors of financial inclusion are more determinants in financial reception and preference among youth in the Addis Ababa sub-city Wereda 10 and Shirka Wereda Gobessa town and Mitana Gado Kebele.

## **1.4.HYPOTHESES**

### **Hypothesis for the main research question**

The involuntary factors (insufficient income, high risk, discrimination, lack of information, weak contact, price barrier due to market imperfections etc) overweight the voluntary factors in determining the financial inclusion among youth (male and female).

### **Here are hypotheses for the other research questions:**

**H<sub>1</sub>:** The status of financial inclusion is very low in the project areas.

**H<sub>2</sub>:** The level of youth (male and female) entrepreneurship is low in the study area

**H<sub>3</sub>:** The welfare of financially included youth (male and female) is better than those who are financially excluded

**H4:** The involuntary factors (insufficient income, high risk, discrimination, lack of information, weak contact, price barrier due to market imperfections etc) overweight the voluntary in determining the financial inclusion among youth (male and female).

## CHAPTER TWO

### 2. REVIEW OF LITERATURE

#### 2.1. DETERMINANTS OF FINANCIAL INCLUSION

The existence of price and non-price factors of financial service utilization is associated with financial exclusion (Adelaw and Adeyemi, 2011). The presence of significance diversity, measurement of financial exclusion is a complex task. Similarly, Global Financial Development Report of World Bank (2014) identified four main types (no need for financial service, religion or culture, insufficient income and discrimination, price barrier and lack of information) of financial inclusion which includes involuntary and voluntary exclusion. (Amidzic et al, 2014). Voluntary exclusion is about the part of the population or firms that avoids using financial services either due to the reason they do not want those services because of absence of promising projects or for the reason of religious or cultural reasons. Because this type of exclusion is not a direct result of market failure, little effort is required to address it. Of course, as identified out in the above-mentioned report, improvement is possible by boosting the entrance of specialized financial service providers and improving financial literacy. Financial exclusion is bound by absence of demand, considering the macroeconomic situation. Due to insufficient income and worse lending risk profile, some firms might be financially excluded involuntarily. This type of involuntary exclusion is also not the effect of market failure. A second group of involuntarily excluded entities consist of the part of individuals and firms that are denied financial services as a result of government market imperfections or failures (Amidzic et al, 2014) Amidzic et al (2014) stated that public market imperfections is the basic reason why firms are involuntary financial excluded. In another perspective, Gichukiet al (2014) identified that financial inclusion can be determined by factors like collateral requirements, credit cost, information availability on finance, and business risk.

According to Adelaw and Adeyemi(2011) the effect of financial exclusion on entrepreneurial promotion and orientation might be too serious. This will be quite negative when it is considered and compared with automatic usage. Hence it requires understanding appropriately the linkage

among factors. The end this understanding paves the way to formulate good policy which helps to eradicate the adverse consequence of financial exclusion.

Munyanyi (2014) explained that there is association between educational level, occupation and income level. The higher the educational level attained, the higher the chances of getting a better paying job and hence the better the chances of earning higher income. Surveys made by different groups indicate that financial exclusion issues are severe among women specially, because the majority of women in the rural areas are less educated, they are largely unemployed or employed in jobs that do not pay much and consequently their income is very low. This could be a logical explanation why these women are not actively involved in the financial system and do not conduct financial transactions on a regular basis. As a result women in the rural areas are financially excluded. Moreover, a report of African Development Bank (2013) shows that 4 out of 5 women lack access to finance whereas men lack of access is 25%. This financing difference is more resounding in rural areas where only one out of ten women is benefits from credit facilities to farmers and below 1% of agricultural credit facilities. This report also has considerable study has been conducted to identify factors preventing women from accessing and using financial products and services. The explanatory factors for the gender related funding gap to exist are: financial illiteracy, physical access, and social norms. Most of these problems fall under the broad groups of economic barriers (i.e., supply side issues), socio-cultural barriers and unfavorable enabling environment.

According to Munyanyi(2014) the following points could instigate inclusive finance (provision of financial service to the poor):

- **Accept mobile money transfer platforms as a launch pad to financial inclusion:** The increasing number of individuals receiving low income, financial services through phones, makes payments by phones has driven by the adoption of mobile banking technology (Ssonko, 2010).
- **Improve financial literacy in the rural areas:** AFI (2013) stated that financial literacy plays a great role in promoting inclusive finance which is very helpful to show the use how can they access finance and utilize it.
- **Promote women rural entrepreneurship:** African women entrepreneurs are victimized by social exclusion due to prolonged period of not allowing them not to access land, education and finance. (Nandonde and Liana, 2013).

The demography of respondents in this research indicates that rural women are far less educated than the women in the urban areas. Girma (2015) also stated that more than 50% of all women entrepreneurs in Ethiopia often face gender related problems related to setting up new businesses as well as operating or expanding existing businesses. Women are disadvantaged due to religion, culture, and tradition. For instance, many women encounter difficulty in raising credit finance from banks as well as borrowing via informal networking. This could be the explanation why the women in the urban areas participate more in the financial services sphere. Because of lack of a regular income, rural women may not be interested in opening bank accounts as they may not be capable of sustaining the account given regular bank charges. In line with the recommendations by Valla (2001), as a way of promoting women entrepreneurship and fostering financial inclusion, financial institutions need to ease the administrative procedures for women and revisit assessment criteria of women applications for loans to include 'softer' assessment criteria than the traditional ones. The government also must come up with initiative to support rural women entrepreneurs and also engage non-governmental organizations to assist as well. When entrepreneurial activity increase, financial transactions and activity also raise and so are the demand for financial services and eventually financial inclusion is achieved.

According to Zewdu (2014) absence of physical access is the basic reason for inclusive finance to be low in Ethiopia regardless of tremendous movement in the past decade. Raising the paid-up capital for commercials (566 percent) and MFIs(900 percent),recently the NBE has issued regulation which downcast the joining of more institution to the sector. Moreover, though it avoids the possibility of NPLs, access to banks has been aggravated by recently issued regulation demanding tighten loan policy

Over the past ten years there has been a surge in investment to advance youth financial inclusion, with various organizations around the world testing and evaluating various financial instruments targeting young people in low-income countries. Vast numbers of activities have incorporated a non-financial component, mainly financial literacy or business and vocational training, aimed at further reinforcing young people's financial capacity and business skills.

While business training is still deemed necessary for young people taking out loans, increasingly government agencies, funders, and financial institutions view financial education as a necessary element for developing the financial capability of young people. Financial education generally covers topics on budgeting, savings and debt management, and also include consumer protection awareness, explanation of financial products, and information on different types of financial providers.

Those who have participated in financial education have good financial knowledge as well as behavior, according to a few studies conducted globally. But, few of the effects were small. Only a few of the studies have focused on young people, but the conclusions from those suggest that financial education does produce “tangible gains in financial capability”.

In one randomized control trial taking place in Uganda, the interplay between youth savings and financial education was examined to determine if the interventions act as complements or substitutes. Independently, financial literacy and savings products escalate the savings made by youth. The provision of financial services together with non-financial services (financial education, internship and social asset building) brings more advantage to the youth. A Youth Invest study explains that young people aged from 15 to 24 increased savings after receiving life-skills and financial education training.

The finding of Zeru (2010) found that the following were the basic aspects that hinder the small businesses not to access finance

- Loan covenants and information requirements
- Collateral requirements
- Available size of loan
- Level of cost of financing
- Availability of other loans (friends, family, Equib etc)

## **2.2. YOUTH UNEMPLOYMENT, ENTREPRENEURSHIP AND FINANCIAL INCLUSION**

Nowadays, the role of government sector and hiring institution are not able to absorb the largest labor supply. Entrepreneurship is taken as the way out to lessen unemployment due to different benefits it has endowed with. If sufficient financial services exist and delivered, the major source

of employment is entrepreneurship. For both developing as well as developed countries MSEs are the major source of employment (International Labor Organization (ILO) (2014)). For the purpose of survival if the labor market does not have vacant position, youth will engage in self-business. A necessity entrepreneur helps to assist youth livelihood whereas opportunity entrepreneurs are source of job. The Youth Employment Inventory graded entrepreneurship promotion measures as having the highest positive effect on the creation of employment among a range of programmes reviewed. Studies were carried out on the spillover effects of youth entrepreneurship. According to United Nation's Industrial Development Organization (UNIDO) (2015), a study from Oxford University generalized a number of reasons for the importance of promoting youth entrepreneurship:

- Self-employment opportunity as well as youth employment opportunity to other youth.
- Bringing isolated and disregarded youth into the major economic system and giving them a sense of meaning and belonging.
- Helping to avoid delinquency and socio-economic problems arising from unemployment.
- To change youth life it is important to enable them develop skills as well as experience.
- Promoting the recovery of the local community by providing valuable goods and services;
- Capitalizing on the fact that young entrepreneurs may be predominantly adaptive to new trends and opportunities of the economy

Though there are limited studies on the causes of unemployment in Ethiopia, problems that occur European countries may exist in developing countries with an increased rate. For instance, the Analysis Minister of Employment and Social Security (2013-2016) in Spain illustrates that, in addition to conditions stemming from the current economic situation, structural problems are the cause of the number of youth unemployment to increase, such as:

- High rate of early school leavers.
- Marked polarization the labor market, with some young people giving up their studies and having few skills, while others who are highly qualified are under-employed.
- Insufficient level of vocational trainings provided at medium level.
- Poor employability among youth especially regarding foreign language skills.
- High rate of temporary employment, with of young people
- Working involuntarily in temporary employment.

- High levels of undesired part-time employment, 51% of young people
- In part-time employment wanting a full-time contract.
- Difficult access to the labor market for groups at risk of social exclusion.
- Need to enhance the extent of self-employment and entrepreneurial initiative among young people.

Moreover, even though there are so many factors that facilitate unemployment rates in Africa, problems that are related to financing takes the largest share. These factors include; collateral requirements, cost of credit, availability of information on finance, business risks and the dependent variable; Access to credit facilities by micro and small enterprises in (Gichukiet al, 2014).

Based on UN Capital Development Fund (2012) ensuring the youth benefit from financial participation requires collaborative activities by all stakeholders at the meso, macro, micro and individual levels as follows:

- **Macro:** Regulators and policy makers, such as central bank, Ministry of Education, Ministry of Finance, Ministry of youth and authorities of supervisory service in finance.
- **Meso:** Parties providing service support and players at the industry level including training organizations, microfinance institutions etc.
- **Micro:** Financial service providers such as banks, microfinance Institutions, credit and saving associations. It also includes; organizations providing assistance to the youth like; churches, community centers, parent's associations, women's groups etc
- **Youth:** Based on the UN definition, youth are teens and adults from 15-24 years of age. These youth may face age restrictions for accessing financial services.

So, for playing their respective roles at a macro level, policy makers and regulators are now more equipped to recognize characteristics and needs of the youth regarding their need for finance and stick to the obstacles that are restricting the youth from accessing financial services. The following are the major challenges the youth faces from obtaining financial services.

- Restrictions in regulatory and legal requirements such as identification card and minimum age.
- Inaccessibility and inappropriateness of financial services offered by financial service providers.



- The youth have poor financial capabilities.

As to the activities needed to be performed to overcome these obstacles, youth-supportive legislation that could concentrate on youth ,in protecting them and their inclusiveness in financial services is very essential. Providing financial education and targeting entrepreneurial development of the youth can also enable them in obtaining the merits of the existing financial services. Government incentives and policies can further help to inspire financial institutions in designing proper financial policies and dynamic delivery channels including low cost access points such as mobile banking and school banking programmes. Collaboration of several institutions such as line ministries, ministry of education, policy makers and financial regulators can optimize support through designing integrative and effective activities and policies that support youth' financial inclusion.

A World Bank study (2012) stated that one of the major problems of MSEs development in Ethiopia is financial access and access to finance is listed as the most severe hindrance by entrepreneurs themselves.

