



**Mekelle University**  
**College of Business and Economics**  
**Department of Economics**  
**A Thesis on**  
**The Role of Microfinance Institutions in Youth Economic Empowerment**  
**in Shire Town, Tigray, Ethiopia:**

A Master's Thesis Submitted to the Department of Economics in Partial  
Fulfillment of the Requirement for the Degree of Master of Science in  
Economics (Development Policy Analysis Specializations)

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## Declaration

I, Fisseha Gebremedhin, hereby declare that this thesis work entitled “A Thesis on the Role of Microfinance Institutions in Youth Economic Empowerment in Shire Town, Tigray, Ethiopia:” Submitted by me in partial fulfillment of the requirements for the award of the degree of Master of Science in Economics (Development policy analysis Specializations) to the Department of Economics in Mekelle University, is an original work carried out by myself. The matter embodied in this thesis work has not been submitted earlier for the award of any degree or diploma to the best of my knowledge and belief. Where other sources of information have been used, they have been duly acknowledged.

Name of the student: Fisseha Gebremedhin

Signature\_\_\_\_\_

## Certification

This is to certify that this Thesis work entitled “A Thesis on The Role of Microfinance Institutions in Youth Economic Empowerment in Shire Town, Tigray, Ethiopia:” was Submitted in partial fulfillment of the requirement for the award of the degree of Master of Science in Economics (Development Policy Analysis Specializations) to the Department of Economics in Mekelle University, done by Fiseha Gebremedhin, ID NO: CBE/Pse/021/10, is an original work carried out by himself. The matter embodied in this Thesis work has not been submitted earlier for the award of any