Studies conducted by different researchers have described multidimensional problems of financial inclusion. For example, Zewdu (2014) and Demirgüç, et al (2012) according to In sub-Saharan Africa for 20 percent of unbanked individual the cause of financial exclusion is distance from FSPs. Zewdu also added that existing banks' reachability is worsened due to financial regulation recently declared by NBE and this leads to highly conservative loan policy for which each banks has to be subject. Amidzic et al, (2014) indicated that financial exclusion could be because of voluntary reasons. The voluntary exclusion is a situation is which individuals or groups or firms prefer not get financial services because of religion, culture or lack of encouraging projects.

Munyani(2014) has seen another perspective of financial inclusion stating use of technology, financial literacy and gender instigate financial inclusion. Findings in this study revealed that the implementation of mobile phone as a means of accessing financial services has been driven by the growing number of low income earners who own cellular phones, the pre-paid billing system sensitive to users' incomes and improving technology. Regarding the proper usage of financial services though financial literacy is considered as a barrier, people are that they also contributes to foster financial inclusion. In Africa, women entrepreneurs have limited access to land, finance and education because of the social exclusion. Lack of a regular income could be a constraint

that hinders rural women from being interested in opening bank accounts as they may not be able to sustain the account given regular bank charges.

Moreover, Zeru (2010) has indicated that the basic aspects that hinder the small businesses not to access finance are; loan covenants and information requirements, collateral requirements, available size of loan, level of cost of financing and availability of other loans (friends, family, Equb etc...). GebreEgziabher (2015) has also stated that in Ethiopia, over two third of the population of Ethiopia has informal access to financial services from informal providers, such as friends/relatives, money lenders, or from the three widely used Ethiopian specific informal financial organizations : Iddir (mourning periods financial assistance), Iqqub (organizations on cash savings), and Meskel Aksiyon (Meskel festival meat purchasing collaborations).

### **2.3. ANALYTICAL FRAMEWORK**

Based on literatures and researches conducted by researchers and theorists, some dependent and independent variables are identified and adopted in the process conducting this study. Reception to financial service providers and preference of these financial service providers by the target population are considered as independent variables.

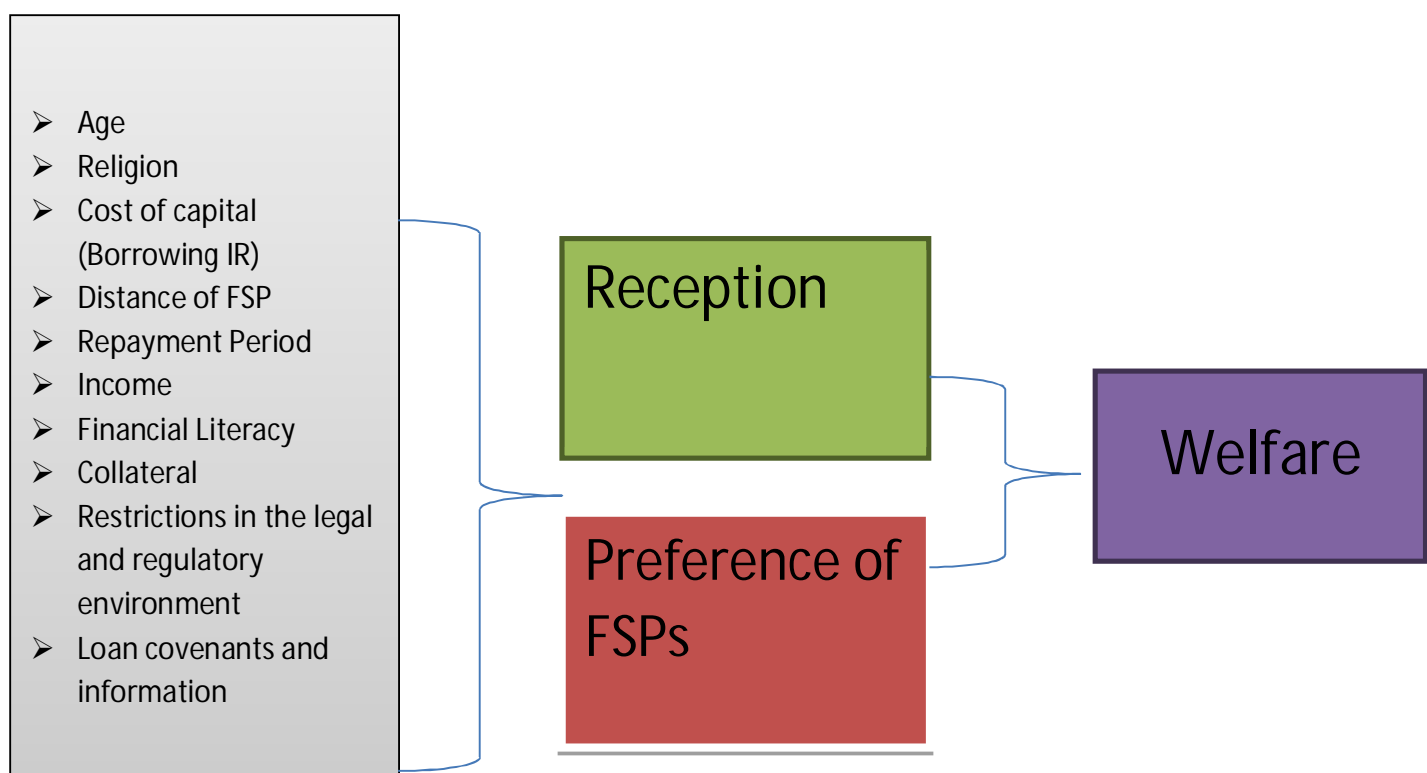
Reception (dependent variable) of the youth to financial service providers is related to whether the youth' loan application and other financial service requests are accepted by the financial service providers or not. As indicated in Figure 1, the factors that are listed in the first box are independent variables considered as determinants of youth' request for financial services to be accepted or rejected by the financial service providers. These factors include; distance of FSP, Availability of other types of loan (friends, equb, family etc...), gender, age, religion and culture, cost of capital (Borrowing IR), repayment period, income, financial literacy, collateral, restrictions of the youth in the legal and regulatory setting, loan Size, and FSP technology utilization. In addition to this, some of these factors could also determine the preference of youth to different financial service providers. The most commonly known and usual financial service providers in Ethiopia are; Banks, Micro financial institutions and saving and credit association. So, the study has also investigate whether these factors are determinants of youth' preference on these financial service providers. Some questions, whether these factors are directly included in the rider questionnaire and the impact of other factors related to personal characteristics such as age, religion, sex, etc were determined through association of the individual characteristics with

the preference of the youth for financial service providers and reception by these financial service providers.

Further, the study has measured the impact of being financially included (financial service reception) on the welfare of the youth micro and small business entrepreneurs. Hence, the dependent variable is welfare of youth MSE entrepreneurs and some of the dependent variables were taken as a matching variable for the outcome variable (welfare) in the PSM model. Accordingly, the following conceptual framework was drawn for the purpose of this project and research questions are developed focusing on these dependent and independent variables. Questionnaires were developed to obtain the desired data used to reach conclusions on the interrelation ship between these dependent and independent variables.

Moreover, the study had intended to determine the level of financial inclusion of the youth in the study area. Additionally, the study has investigated the impact of being financially included on the welfare of youth micro and small business entrepreneurs. For the purpose of this study, youth' welfare were measured in terms of their income and data that are used for the purpose of this investigation were collected through household profile questionnaire and rider questionnaire. Particularly, data concerning variables used for matching treatment and control group such as; age, sex, saving trend, income are collected.

**Figure 1:** Conceptual Framework of the Study (developed for this study)



## CHAPTER THREE

### 3. RESEARCH METHODOLOGY

#### **3.1.SOURCE OF DATA**

The study used primary data collection through the implementation of the community-based monitoring system (CBMS). In particular, basic data on of the target youth population individual characteristics such as age, gender, religion, income etc.. were collected through conducting the CBMS core household profile questionnaire. Additional information was gathered through a rider survey to generate identified financial inclusion indicators such as percentage of household members with an account at a formal financial institution, percentage of household members with credit from a regulated financial institution, percentage of household members that use their mobile device to make a payment/Receipt, percentage of Number of household members with high frequency use of formal account and percentage of household members who saved at a financial institution in the past year. Moreover, data on entrepreneurship such as proportion of youth engaged in entrepreneurial activity, number of employees hired, number of businesses owned, and sources of capital for their business are collected.

#### **3.2. VARIABLES OF THE ANALYSIS**

##### **Dependent Variables (DVs)**

**DV1:** Youth reception of Financial Services (financially included or excluded) –Using Binary logit

**DV2:** Youth preferences for financial services Providers-Using mlogit

The response for this DV are:

Banks (1), Micro Financial Institutions (2), Saving and Credit Associations (3), Local money lenders (4) Other(5)

**List of independent variables** to affect youth to receive or prefer types of financial service providers (FSPs) (Banks, Insurance Companies, Micro financial institutions, Saving and Credit Associations, and financially excluded):

- A. Age
- B. Religion
- C. Cost of capital (Borrowing IR)
- D. Distance of FSP
- E. Repayment Period
- F. Income
- G. Financial Literacy
- H. Collateral
- I. Regulatory and legal environment restrictions
- J. Loan covenants and information requirements
- K. Loan Size
- L. Availability of other types of loan (friends, equb, family etc...)
- M. FSP Technology utilization

Both descriptive and inferential statistics were adopted for this study. Specifically, frequency distribution tables which show the percentage figure of indicators were utilized.

In addition to the mentioned descriptive methods of data analysis, advanced econometrics technique of binary, multinomial and ordinal logit regression were used. These models show youth' reception, preference of financial Service Providers and level of participation in formal financial institutions respectively. The common types of lending financial institutions in Ethiopia are banks, microfinance and saving and credit associations. The Binary logit model provide the

opportunity to identify the probability of participation (receipt of financial services) of subject of the study, which is the probability of getting financial service from formal financial institutions.

Logit/probit model is a model for binary response where the response probability is the logit function or standard normal cumulative function evaluated at linear function of independent variable (Wooldridge, 2000).

In the logit model the probability of participation (receipt of financial services) can be defined as  $P = \frac{1}{1 + e^{-Z_i}}$  where  $Z_i = \alpha + \beta x_i + \theta h_i + \delta c_i$  which is an estimated value of being financially included for the observed individual, household, and community characteristics.

$$P = p(y = 1|x) = p(z \leq \beta x) = F(\beta x)$$

The logit as well as probit models are similar, but the only difference is logit being flat at the top. In addition, in logit the probabilities sluggishly approach 0 or one slowly as compared to probit. Considering these things and keeping in mind their complete similarity, this study does not have any rationale other than its simplicity to choose the logit model (Gujarati, 2004). In this research the logit model was used for the estimation of the probability of participation or not based on apparent individual, household and characteristics of the community. Conditionally, the study has used the following binary choice model which is helpful to identify prospective factors to affect youth's choice for formal financial sector for loan services.

$$\log\left(\frac{P}{1-P}\right) = \alpha + \beta x + \theta h + \delta c$$

Where,

$\alpha$  - Vector of Coefficient of independent variation

$\beta$  - Vector Coefficient of variables, which indicate individual characteristics

$\theta$  - Vector Coefficient of variables, which indicate household characteristics

$\delta$  - Vector Coefficient of variables, which indicate community level characteristics

**Y**- Whether the individual gets loan from legally established institutions or not i.e. 1= Loan from legal established financial institutions 0= Loan from illegally established financial

institutions/sources

$P_i$  = probability of  $Y=1$

**I** - Vector variables, which indicate individual characteristics

**H** -Vector variables, which indicates household characteristics  
**C**-Vector variables, which indicates community characteristics

**e** - Error term

Whereas, the mlogit were used to identify the probability of the independent variables on youth entrepreneurs preference of financial service providers. Accordingly, the dependent variable (preference of FSPs) regresses up against the observable explanatory variables (Example: Age of the business, collateral, loan size, income etc )

The mlogit for each non-reference category  $j = 1, \dots, C-1$  against the reference category 0 depends on the values of the explanatory variables through:

$$\log \frac{(\cdot)}{(\cdot)} = \quad + \quad + \dots +$$

For each  $j = 1, \dots, C-1$  where  $\beta_j, \gamma_j, \dots$  are unknown population parameters

$$\Pr(Y_1 = y_1, \dots, Y_k = y_k) = \frac{!}{! \dots !} (\cdot) \dots (\cdot) \text{ when } \sum =$$

Otherwise 0

**Response variables: Preference of financial services**

Micro finance is the reference category,  $j = 1$

Banks are  $j = 2$  category

Insurance companies  $j=3$

Saving and Credit Associations j=4

Financially Excluded j=5

(Note that this codification is arbitrary)

**Independent variables:**

Cost of capital (Borrowing IR), Distance of FSP, Repayment Period, Insufficient income, Financial education, Collateral, Restrictions in the legal and regulatory environment,

Insufficient income, Loan covenants and information requirements, Availability of other types of loan (friends, equb, family etc...), FSP Technology utilization.

An ordered logit model is also used for this study to determine the level of financial inclusion of the youth considering the youth can be financially included in three different ways- saving, credit and transfer of money through financial institutions. Thus the representation for this model would be:

$$* = 1 \ 1 + \dots + \quad +$$

Suppose y can take three values: 0, 1 or 2. We then have

$$Y=0 \text{ if } x'\beta + e \leq \alpha_1$$

$$Y=1 \text{ if } \alpha_1 \leq x'\beta + e \leq \alpha_2$$

$$Y=2 \text{ if } \alpha_2 \leq x'\beta + e$$

Thus:

y=0, if the youth are engaged in one financial activity; either saving or credit or transfer (low level of financial participation)

y=1, if the youth are engaged in two of these financial activities (moderate level of financial participation)

y=2, if the youth are engaged in all financial activities (high level of financial participation)

Hetest were conducted to verify the presence of hetroscedacity among error terms. Gujarati(2004) stated that variance of estimator factor might be inflated if a multicollinearity exists. The existence of muticollinearity is explained Variance Inflation Factor (VIF) which is computed using  $VIF = \frac{1}{1 - R^2}$  where R stands for coefficient of determination which explains



how many percent of the variation of explanatory variables explain the variation of response variable. When VIF increases with R collinearity will increase. As it has been explained by Gujarati and as rule of thumb when R squared is greater than 0.90 the VIF will be greater than 10. Hence the variables tends to be extremely multicollinearity.

### **PROPENSITY SCORE MATCHING (PSM)**

The study has intended to investigate the effect of financial inclusion on welfare of the youth. Hence the study set to use PSM.

Therefore while using this PSM we have collected data and try to match and form a group based on their exposure to formal financial institution (considered as treatment factor) and check whether there is difference on their respective income level.

The designed Propensity Score Matching (PSM) impact analysis tool checks the average treatment Effect (ATE) of accessing **formal financial services** on the **welfare of the youth**.

The procedure is as follows:

**Step 1:** Initially the research has selected matching variables, i.e, treatment independent variables: which has helped to balance the treatment and control groups and determine the number of blocks as well as common support area.

**Step 2:** Then the study has computed pcores and has two balanced groups ready for matching and meanwhile helps to determine the average effect of treatment dependent variable (accessing formal financial services). Hence in this step STATA has set the total number of blocks.

**Step 3:** In this step the study has chosen matching method: As it is known there are four matching method (Nearest neighborhood, Radius Matching, Kernel matching and stratification matching).

The procedures listed above assists to analyze the research question which is about the effect of inclusive finance on the welfare of the youth. Basically we consider measuring the welfare of youth entrepreneur based on the income.

### **3.3. PROJECT SITE AND POPULATION**

A rider questionnaire having 62 items has been developed for the purpose of collecting data on determinants of financial inclusion and other data in youth entrepreneurship. The rider survey was administered by targeting one member, aged 15-29 years old, from households in which there are youth in the household. A priority is given for a youth with a businesses and financial participation in case there is more than one youth in a household during data collection.

## CHAPTER FOUR

### 4. DATA ANALYSIS AND DISCUSSION

#### 4.1. PROJECT SITE PROFILE

The study is conducted in 2 sites (specify) in Ethiopia with the following general demographic characteristics

<b>Table 1: Addis Ababa City (Addis Ketema Sub-city Wereda 10) profile</b>				
No	Addis Ababa	Total population size	Number of Households	No. of households covered by the core CBMS household census
1.	Addis Ketema Sub-city (Wereda 10)	6313	1814	1814

**Source: CBMS census, 2018**

<b>Table 2:Gobbesa Town and Mitana Gado kebele profile</b>				
No	Shirka Wereda	Total	Number of	No. of households covered by the core

		population size	Households	CBMS household census
1	Gobbesa town	9,742	2677	2677
2	Mikana Gado kebele	2,696	617	617

Source: CBMS census, 2018

#### 4.2. SAMPLE PROFILE

**Table 3: profile of youth population**

No	Item	Male	Female	Total	
1.	Population	9,022	9,729	18,751	
2.	Youth population	2,138	2,790	4,928	
3.	Employed youth	983	774	1,757	
4.	Youth with Own business	110	85	195	
5.	Youth having Own saving account	702	771	1,473	
6.	Youth Made payment/transfer	417	457	874	
7.	Youth with credit	9	11	20	
8.	Youth' Religion	Protestant	71	94	165
		Orthodox	1,255	1,617	2,872
		Catholic	2	0	2
		Muslim	808	1,078	1,886
		Wakefeta	2	1	3

Source: CBMS census, 2018

The data were collected through two questionnaires namely; household profile questionnaire and rider questionnaire. Most of the data for the theme paper were collected through rider questionnaire. For instance, data on some independent variables (determinants of financial inclusion) such as distance, repayment period, and regulatory requirements are directly incorporated as a separate questions designed to capture data on these variables. Additionally, questions on determinants of financial inclusion were included with multiple response containing all these factors in the conceptual framework are included in the rider questionnaire.

In the project sites, about 18,746 population and 5,106 households were discovered during the actual census. But, prior to the census, the number of population expected by the project were more than what has been actually done. The reason reduced number of households in Addis Ababa Site was identified as it was due to the area is on the way to be transformed to a business area and many business centers are constructed in place of residence and the residents in this site have moved to other areas outside of the site. The reason in Shirka Wereda was as due to the fact that there is high level of rural to urban migration. Among the total population in this site, 9,022 (48.11%) are male and 9,736 (51.89%) are female. 4,928 (26.27%) of the population in this area are within the age range of 15-29 years old. With regards to the gender of these youth, 2138(43.38%) of them are male and 2790(56.62%) are female. Among these 4,928 youth population about 4675(97.4%) are addressed with the rider questionnaires and the majority of the respondents of the rider questions were female comprising around 2617(97.18%) of the total rider respondents.

With regards to the employment status of the youth who responded to the rider questions, about 1,734 (37.33%) of them had a job for the past 12 months while 2911(62.67%) those rider respondents had been off the job at least for one month in the past 12 months.969 of the youth with a job are male and 765 of them are female. 1839 of the youth those have been unemployed were male and 1872 of them are female. Additionally, 163 (3.63%) of those youth who has responded to the rider questionnaire has their own business where as the remaining 4,328 (96.37%) do not have their own business and about 81(49.8%) of those youth having their own business are female. Moreover, the majority of those youth are Orthodox Christians which are about 2,872 of the total youth respondents, while the second highest number are Muslims which comprising about 1,886 the total youth population. Additionally, there are also 165 of Protestant youth in the study area. Only two Catholic and three Wakefeta young individual s arefound in the study area and no other religions other than these 5 religions named above are found in this site.

### 4.3. DESCRIPTIVE ANALYSIS

Financial inclusion	Table 4:Proportion of youth who are financially included by gender		
	Male	Female	Total

	<b>Magnitude</b>	<b>Proportion</b>	<b>Magnitude</b>	<b>Proportion</b>	<b>Magnitude</b>	<b>Proportion</b>
Financially included	806	37.70	903	32.37	1,709	34.68
Financially excluded	1,332	62.30	1,887	67.63	3,219	65.32
<b>Total</b>	2,138	100	2,790	100	4,928	100

**Source: CBMS census, 2018**

Table 4 depicts that among the total 4928 of youth population in the three project areas, 1709(34.68%) of them have received financial services (financially included) from formal financial institutions in the past 12 months. Whereas, 3219(65.32%) of them have not received any financial services (financially excluded) in the specified period. With the context of this study, to be financially included, the youth have to receive either saving service, credit service or should transfer money through a formal financial institution. With regards to the gender of the youth financial inclusion, 806(37.70%) of male youth are financially included and 903(32.37%) of female youth are financially included. **Whereas, 1332(62.30%) of male and 1887(67.63%) of female youth are financially excluded.**

<b>Financial inclusion</b>	<b>Table 5:proportion of youth who are financially included by project site</b>					
	<b>Wereda 10</b>		<b>Gobessa</b>		<b>Mitana Gado</b>	
	<b>Magnitude</b>	<b>Proportion</b>	<b>Magnitude</b>	<b>Proportion</b>	<b>Magnitude</b>	<b>Proportion</b>
Financially included	832	46.09	835	31.85	42	8.38
Financially excluded	973	53.91	1,787	68.15	459	91.62

<b>Total</b>	1,805	100	2,622	100	501	100
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**Source: CBMS census, 2018**

Table 5 shows that the proportion of youth financial inclusion by project site. Accordingly, 832(46.09%) of youth population in Addis Ababa Addis ketema subcity wereda 10 are financially included, 835(31.85%) of youth population in Gobessa town are financially included and 42(8.38%) of youth population in Mitana Gado Kebele are financially included. Comparatively, 973(53.91%) in Wereda 10, 1787(68.15%) in Gobessa and 459(91.62%) of Mitana Gado youth population are financially excluded, respectively.

<b>Table 6:Proportion of youth having saving account</b>		
<b>Saving Account</b>	<b>Magnitude</b>	<b>Proportion (%)</b>
Have an account	1,473	31.60
Have no Account	3,455	70.11
<b>Total</b>	<b>4,928</b>	<b>100.00</b>

**Source: CBMS census, 2018**

Access to saving account in a formal financial institution is one measure of financial inclusion. Thus, the study has also determined the proportion of the youth with access to saving account in formal financial institutions. Accordingly, table 6 shows that 1473(31.60%) of the youth in the three project site have a saving account in these financial institutions while 3455(70.11%) of the youth in these areas have no saving account in a formal financial institution.

<b>Saving account</b>	<b>Table 7:Proportion of youth having saving account by gender</b>					
	<b>Male</b>		<b>Female</b>		<b>Total</b>	
	<b>Magnitude</b>	<b>Proportion</b>	<b>Magnitude</b>	<b>Proportion</b>	<b>Magnitude</b>	<b>Proportion</b>
Have an account	702	32.83	771	27.63	1,473	29.89

Have Account	no	1,436	67.17	2019	72.37	3,455	70.11
<b>Total</b>		2,138	100	2,790	100	4,928	100

**Source: CBMS census, 2018**

Table 7 indicates that among the total 2029 male youth, 702(32.83%) have a saving account in a formal financial institution whereas this number is even less among female youth comprising 771(27.63%). The largest proportion of male and female youth has no saving account which is 67.17 and 72.37 percent for male and female youth respectively.

<b>Table 8:Proportion of youth with credit service</b>		
<b>Credit</b>	<b>Magnitude</b>	<b>Proportion (%)</b>
Received credit	20	0.41
Have not received credit	4,908	99.59
<b>Total</b>	<b>4,928</b>	<b>100.00</b>

**Source: CBMS census, 2018**

Access to credit facility is also one of the factors considered as a measure of financial inclusion in this study. Accordingly, among the total 4928 youth population, only 20(0.41%) of them have received credit from formal financial institutions in the past 12 months and the remaining 4908(99.59%) of them have not received any credit in the specified period.

<b>Credit</b>	<b>Table 9:Proportion of youth who have received credit by project site</b>					
	<b>Wereda 10</b>		<b>Gobessa</b>		<b>Mitana Gado</b>	
	<b>Magnitude</b>	<b>Proportion</b>	<b>Magnitude</b>	<b>Proportion</b>	<b>Magnitude</b>	<b>Proportion</b>
Received credit	13	0.72	7	0.287	0	0.00
Not Received	1,792	99.28	2,615	99.73	501	100.00

credit						
<b>Total</b>	1,805	100.00	2,622	100.00	501	100.00

**Source: CBMS census, 2018**

The above table 9 shows the distribution of the credit services received in the three project areas. Based on this data no person has received a credit service in Mitana Gado kebele. Majority or 13 out of 20 credits were received by the youth in Addis Ababa youth and the remaining 7 individuals were from Gobessa town. This indicates that though access to credit is very poor in all project sites, it is worsen in the rural areas.

<b>Table 10:Proportion of youth who have made money transfer</b>		
<b>Transfer</b>	<b>Magnitude</b>	<b>Proportion (%)</b>
Made money transfer	874	17.74
Not made money transfer	4,054	82.26
<b>Total</b>	<b>4,928</b>	<b>100.00</b>

**Source: CBMS census, 2018**

Money transfer through formal financial institutions is also regarded as one of the indicator of financial inclusion. Accordingly, 874(17.74%) of the youth have made a money transfer in the last 12 months while 4054(82.26%) of the youth in the project sites have not made money transfer through formal financial institutions.

<b>Table 11:Degree of financial inclusion</b>		
	<b>Magnitude</b>	<b>Proportion (%)</b>
High financially inclusion	8	0.47
Moderate inclusion	642	37.57
Low financial inclusion	1,059	61.97



<b>Total</b>	<b>1,709</b>	<b>100.00</b>
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**Source: CBMS census, 2018**

The degree to which the youth have engaged in financial services is also determined in this study. The youth who have received all the three services of financial institutions, including saving account, credit service and made payments through formal financial institutions are considered as highly financially included. In another way, the youth who have received two of these services are regarded as moderately financially included and the youth who have received only one of these services have low financial inclusion. Accordingly, the above table 11 shows that 8(0.47%) of the youth in the project site are highly included, 642(37.57%) of them are moderately included and 1059(61.97%) of them have low financial inclusion.

<b>Financial inclusion</b>	<b>Table 12: Degree of financial inclusion by project site</b>					
	<b>Wereda 10</b>		<b>Gobessa</b>		<b>Mitana Gado</b>	
	<b>Magnitude</b>	<b>Proportion</b>	<b>Magnitude</b>	<b>Proportion</b>	<b>Magnitude</b>	<b>Proportion</b>
High financially inclusion	5	0.60	3	0.36	0	0.00

Moderate inclusion	231	27.76	401	48.02	10	23.81
Low financial inclusion	596	71.63	431	51.62	32	76.19
<b>Total</b>	832	100	835	100	42	100

**Source: CBMS census, 2018**

Table 12 shows the degree of financial inclusion by project site. Thus, 5(0.60%) in Addis Ketema Wereda 10, 3(0.36%) in Gobessa town and zero in Mitana Gado kebele are of the youth highly financially included, 231(27.76%) in Addis ketema wereda 10, 401(48.02%) in Gobessa and 10(23.81%) of them are moderately included and 596(71.63%) in Addis Ketema wereda 10, 431(51.62%) in Gobessa and 32(76.19%) in Mitana Gado kebele of them have low financial inclusion.

Degree of Financial inclusion	Table 13: Degree of financial inclusion by gender					
	Male		Female		Total	
	Magnitude	Proportion	Magnitude	Proportion	Magnitude	Proportion
High financially inclusion	3	0.37	5	0.55	8	0.47

Moderate inclusion	316	39.21	326	36.10	642	37.57
Low financial inclusion	487	60.42	572	63.34	1,059	61.97
<b>Total</b>	806	100	903	100	1,709	100

**Source: CBMS census, 2018**

This study has also intended to investigate the degree of financial inclusion among male and female youth. As it is indicated in table 13, 3(0.37%) male and 5(0.55%) of female youth are highly financial included, 316(39.21%) of male and 326(36.1%) of female youth are moderately financially included, and 487(60.42%) of male and 572(63.34%) of female youth have low financial inclusion.

<b>Business Ownership</b>	<b>Table 14: Proportion of youth having their own business by gender</b>					
	<b>Male</b>		<b>Female</b>		<b>Total</b>	
	<b>Magnitude</b>	<b>Proportion</b>	<b>Magnitude</b>	<b>Proportion</b>	<b>Magnitude</b>	<b>Proportion</b>
Have an own business	110	4.22	85	3.18	195	3.63
Have no own business	2028	95.78	2,705	96.82	4,733	96.37
<b>Total</b>	2138	100	2790	100	4,928	100

**Source: CBMS census, 2018**

Table 14 shows proportion of youth involved business ownership with gender disaggregation. Base on this data, from the total 4,928 youth population in the project sites, only 195(3.63) of them have their own business while 4,733(96.37%) of the youth have no their own business. With regards to the gender, 110(4.22%) of male and 85(3.18%) of female youth have their have their own business while 2028(95.78%) of male and 2,705(96.82%) of female youth have no their own business.

Business Ownership	Table 15: proportion of youth having their own business by project site					
	Wereda 10		Gobessa		Mitana Gado	
	Magnitude	Proportion	Magnitude	Proportion	Magnitude	Proportion
Have an own business	60	3.39	127	4.32	8	0.91
Have no own business	1,745	96.61	2,495	95.68	492	99.09
<b>Total</b>	1,805	100	2,622	100	500	100

**Source: CBMS census, 2018**

The level of business ownership is among the three project sites is also identified as it is indicated in table 15. Accordingly, 60(3.39%) of the youth in wereda 10, 127(4.32%) of the youth in Gobessa and 8(0.91%) of the youth in Mitana Gado Kebele have their own business while 1745(96.61%) of the youth in Wereda 10, 2495(95.68%) of the youth in Gobessa and 492(99.09%) of the youth in Mitana Gado have no their business.

Business Ownership	Table 16: Reason for not owning a business	
	Magnitude	Proportion
<b>No need</b>	961	21.46
<b>Lack of finance</b>	2,321	51.82
<b>Lack of working premise</b>	281	6.27
<b>Lack of business idea</b>	510	11.39
<b>Other</b>	406	9.06
<b>Total</b>	4,479	100.00

**Source: CBMS census, 2018**

The study has also identified the reasons for not owning a business or for not being involved in business ownership, as it can be observed from table 16, majority of the youth have indicated that the reason is largely related to access to finance and problem of knowhow about business. Particularly, about 2321(51.82%) of the youth has indicated that their problem to start their own business is due to lack of finance, while 961(21.46%) of them has no need of owning a business.

Lack of business idea is ranked third with 510(11.39%) and lack of premises (working area) has also significant contribution on failure of business ownership.

Employment	Table 17: Proportion of youth who are employed by gender					
	Male		Female		Total	
	Magnitude	Proportion	Magnitude	Proportion	Magnitude	Proportion
Employed	1031	48.22	768	27.53	1,799	36.51
Unemployed	1107	51.78	2022	72.47	3129	63.49
<b>Total</b>	2,138	100	2,790	100	4,928	100

Source: CBMS census, 2018

Employment is one of the indicators of the socio-economic development of a nation, in this study the employment status of the youth in the area is also investigated in the project sites. Accordingly, 1,799(36.51%) of the youth are employed while 3129(63.49%) of them are unemployed. With regards to gender, 1031(48.22%) of male and 768(27.53%) of female youth are employed while 1107(51.78%) of male and 2022(70.47%) of female youth are unemployed. This indicates that the level of unemployment is higher among female youth.

Employment	Table 18: Proportion of youth who are employed by project site					
	Wereda 10		Gobessa		Mitana Gado	
	Magnitude	Proportion	Magnitude	Proportion	Magnitude	Proportion

Employed	759	42.5	900	34.32	139	30.82
Unemployed	1046	57.95	1,722	65.68	361	72.06
Total	1,805	100	2,622	100	501	100

**Source: CBMS census, 2018**

Table 18 indicates the level of employment among the youth in the three project sites. Based on the data obtained from the survey, 759(42.50%) of youth in Wereda 10, 900(34.32%) in Gobessa town and 139(30.82%) of youth in Mitana Gado Kebele are employed. In another way, 1046(57.95%) of the youth in Wereda 10, 1722(65.68%) of the youth in Gobessa town and 361(72.06%) of the youth in Mitana Gado are unemployed. This indicates that unemployment increases as we are moving from urban to more rural area.

#### **4.4 ECONOMETRICS ANALYSIS**

The study using logistic regression analysis took financial inclusion as the dependent variable and age,gender,collateral,distance of the financial institution,available loan size,utilization of technology,Religion,financial literacy and access of informal SPs as independent variables.

In the analysis the dependent variable has been denoted by variable *save*, *remit* and *loan*. Those dependent variable ranges from 0 to 1. The range of value indicates the status of being financially included or not included. These values have been extracted considering the following three items: *save*, *payment* and *credit*. For instance an individual who is involved in task of *save* having a bank account is assumed to be financially included by that parameter. Similarly grouping has been made based on *remit* and *credit* access. In contrast an individual who is involved in none of these financial services is assumed to be financially not included. Hence the code 1 implies being financially included and 0 represents being financially not included.

The list of dependent variable and independent variables has been discussed below:

- A. *save***: Is about whether the youth is financially included or not specific to *save* involvement. Its value ranges from 0 to 1 i.e, discrete values
- B. *remit***: Is about whether the youth is financially included or specific to *remit* involvement. Its value ranges from 0 to 1 i.e, discrete values
- C. *loan***: Is about whether the youth is financially included or not specific to *credit* involvement. Its value ranges from 0 to 1 i.e, discrete values
- D. *age\_yr***: Refers to age level of the youth. The tendency of financial inclusion likely changes with age of the person.
- E. *finlit***: Is an independent variable which assesses the financial literacy of the youth in relation to interest rates and availability of financial services. The value of this variable is dummy, i.e, 0 & 1.
- F. *intdummy***: Cost of capital, termed as interest rate is one of the factors which affects youth financial inclusion.
- G. *reldummy***: is related to the stickiness towards religion and culture. This is dummy variable where while the youth feels that religion and culture poses challenges the value of the variable will be 1 otherwise 0.
- H. *legdummy***: is related to the existence of regulatory and legal environment restrictions with regard to financial service provision. This is a dummy variable where, if the youth feels that the regulatory and legal environment poses challenges the value of the variable will be 1 otherwise 0.
- I. *rpdummy***: This is repayment period. It is also termed as due date or a time when the borrower is expected to repay the loan.

- J. colldummy:** This stands for availability of collateral which is crucial for the provision of loans for those who are in need of them.
- K. covendummy:** This variable stands for loan covenants and information requirements.
- L. lsdummy:** This variable is regarding loan size. People will be responsive based on the size of permitted loan.
- M. techudummy:** This variable stands for financial service providers technology utilization.
- N. maledummy:** Thinking that gender will have an influence on financial inclusion, the study used male dummy as one of the independent(explanatory) variable.
- O. Inforaccess:** Informal access might affect the decision of being formally financial included.



**Table 19: Logistic Regression result for covariates of saving and their Marginal effects**

Variable(label)	Overall		Female		Male	
	Financial Inclusion	Marginal effect	Financial Inclusion	Marginal effect	Financial Inclusion	Marginal effect
	Coefficient (Standard Error)					
Financial Literacy(finlit)*	0.66*** (0.08)	0.14*** (0.02)	0.66*** (0.11)	0.14*** (0.02)	0.66*** (0.12)	0.15*** (0.03)
Interest rate(intdummy)*	-0.10 (0.11)	-0.02 (0.02)	-0.08 (0.15)	-0.15 (0.03)	-0.11 (0.16)	-0.02 (0.03)
Religion & Culture(reldummy)*	-0.92*** (0.23)	-0.15*** (0.03)	-0.77*** (0.27)	-0.12*** (0.03)	-1.14*** (0.39)	-0.19*** (0.05)
Regulatory and legal environment restrictions (legdummy)*	0.68*** (0.23)	0.15*** (0.06)	0.66* (0.35)	0.14* (0.08)	0.69** (0.33)	0.16** (0.08)
Loan covenants and information requirements(covendumm)	-0.02 (0.16)	-0.004 (0.03)	-0.12 (0.21)	-0.02 (0.04)	0.14 (0.24)	0.03 (0.05)
FSP Technology utilization(techdummy)*	2.49*** (0.14)	0.55*** (0.02)	2.50*** (0.18)	0.55*** (0.03)	2.48*** (0.19)	0.55*** (0.03)
Gender(maledummy)*	0.08 (0.08)	0.02 (0.02)	NA	NA	NA	NA
Age(age)*	0.06*** (0.01)	0.01*** (0.002)	0.06*** (0.01)	0.01*** (0.02)	0.05*** (0.02)	0.01*** (0.004)
Distance of FSP (fininst_dist)	0.006*** (0.00)	0.001*** (0.00014)	0.007*** (0.001)	0.001*** (0.0002)	0.005*** (0.001)	0.001*** (0.0002)
Household Per capita Income (pci)	0.00 (0.00)	0.00 (0.00)	0.00003*** (0.00007)	0.000006** *	0.00005 (0.0000)	0.0001 (0.000)
Availability of other types of loan (inforaccess)*	0.90** (0.35)	0.20** (0.09)	0.98** (0.44)	0.22** (0.11)	0.67 (0.58)	0.16 (0.15)
Constant	-2.70 (0.22)		-2.90 (0.26)		-2.48 (0.34)	
<b>Number of Observation=4928(Overall)</b> <b>Number of Observation=2790(Female)</b> <b>Number of Observation=2138(Male)</b> <b>*significant at 10%                      **significant at 5%                      *** significant at 1%</b>						
<b>(*) dy/dx is for discrete change of dummy variable from 0 to 1</b>						

Source: CBMS-Ethiopia Survey, 2018

Table 19,20 and 21 indicates the effect of various independent variables on the possibility of the youth to be financially included(with reference to saving,remittance and loan).As table 19 depicts the total observation in this study is 4928 were all are youth whose age ranges from 15-29.The result depicts that **financial literacy** has a positive and significant effect on the degree of the youth to be active in saving.This specific result implies that those who are financially literate have more probability to involve in saving than illiterates.This result is statistically significant at 1 percent.Some other studies supports this finding.Forinstance Beverly (2003) found that the link between financial education (literacy) and household behavior not only positive but also significant. In a similar way the study conducted by (Kihiu & Evelyne , 2012) in Kenya, Siddik et al. (2015) in Bangladesh and (Abel, 2018)in Zimbabwe show that there is a positive link between financial literacy and access to financial services.

The other variable which has strong effect on the chance of youth to be financially included is interest rate.This study shows interest rate has positive effect on the possibility of the youth to be financial included.Specifically interest has positive effect on remittance(on table2) but not on the rest of dependent variables.

**Religion and culture** believed to affect the participation of people in financial services. This can be justified by the study of Demirgüç,-Kunt et al. (2013) who used a sample of 65,000 adults from 64 economies. They found that Muslims resort significantly less to formal account ownership and formal saving than non-Muslims.Many banks considering an impact which comes from such factor introduced different financial schemes including interest free banking system.This study found that religion and culture believed to attribute adversely for saving were its effect is significant at 1 percent level.However it does not have significant effect on credit(loan) and remittance as stated on table 20 and table21,respectively.

One of the other factor known to have an influence on financial inclusion is **regulatory and legal** environment.This study reveals that the factor attributes positively for the flourishing financial inclusion of the youth at 1 percent level of significance. Disaggregatedly, as depicted on table 19 and table 20 youth involvement in saving and remittance is significantly and positively affected by regulatory and the legal environment.

**Technology utilization** of the youth has an effect on the level of financial service provision.This has been clearly shown in the binary output result on table 19 and table 20 were p value is

significant and the sign of the respective coefficient is positive and the result is significant at 1 percent.

Zins and Weill(2016) found that being women significantly decreases the chance of owning an account in africa. They also stated that being a woman increases informal saving while it decreases formal saving, in line with the view that African women resort more to informal finance than to formal finance. Using the 2012 Global Findex on 98 developing countries, (Demirgüç,-Kunt, A. Klapper, L., Randall, D, 2013) find that a significant gender gap exists in account ownership, formal saving and formal credit. Being a woman would increase the likelihood of being financially excluded. Fungáčová,Z., and Weill, L., (2015) also found the same result regarding gender and financial inclusion in China. Musa et al. (2015) in his study in Nigeria stated that old age, female and low income reduce the likelihoods for households to be financially included. All citations shows that being female attributes negatively for financial inclusion.This study found that being female almost, all factors has significant effect on their involvement on saving and remittance.

Based on table 19  $finlit, reldummy, legdummy, techdummy, age, fininst\_dist, pci, inforaccess$  has significant effect on the possibility of female youth to save in financial sectors. Similarly as depicted on table 20  $Intdummy, legdummy, techdummy, age, fininst\_dist$  and  $pci$

Zins and Weill( 2016) and Kihiu & Evelyne (2012) noted that **Age** has a nonlinear(quadratic) relation with all three indicators of financial inclusion, with a positive and significant coefficient for Age and a significantly negative for Age.Hence older people are more likely to be financially included, but after a certain age, the probability of being financially included diminishes.Thinking that Ethiopian citizens aged less than 18 are minor and not allowed formally and independently get the services, the age variable has been made to be dichotomous: the first dummy which is zero refers to those aged less than 18 and the second group assigned with value 1 is age subgroup ranging from 18 to29.Accordingly, the study found that youth whose age is in the second subgroup are more involving in saving and remittance than the lower dichotomy.

Table 20: Logistic Regression result for covariates of remittance and their Marginal effects						
Variable(label)	Overall		Female		Male	
	Financial Inclusion	Marginal effect	Financial Inclusion	Marginal effect	Financial Inclusion	Marginal effect
	Coefficient (Standard error)					
Financial Literacy(finlit)*	0.02 (0.09)	0.002 (0.01)	0.11 (0.14)	0.01 (0.02)	-0.003 (0.14)	-0.004 (0.02)
Interest rate(intdummy)*	0.52*** (0.11)	0.08*** (0.02)	0.63*** (0.15)	0.09*** (0.02)	0.44 (0.16)	0.06 (0.02)
Religion & Culture(reldummy)*	-0.08 (0.19)	-0.01 (0.02)	-0.21 (0.25)	-0.02 (0.03)	0.17 (0.29)	0.02 (0.04)
Regulatory and legal environment restrictions (legdummy)*	0.76*** (0.26)	0.13** (0.05)	0.98***	0.17** (0.07)	0.71 (0.39)	0.10 (0.07)
Loan covenants and information	-0.24 (0.20)	-0.03 (0.02)	-0.35 (0.28)	-0.04 (0.03)	0.14 (0.29)	0.02 (0.04)
FSP Technology utilization(techdummy)*	1.24*** (0.12)	0.22*** (0.03)	1.06*** (0.16)	0.18*** (0.03)	1.37 (0.15)	0.21 (0.03)
Gender(maledummy)*	0.11 (0.09)	0.02 (0.01)	NA	NA	NA	NA
Age(age)*	0.05*** (0.01)	0.007*** (0.002)	0.05*** (0.013)	0.007*** (0.002)	0.04 (0.01)	0.004 (0.002)
Distance of FSP (fininst_dist)	-0.01 (0.005)	-0.001 (0.00)	-0.004** (0.002)	-0.0005** (0.0002)	-0.09 (0.02)	-0.01 (0.0012)
Household Per capita Income (pci)	0.00 (0.00)	0.00 (0.00)	<b>0.00002***</b> <b>(0.00005)</b>	<b>0.00002***</b> <b>(0.000)</b>	0.00001 (0.00001)	0.000002 (0.000)
Availability of other types of loan (inforaccess)*	0.22 (0.38)	0.03 0.06	0.60 (0.47)	0.09 (0.09)	-0.54 (0.67)	-0.05 (0.05)
Constant	-2.96 (0.24)	NA		NA	-2.33 (0.31)	NA
<b>Number of Observation=4928(Overall)</b> <b>Number of Observation=2790(Female)</b> <b>Number of Observation=2138(Male)</b> *significant at 10%                      **significant at 5%                      *** significant at 1% (*) dy/dx is for discrete change of dummy variable from 0 to 1						

Source: CBMS-Ethiopia Survey, 2018

High costs of opening and using bank accounts but also high distance and high disclosure requirements reduce formal inclusion. Trust in the banking sector can also influence. Kihiu & Evelyne (2012) Shows that distance from financial service provider poses a big challenge on access to formal financial services. Households have been observed to shift their preference for formal and semi-formal financial services towards informal services due to this reason. This study revealed conversely that distance of FSPs has positive effect on youth involvement on saving but not on remittance. It implies that those who are far away from FSPs are highly and significantly involved in saving at 1 percent level of significance. This result could be justified by the prevalence of Agent Banking and Mobile banking like MBirr.

Zins and Weill(2016) found that greater income is associated with higher financial inclusion. However this study found conversely that income does not have a significant relationship with overall youth financial inclusion(saving,remittance and loan).However specific to female youth there is highly significant and positive effect on the possibility to be financially included.

Access to informal financial sectors has a positive effect on youth to involve in saving at a 5 percent level of significance but not on loan and remittance .In Ethiopia there is common experience of saving which is termed as equb were people discuss and decide on the amount of periodical saving,chairperson and collector.Then on a lottery basis each individual takes accumulated money turn by turn.People need to be involved in a such forced saving either to spend for urgent consumption or accumulate and transfer it to formal account till they reach target saving level.As the study reveals the presence of such type of saving scheme contributes positively for the formal financial saving at a 5 percent level of significance.

With the revised regression output which has been separately regressed for saving and remittance,the study removed repayment period and collateral from the factor variable.However they have been included in the IV probit(Table 21) were the DV is loan.

Loan covenants and informations contributes nothing for the youth(male and female) to be financial included because the p value is not significance at 10 percent.

<b>Table 21:IV probit Regression result for covariates of loan and their Marginal effects</b>						
<b>Variable(label)</b>	<b>Overall</b>		<b>Female</b>		<b>Male</b>	
	<b>Financial Inclusion</b>	<b>Marginal effect</b>	<b>Financial Inclusion</b>	<b>Marginal effect</b>	<b>Financial Inclusion</b>	<b>Marginal effect</b>
	<b>Coefficient(Standard error)</b>					
Interest rate(intdummy)*	-3.08*** (0.22)	-3.08*** (0.22)	-3.08*** (0.32)	-3.08*** (0.32)	-3.07*** (0.65)	-3.07*** (0.65)
Financial Literacy(finlit)*	-0.015 (0.41)	-0.015 (0.41)	-0.03 (0.55)	-0.03 (0.55)	0.01 (1.06)	0.01 (1.06)
FSP Technology utilization(tchudummy)*	0.06 (0.12)	0.06 (0.12)	0.11 (0.32)	0.11 (0.32)	0.01 (0.07)	0.01 (0.07)
Gender(maledummy)*	-0.004 (0.03)	-0.004 (0.03)	NA	NA	NA	NA
Age(age)*	0.014 (0.01)	0.014 (0.01)	0.006 (0.03)	0.006 (0.03)	0.02 (0.02)	0.02 (0.02)
Distance of FSP (fininst_dist)	-0.0007 (0.03)	-0.0007 (0.03)	-0.002 (0.08)	-0.002 (0.08)	-0.001 (0.07)	NA
Household Per capita Income (pci)	-0.000003 (0.0000002)	-0.000003 (0.0000002)	-0.00001 (0.00007)	-0.00001 (0.00007)	-0.000001 (0.00001)	-0.00001 (0.00001)
Constant	-0.17 (2.14)	NA	0.007 (3.30)	NA	-0.41 (4.92)	NA
<i>Number of Observation=4928(Overall)</i>			<i>Number of Observation=2790(Female)</i>			
<i>Number of Observation=2138(Male)</i>						
<i>*significant at 10%</i>		<i>**significant at 5%</i>		<i>*** significant at 1%</i>		
<i>Instrumented:intdummy</i>						
<i>Instruments:finlit tchudummy maledummy age fininst_dist hhincome reldummy</i>						
<i>Wald test of exogeneity (corr = 0): chi2(1) = 0.15 Prob &gt; chi2 = 0.6950 (Overall)</i>						
<i>Wald test of exogeneity (corr = 0): chi2(1) = 0.07 Prob &gt; chi2 = 0.7976 (Female)</i>						
<i>Wald test of exogeneity (corr = 0): chi2(1) = 0.03 Prob &gt; chi2 = 0.8556 (Male)</i>						
<i>(*) dy/dx is for discrete change of dummy variable from 0 to 1</i>						

Source: CBMS-Ethiopia Survey, 2018

#### 4.4.1 MARGINAL EFFECT OF THE BINARY LOGIT ESTIMATIONS

William(2018) noted that marginal effects are computed differently for discrete (i.e. categorical) and continuous variables. With binary independent variables, marginal effects measure discrete change, i.e. how do predicted probabilities change as the binary independent variable changes from 0 to 1?

Table 20 depicts that the situation when interest rate becomes high the involvement of the youth on remittance will augment by 8 percent than other time statistically significant at 1 percent.

According to table 19 being financial literate or having financial knowledge grants 14 percent probability involve in saving than those who don't which is statistically significant at 1 percent level of significance.

Table19 also shows that those who stick to religion and culture than those who don't, have 15 percent less probability to involve in saving which is statistically significant at 1 percent level of significance.It also shows when the regulatory or legal environment changes from flexible to strict and rigid, the possibility of involvement on saving increases by 15 percent which is statistically significant at 5 percent level of significance.As FSP change from being non technology user to technology user, youth probability of being involved in saving and remittance increases by 56 percent and 23 percent statistically significant at 1percent,consecutively.

Table 19 and Table 20 explains being a youth whose age level ranges from 18-29, increases the chance of involving in saving and remittance by 1 percent and 0.7 percent significant at 1 percent,respectively.

Availability and accessing informal financial service providers contributes positively for youth to involve in saving but not in remittance.As table19 demonstrates youth who have access to informal FSPs has 21 percent more chance to formal saving than those who don't. This result is significant at 5 percent.

Loan size,repayment period and collateral is not included in the saving and remittance regression and their marginal effect is not generated as well.

#### 4.4.2 POST ESTIMATION TEST

**As a postestimation test the presence of multicollinearity has been checked.Table--- shows the variance inflation factor. The *variance inflation factor (VIF)* quantifies the extent of**

correlation between one predictor and the other predictors in a model. (<https://www.displayr.com/variance-inflation-factors-vifs/>)

The mathematical formula of the VIF is:  $VIF_j = \frac{1}{1 - R_j^2}$

In the table both values of VIF and Tolerance has been reported

The mathematical formula for tolerance is:  $1 - R_j^2$

Where,

**R<sup>2</sup>-Correlation coefficient**

<b>Table 22: Variance Inflation Factor Result</b>		
<i>Variable</i>	<i>VIF</i>	<i>1/VIF</i>
Age	2.39	0.42
maledummy	1.75	0.57
Finlit	1.45	0.69
Intdummy	1.18	0.85
techdummy	1.26	0.79
covendummy	1.08	0.92
fininst_dist	1.08	0.92
legdummy	1.06	0.94
Reldummy	1.05	0.95
Pci	1.10	0.91
inforaccess	1.01	0.99
<b>Mean VIF</b>	<b>1.31</b>	

**Source: CBMS-Ethiopia Survey, 2018**

A value of 1 means that the predictor is not correlated with other variables. The higher the value, the greater the correlation of the variable with other variables. Values of more than 4 or 5 are sometimes regarded as being moderate to high, with values of 10 or more being regarded as very high. (<https://www.displayr.com/variance-inflation-factors-vifs/>). Accordingly the mean vif for this estimation as shown on table 22 is 1.31 which quite lower than 4 or 5. Hence there is no the issue of multicollinearity in the model.



#### 4.4.3. MULTINOMIAL LOGISTIC REGRESSION RESULT

This study utilized multinomial logit analysis to identify the preference of financial service provider which could be relevant for FSPs to identify factors and make decision regarding targeting customers.

In this analysis similar predictor variables as it was in binary choice model has been used but the dependent variable used here is types of financial service providers. The values of dependent variable are: *Banks(1)*, *Micro financial institutions(2)*, *Saving and Credit Associations(3)*, *Local money lenders(4)* and *Informal institutions (Like Equb/Idir)(5)*.

<b>Table 23: Multinomial Logistic Regression result for covariates of FSPs</b>		
<b>Variable description</b>	<b>FSPs Preference</b>	
	<b>Coefficient (Standard error)</b>	
<b>Banks (Base outcome)</b>		
<b>MFI</b>		
Financial Literacy(finlit)	-1.14**	(0.48)
Interest rate(intdummy)	-0.90	(0.70)
Religion & Culture(reldummy)	-16.3	(2880)
Regulatory and legal environment restrictions (legdummy)	-15.4	(2882)
Repayment Period(rpdummy)	1.24**	(0.59)
Collateral(colldummy)	0.16	(0.66)
Loan covenants and information requirements(covendummy)	-15.8	(2228)
Loan size(lsdummy)	0.84	(1.12)
FSP Technology utilization(tchudummy)	1.23***	(0.38)
Gender(maledummy)	0.15	(0.36)
Age(age)	-0.052	(0.046)
Distance of FSP ( fininst_dist)	-0.004	(0.008)
Household per capita income(pci)	-0.00001	(0.00)
Availability of other types of loan (inforaccess)	-16.9	(4586)
Constant	-2.65	(1.01)
<b>*significant at 10% **significant at 5% *** significant at 1%</b>		
<b>Number of obs</b>	<b>=</b>	<b>1,709</b>

Source: CBMS-Ethiopia Survey, 2018

<b>Table 24:Multinomial Logistic Regression result for covariates of FSPs</b>		
<b>Variable description</b>	<b>FSPs Preference</b>	
	<b>Coefficient (Standard</b>	
<b>Banks (Base outcome)</b>		
<b>Saving and Credit Association</b>		
Financial Literacy(finlit)	0.41	(0.59)
Interest rate(intdummy)	-15.9	(1785)
Religion & Culture(reldummy)	-15.04	(3631)
Regulatory and legal environment restrictions (legdummy)	-14.9	(4069)
Repayment Period(rpdummy)	0.95	(1.11)
Collateral(colldummy)	1.03	(0.82)
Loan covenants and information requirements(covendummy)	-15.85	(3396)
Loan size(lsdummy)	-17.3	(12970)
FSP Technology utilization(tchudummy)	0.95*	(0.59)
Gender(maledummy)	-0.008	(0.55)
Age(age)	-0.05	(0.07)
Distance of FSP ( fininst_dist)	-0.36	(0.35)
Household per capita income(pci)	0.00	(0.00)
Availability of other types of loan (inforaccess)	-16.3	(6448)
Constant	-3.60	(1.61)
<b>*significant at 10% **significant at 5% *** significant at 1%</b>		
<b>Number of obs = 1,709</b>		

**Source: CBMS-Ethiopia Survey, 2018**

<b>Table 25:Multinomial Logistic Regression result for covariates of FSPs</b>		
<b>Variable description</b>	<b>FSPs Preference</b>	
	<b>Coefficient (Standard error)</b>	
<b>Banks (Base outcome)</b>		
<b>Local Money Lenders</b>		
Financial Literacy(finlit)	-0.82	(0.84)
Interest rate(intdummy)	0.15	(1.10)
Religion & Culture(reldummy)	1.33	(1.11)
Regulatory and legal environment restrictions (legdummy)	-15.6	(2764)
Repayment Period(rpdummy)	-15.6	(2764)
Collateral(colldummy)	-15.8	(3238)
Loan covenants and information requirements(covendummy)	-15.3	(3864)
Loan size(lsdummy)	-15.8	(13520)
FSP Technology utilization(techudummy)	0.67	(0.69)
Gender(maledummy)	0.50	(0.66)
Age(age)	-0.04	(0.08)
Distance of FSP ( fininst_dist)	-0.05	(0.08)
Household per capita ncome (pci)	0.00	(0.00)
Availability of other types of loan (inforaccess)	-15.6	(8543)
Constant	-4.21	(1.87)
<b>*significant at 10% **significant at 5% *** significant at 1%</b>		
<b>Number of obs = 1,709</b>		

Source: CBMS-Ethiopia Survey, 2018

<b>Table 26:Multinomial Logistic Regression result for covariates of FSPs</b>	
<b>Variable description</b>	<b>FSPs Preference</b>
	<b>Coefficient(Standard error)</b>
<b>Banks (Base outcome)</b>	
<b>Informal institutions (Like Equb/Idir)</b>	
Financial Literacy(finlit)	-1.43* (0.77)
Interest rate(intdummy)	0.84 (0.52)
Religion & Culture(reldummy)	1.02 (0.78)
Regulatory and legal environment restrictions (legdummy)	0.71 (1.09)
Repayment Period(rpdummy)	-0.77 (0.81)
Collateral(colldummy)	0.20 (0.71)
Loan covenants and information requirements(covendummy)	1.23 (0.81)
Loan size(lsdummy)	1.73 (1.17)
FSP Technology utilization(tchudummy)	-0.47 (0.65)
Gender(maledummy)	0.15 (0.44)
Age(age)	-0.06 (0.06)
Distance of FSP ( fininst_dist)	-0.11 (0.10)
Household Income (hhincome)	-0.00003* (0.0000)
Availability of other types of loan (inforaccess)	-15.0 (3036)
Constant	-2.19 (1.22)
<b>*significant at 10% **significant at 5% *** significant at 1%</b>	
<b>Number of obs = 1,709</b>	

Source: CBMS-Ethiopia Survey, 2018

As described in table 23 the reference variable independent of the multinomial logistic regression is Banks. Hence all interpretations are made based on their preference towards banks. In table 23 independent variables *finlit*, *rpdummy* and *techdummy* are statistically significant. Table 23 specifically implies that youth who is/are financially literate or has/have financial information is more preferring for Banks than microfinance institutions (MFIs) at 5 percent level of significance. The table indicates that as restraint or pressure on repayment period escalates youth prefers to use MFI than banks at 5 percent level of significance. Similarly youth tends to choose MFI when utilization of technology improves in the financial market which is significant at 1 percent.

In table 24 the multinomial logit tried to find out the preference of the youth towards Saving and Credit Associations (SACAs) in relation to Banks. Accordingly out of the 14 variables used in the analysis only one variable has significant effect and fit for interpretation. The table shows as technology utilization flourishes in the financial market youth prefers to use SACAs than banks were the result is significant at 10 percent.

The third face of the multinomial logistic regression is checking the choice of youth towards Local Money lenders (LMLs) in reference to Banks. In table 25 none of the 14 variables significantly depicts the preference of the youth.

The final part of this result is indicating (as stated on table 26) the presence or absence of significant effect which comes from set of variables on the youth choice of informal FSPs Banks. As table 26 depicts those who have good financial literacy prefers to get financial service from Banks than informal FSPs at 10 percent level of significance. Similarly those who have large amount of income prefers to use banks than informal financial institution at 10 percent of significance

#### 4.4.4. ORDERED LOGISTIC REGRESSION RESULT

This study in the early section tried to associate the effect of various explanatory variable on financial inclusion. Then later it also seen what factors attributing significantly towards choice of financial service providers. Being financially included, degree of usage of those financial service might vary. Hence this section assesses the relationship between the explanatory variables and the dependent variable (degruse).

Here unlike the previous sections the dependent variable is degruse. Degruse is a variable which represents the degree of usage of financial services. Degree of usage of financial services has

been classified as meaningful category of High user, Mild user and Low user. This classification is based on the following three points: Owning Bank account, using Payment/transfer service and using Credit services. Those who use one of these three item is assumed as low user. Those who use two of the three services is termed as mild user. Whereas those who use all the services are thought to be high user of financial services.



Table 27: Ordered Logistic Regression result for covariates of degree of financial service usage						
Variable(label)	Overall		Female		Male	
	Financial Inclusion	Marginal effect	Financial Inclusion	Marginal effect	Financial Inclusion	Marginal effect
	Coefficient (Standard error)					
Financial Literacy(finlit)*	0.09 (0.11)	-0.02 (0.04)	0.26 (0.16)	-0.06 (0.04)	0.11 (0.17)	-0.02 (0.03)
Interest rate(intdummy)*	-0.002 (0.16)	-0.004 (0.04)	0.12 (0.22)	-0.03 (0.05)	0.11 (0.25)	-0.02 (0.05)
Religion & Culture(reldummy)*	-0.64** (0.31)	0.13** (0.06)	-0.45 (0.40)	0.09 (0.08)	-0.79 (0.48)	0.11** (0.06)
Regulatory and legal environment restrictions (legdummy)*	0.71** (0.31)	-0.17** (0.08)	1.16*** (0.44)	-0.28*** (0.10)	0.81* (0.49)	-0.17 (0.12)
Repayment Period(rpdummy)*	-0.62*** (0.22)	0.13*** (0.04)	-0.81** (0.32)	0.16*** (0.06)	-0.55* (0.32)	0.09** (0.04)
Collateral(colldummy)*	0.32* (0.19)	-0.08 (0.05)	0.25 (0.26)	-0.06 (0.06)	0.33 (0.27)	-0.06 (0.06)
Loan covenants and information requirements(covendummy)	0.22 (0.25)	-0.05 (0.06)	0.40 (0.38)	-0.09 (0.09)	0.32 (0.35)	-0.06 (0.07)
Loan size(lsdummy)*	-0.37 (0.56)	0.08 (0.12)	-0.49 (0.77)	0.10 (0.15)	-0.57 (0.86)	0.09 (0.11)
FSP Technology utilization(tchudummy)*	0.32*** (0.12)	-0.08*** (0.03)	0.14 (0.17)	-0.03 (0.04)	0.53*** (0.17)	-0.09*** (0.03)
Gender(maledummy)*	0.07 (0.10)	-0.02 (0.02)	NA	NA	NA	NA
Age(age)	-0.02 (0.01)	0.003 (0.003)	-0.004 (0.002)	0.0006 (0.004)	-0.04* (0.02)	0.01* (0.003)
Distance of FSP (fininst_dist)	-0.005*** (0.002)	0.001*** (0.0004)	-0.004** (0.002)	0.0009** (0.0006)	-0.08*** (0.02)	0.01*** (0.002)
Household per capita income(pci)	0.00006** *	-0.00005*** (0.00)	0.00004* (0.00002)	-0.00002* (0.000)	0.00005 (0.00004)	-0.000008 (0.0000)
Availability of other types of loan (inforaccess)*	0.32 (0.43)	-0.08 (0.11)	0.65 (0.54)	-0.16 (0.13)	-0.22 (0.75)	0.04 (0.12)
/cut1	0.30 (0.30)	NA	0.67 (0.42)	NA	-0.39 (0.43)	NA
/cut2	5.21 (0.46)	NA	5.40 (0.61)	NA	4.88 (0.71)	NA
<b>Number of Observation=1709      Number of Observation= 903</b> <b>Number of Observation=806(Male)</b> *significant at 10%      **significant at 5%      *** significant at 1%						
<b>Marginal effects after ologit <math>y = \text{Pr}(\text{degruse}=1)</math> (predict) = .62696355</b> (*) $dy/dx$ is for discrete change of dummy variable from 0 to 1						



**Source: CBMS-Ethiopia Survey, 2018**

The overall section in table 27 shows that out of the total explanatory variable only 7 are fit or significant for interpretation. The variables are *reldummy*, *legdummy*, *rpdummy*, *colldummy*, *techudummy*, *fininst\_dist* and *pci*.

Table 27 dictates that youth being sticky to culture and religion leads them to be in the lower range of financial service utilization. In other word youth who are rigid and dogmatic are probably low user of financial services.

Strain in the legal and regulatory environment leads youth to be in the upper category of degree of usage which is statistically significant at 5 percent.

As strain in repayment period increases the chance of the youth tends to be in the lower category of financial service which is significant at 1 percent level of significance.

The incapability of pledging collateral attributes positively for the youth to be in the higher hierarchy of financial service utilization. As the request of collateral becomes strong youth tends to be high user of financial services. This result is statistically significance at 10 percent level of significance.

As technology access increases the youth tends to be in the higher degree of financial service utilization were this result is statistically significant at 1 percent level of significance.

As the distance of the financial service provider increases the tendency of the youth to be in higher category of user of financial service declines which is statistically significant at 1 percent level of significance.

As household income increases the youth tends to be in higher rank of financial service usage in which the result is significant at 5 percent.

Rest of the explanatory variables (*finlit*, *intdummy*, *covendummy*, *lsdummy*, *maledummy*, *age* and *inforaccess*) does not have significant effect on degree of financial service utilization.

Specific to female youth, as legal and regulatory environment improves they are more likely to be higher users of financial services. Strain on loan repayment period attributes for them to be

lower users of financial services. As distance of FSPs increases the female youth tends to be low users of financial services.

The study determined that five out of the list of the factors significantly affects male youth degree of financial inclusion. These are legdummy, rpdummy, techdummy, age and fininst\_dist.

#### 4.4.5. PROPENSITY SCORE MATCHING RESULT

In this study effort has been made to identify the impact of being financially included on the income of the youth. The income level of the individual has been given by the variable income. This variable has been generated from three subvariables: totsales\_primbus, totbuscost and wage\_mm.

The treatment factor which is used to segregate and form treatment group and comparison group is finclude. It is recalled that finclude shows financial inclusion status of the youth where its value lies as either 0 or 1, financially included and financially not included. As a background variable of matching age, sex and education were utilized.

The model used is presented as below:

$$= -(\sum (Y_t - Y_c))$$

Where  $Y_t$  is the outcome of the treated group,  $Y_c$  is the outcome of the comparison group,  $N_t$  is the matched sample and ATT is the average treatment effect on the treated.

<b>Table 28: Impact of Financial Inclusion on Income</b>			
<b>Outcome</b>	<b>Overall</b>	<b>Female</b>	<b>Male</b>
	<b>Coefficient (Robust Standard Error)</b>		
ATE	16676.51*** (4611)	17883.47*** (1914.82)	15101.48 (10331.01)
<b>Number of Observation=4928 (Overall)</b>			
<b>Number of Observation=2790 (Female)</b>			
<b>Number of Observation=2138 (Male)</b>			
Estimator	Nearest-neighbor matching		
Matches: requested	1		

**\*significant at 10%**

**\*\*significant at 5%**

**\*\*\* significant at 1%**

**Source: CBMS-Ethiopia Survey, 2018**

The study conducted by (Wang, L. and Shen,J., 2017)noted that factors such as sex, age, education, and marriage significantly affect personal income. This study as a balancing factor or outcome independent variable for propensity score matching used gender,education and disability.

Table 28 indicates that financial inclusion has maximum impact of 16676.51 Birr on the annual income generated by the youth.In other word an individual who is financially included or getting services earns 16676.51 Birr more than those who are not.The impact is statistically significant at 1 percent.

Specific to female youth, financial inclusion attributes additional 17883.47 birr per annum.Hence those females who are financially included earn 17883.47 birr more per annum than those who are not included.

The study finds there is no significant impact of bieng financially inclusion on the income level of male youth.

#### **4.4.6. FACTORS DETERMINING ENTREPRENEURIAL ENGAGEMENT**

The study set that sex, education status, age, geographical location, percapita income, family size, current employment status, participation in edir saving, loan ,remittance and informal financial services.

Like financial inclusion here the study used binary logit to see if above listed factors attribute for the youth to involve in entrepreneurial tasks:

**Table 29: Logistic Regression result for covariates of Entrepreneurial Engagement**

Variable(label)	Overall		Female		Male	
	Entrepreneurial Involvement	Marginal effect	Entrepreneurial Involvement	Marginal effect	Entrepreneurial Involvement	Marginal effect
	Coefficient (Standard error)					
Sex(sex)	-0.02 (0.16)	-0.0003 (0.02)	NA	NA	NA	NA
Education Status(educind)	0.49* (0.27)	0.01* (0.004)	1.04** (0.48)	0.008** (0.004)	0.22 (0.35)	0.01 (0.01)
Age(age)	0.02 (0.02)	0.0003 (0.002)	0.03 (0.03)	0.000 (0.00)	0.006 (0.03)	0.000 (0.000)
Subcity(subcity)	0.27* (0.13)	0.004** (0.002)	0.30 (0.20)	0.002 (0.002)	0.23 (0.17)	0.01 (0.005)
Per capita income(pci)	0.00001** (0.00001)	0.000 (0.000)	0.00001 (0.00001)	0.000 (0.00)	0.000 (0.000)	0.000 (0.000)
Family size(phsize)	0.10*** (0.04)	0.002*** (0.001)	0.21*** (0.06)	0.002*** (0.001)	0.01 (0.06)	0.0003 (0.00)
Disability status(pwd_ind)	-0.09 (1.04)	-0.001 (0.02)	Omitted	Omitted	Omitted	Omitted
Entrepreneurial Training(training_ind)	0.51* (0.29)	0.01* (0.004)	0.18 (0.42)	0.002 (0.003)	0.78* (0.42)	0.02* (0.01)
Employment status(empind)	-2.70*** (0.28)	-0.04*** (0.004)	-3.02** (0.38)	-0.02*** (0.004)	-2.31*** (0.39)	-0.06*** (0.01)
Social Capital(edir_ind)	-0.05 (0.17)	-0.001 (0.002)	0.01 (0.25)	0.00 (0.00)	-0.16 (0.23)	-0.004 (0.01)
Saving status(save)	0.14 (0.18)	0.002 (0.003)	-0.14 (0.28)	-0.001 (0.002)	0.32 (0.24)	0.01 (0.01)
Credit involvement(loan)	1.09 (0.69)	0.03 (0.03)	0.51 (1.16)	0.005 (0.01)	1.63* (0.89)	0.1 (0.1)
Remittance involvement(Remit)	0.87*** (0.18)	0.02*** (0.01)	0.87*** (0.29)	0.01** (0.005)	0.79*** (0.24)	0.03** (0.01)
Informal FSPs(informalinst_acc)	-1.57*** (0.47)	-0.03*** (0.01)	-2.53*** (0.60)	-0.02*** (0.01)	-0.01 (1.07)	-0.000 (0.03)
Constant	0.32 (2.54)	NA	1.02 (1.94)	NA	-2.57 (2.65)	NA

Number of Observation=4928      Number of Observation (Female)= 2790

Number of Observation=2138(Male)

\*significant at 10%

\*\*significant at 5%

\*\*\* significant at 1%

(\*)  $dy/dx$  is for discrete change of dummy variable from 0 to 1

Source: CBMS-Ethiopia Survey, 2018

Table 29 indicates that the basic factors which attributes female youth to be an entrepreneur are education status, family size and getting remittance while being employed and access to informal FSPs attributes negatively.

For male youth entrepreneurship training access to loan and access to remittance contributes highly to be an entrepreneur. Whereas being employed somewhere adversely contribute for entrepreneurial intention.

In general youth those who are educated, living in rural area, has high household per capita income, large family size, took entrepreneurial training and has access to remittance has high degree to be an entrepreneur.

In contrast youth those who are employed somewhere and has ease access to remittance are less probable to be an entrepreneur.

## 4.5 . CONCLUSION AND RECOMMENDATION

### 4.5.1 CONCLUSION

**This study has concluded the following points from the results presented in the previous section:**

*The binary logit analysis implies that*

- Financial literacy has positive and significance effect on the degree of the youth to be financially included.
- Religion and culture affect the participation of people in financial service provision
- Repayment period matters for the community who is demanding to get financial services from FSPs
- Technology utilization of the youth will have an impact on the level of financial service provision.
- This study also found that being male rather than female has positive contribution for financial inclusion.
- Youth whose age is 18 and above it is more financially included than those whose is is ranging from 15 to 17.
- This study revealed counter to expectation that distance of FSPs has positive effect on financial inclusion.
- This study found counter to expectation that income does not have significant relationship with financial inclusion.
- Access to informal financial sectors has positive effect to be financially included towards formal financial service providers.

*In relation to financial service providers preference (selection) the following concluding remarks have been obtained:*

- Youth who is/are financially literate or has/have financial information is more preferring for Banks than microfinance institutions(MFIs).
- As restraint on collateral becomes tight youth tends to prefer SACAs over banks. In addition when the legal and regulatory environment becomes challenging still the youth prefers SACAs over banks.
- As the youth acquire financial information or synonymically when the youth become financial literate they prefer to get financial service from Banks rather than LMLs..

- As restraint on collateral request increases the youth moves from banks to LMLs.
- Those who have good financial literacy prefers to get financial service from Banks rather than informal FSPs.
- Being strict in religion and culture has a positive effect for the youth to prefer informal FSPs over banks.
- As the challenge of collateral increases people tends to move towards informal financial institutions like equb than banks to get service.

***The ordered logistic regression enables this study to make the following conclusions:***

- Youth who are rigid and dogmatic are probably low user of financial services.
- Strain in the legal and regulatory environment leads youth to be in the lower category of degree of usage.
- The strain in repayment period makes youth to be higher user of financial services at 5 percent level of significance.
- The incapability of pledging collateral attributes negatively for the youth to be in the higher hierarchy of financial service utilization.
- As technology access increases the youth tends to be in the higher degree of financial service utilization

***From the PSM finding the following has been concluded:***

- *The effect of being financially included is birr 16676.51.* Similarly those who are getting financial service generates additional birr 16676.51 compared to those who don't.
- *Gender disaggregated regression shows that the effect of financial inclusion is high and significant on female youth than male youth.*

#### **4.5.2. RECOMMENDATIONS**

- Need based financial training should be provided to late aged youth
- Repayment period should be readjusted in consideration with users' capacity.
- As one factor with attributes negatively is religion, more has to be done to harmonize religion with financial services.
- More technologies should be introduced to the financial services market.
- Further research should be conducted to determine as to why gender impartiality is revealed in financial service provisions.
- More emphasis should be paid to late youth age groups because of the finding that shows at late age financial inclusion among youth is low.
- Since this study found that the flourishing informal service providers is good for formal financial inclusion, stakeholders should support or reinforce those service providers.
- Banks are more reliable or secured sources of financial services. In order to let them (youth) prefer to get service from banks, various information outlets should be used to deliver up to date and relevant financial information.
- Similarly the restraint on pledging collateral should be modified and replaced by other security options
- As users are more dogmatic or optimist towards religion they prefer informal financial service providers. Therefore to encounter this effect FSPs should think of providing religion tailored services to customers.



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## ANNEX

### STATA Outputs

```

Logistic regression                               Number of obs   =      4,928
Wald chi2(11)                                   =      707.15
Prob > chi2                                     =      0.0000
Pseudo R2                                       =      0.1785

Log pseudolikelihood = -2469.2296
    
```

save	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]
finlit	.662539	.0818108	8.10	0.000	.5021928 .8228852
intdummy	-.1024826	.1075332	-0.95	0.341	-.3132437 .1082785
reldummy	-.9163159	.2252316	-4.07	0.000	-1.357762 -.47487
legdummy	.676196	.2344152	2.88	0.004	.2167507 1.135641
covendummy	-.0210501	.1563549	-0.13	0.893	-.3275 .2853999
techdummy	2.48811	.1351578	18.41	0.000	2.223205 2.753014
maledummy	.0799323	.0829531	0.96	0.335	-.0826528 .2425174
age	.0550985	.0117159	4.70	0.000	.0321357 .0780613
fininst_dist	.0057446	.0006978	8.23	0.000	.0043769 .0071124
pci	.0000124	.0000129	0.96	0.336	-.0000128 .0000376
inforaccess	.8711939	.3511844	2.48	0.013	.1828851 1.559503
_cons	-2.704281	.2241247	-12.07	0.000	-3.143557 -2.265004

```

Logistic regression                               Number of obs   =      4,928
Wald chi2(11)                                   =      292.20
Prob > chi2                                     =      0.0000
Pseudo R2                                       =      0.0625

Log pseudolikelihood = -2159.1017
    
```

remit	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]
finlit	.0150831	.09615	0.16	0.875	-.1733675 .2035337
intdummy	.5191005	.1078002	4.82	0.000	.3078159 .730385
reldummy	-.0755601	.188448	-0.40	0.688	-.4449114 .2937912
legdummy	.756609	.2591438	2.92	0.004	.2486963 1.264522
covendummy	-.2366725	.2012273	-1.18	0.240	-.6310709 .1577258
techdummy	1.244987	.122439	10.17	0.000	1.005011 1.484963
maledummy	.1112299	.0867419	1.28	0.200	-.058781 .2812409
age	.0490101	.0112543	4.35	0.000	.0269521 .071068
fininst_dist	-.0075128	.004595	-1.64	0.102	-.0165187 .0014931
pci	4.27e-06	8.82e-06	0.48	0.628	-.000013 .0000216
inforaccess	.2175995	.3828851	0.57	0.570	-.5328415 .9680404
_cons	-2.957216	.2358173	-12.54	0.000	-3.41941 -2.495023



Probit model with endogenous regressors                      Number of obs        =        2,790  
    Wald chi2(6)        =        3648.21  
 Log likelihood = -870.49959                                    Prob > chi2        =        0.0000

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
intdummy	-3.077861	.3247865	-9.48	0.000	-3.71443	-2.441291
finlit	-.0315477	.5460309	-0.06	0.954	-1.101749	1.038653
techdummy	.1092557	.3174823	0.34	0.731	-.5129981	.7315095
age	.0063176	.026346	0.24	0.810	-.0453196	.0579547
fininst_dist	-.0020246	.076221	-0.03	0.979	-.151415	.1473658
pai	-1.11e-06	6.58e-06	-0.17	0.866	-.000014	.0000118
_cons	.0066172	3.300313	0.00	0.998	-6.461878	6.475112
corr(e.intdummy,e.loan)	.9972957	.0695614			-1	1
sd(e.intdummy)	.3231574	.004326			.3147888	.3317485

Instrumented: intdummy  
 Instruments: finlit techdummy age fininst\_dist pai reldummy

Wald test of exogeneity (corr = 0): chi2(1) = 0.07                      Prob > chi2 = 0.7976

Logistic regression    Number of obs        =        2,138  
    Wald chi2(10)        =        330.70  
 Log pseudolikelihood = -1106.9114                                    Prob > chi2        =        0.0000  
    Pseudo R2            =        0.1821

	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
save						
finlit	.6580212	.1196196	5.50	0.000	.423571	.8924714
intdummy	-.106111	.1579711	-0.67	0.502	-.4157286	.2035067
reldummy	-1.135619	.3861775	-2.94	0.003	-1.892513	-.3787247
legdummy	.6894716	.3251584	2.12	0.034	.0521728	1.32677
covendummy	.1438811	.2382461	0.60	0.546	-.3230726	.6108349
techdummy	2.47748	.1951191	12.70	0.000	2.095054	2.859906
age	.0515758	.0185779	2.78	0.006	.0151638	.0879878
fininst_dist	.0046029	.0009529	4.83	0.000	.0027353	.0064705
pai	5.21e-06	.0000149	0.35	0.727	-.000024	.0000344
inforaccess	.6710453	.5824614	1.15	0.249	-.4705582	1.812649
_cons	-2.476101	.3356713	-7.38	0.000	-3.134004	-1.818197

Logistic regression    Number of obs        =        2,138  
    Wald chi2(10)        =        155.13  
 Log pseudolikelihood = -954.55414                                    Prob > chi2        =        0.0000  
    Pseudo R2            =        0.0952

	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
remit						
finlit	-.0033032	.1374893	-0.02	0.981	-.2727773	.266171
intdummy	.4399003	.1632651	2.69	0.007	.1199066	.759894
reldummy	.1746684	.2890149	0.60	0.546	-.3917903	.7411272
legdummy	.7051214	.3917893	1.80	0.072	-.0627715	1.473014
covendummy	.1406624	.2914477	0.48	0.629	-.4305645	.7118894
techdummy	1.371136	.1487908	9.22	0.000	1.079512	1.662761
age	.0352173	.0137315	2.56	0.010	.008304	.0621306
fininst_dist	-.0853308	.0165492	-5.16	0.000	-.1177665	-.052895
pai	1.42e-06	1.84e-06	0.77	0.442	-2.20e-06	5.03e-06
inforaccess	-.5339522	.666934	-0.80	0.423	-1.841119	.7732144
_cons	-2.323855	.3092576	-7.51	0.000	-2.929989	-1.717721

```
Probit model with endogenous regressors        Number of obs       =      2,138
                                                Wald chi2(6)        =      2381.82
Log likelihood = -670.9313                    Prob > chi2         =      0.0000
```

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
intdummy	-3.070143	.6539794	-4.69	0.000	-4.351919	-1.788367
finlit	.0082698	1.059182	0.01	0.994	-2.067689	2.084229
techdummy	.0112871	.0720934	0.16	0.876	-.1300135	.1525876
age	.023057	.022139	1.04	0.298	-.0203347	.0664487
fininst_dist	-.0009984	.0703556	-0.01	0.989	-.1388928	.136896
pci	-8.02e-07	8.08e-06	-0.10	0.921	-.0000166	.000015
_cons	-.4155999	4.922445	-0.08	0.933	-10.06342	9.232216
corr(e.intdummy,e.loan)	.9954983	.1504687			-1	1
sd(e.intdummy)	.3230806	.0049407			.3135406	.3329107

```
Instrumented: intdummy
Instruments: finlit techdummy age fininst_dist pci reldummy

Wald test of exogeneity (corr = 0): chi2(1) = 0.03        Prob > chi2 = 0.8556
```

```
Ordered logistic regression        Number of obs       =      1,709
LR chi2(14)                        =      57.66
Prob > chi2                          =      0.0000
Log likelihood = -1149.4682        Pseudo R2           =      0.0245
```

degruse	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
finlit	.0981256	.1126713	0.87	0.384	-.1227062	.3189573
intdummy	-.0016525	.1613508	-0.01	0.992	-.3178942	.3145892
reldummy	-.638507	.3053953	-2.09	0.037	-1.237071	-.0399431
legdummy	.7092071	.3136935	2.26	0.024	.0943791	1.324035
rpdummy	-.6167468	.2221967	-2.78	0.006	-1.052244	-.1812492
colldummy	.3159187	.1884082	1.68	0.094	-.0533546	.685192
covendummy	.2201217	.2529573	0.87	0.384	-.2756654	.7159088
lsdummy	-.3704358	.5574165	-0.66	0.506	-1.462952	.7220804
techdummy	.3221314	.1169638	2.75	0.006	.0928866	.5513762
maledummy	.0665278	.1032617	0.64	0.519	-.1358613	.268917
age	-.0159143	.0130588	-1.22	0.223	-.0415092	.0096805
fininst_dist	-.0053176	.0016022	-3.32	0.001	-.0084577	-.0021774
pci	6.07e-06	3.00e-06	2.02	0.043	1.90e-07	.0000119
inforaccess	.3177686	.4309415	0.74	0.461	-.5268612	1.162398
/cut1	.2950447	.2970886			-.2872383	.8773278
/cut2	5.213199	.4591402			4.313301	6.113097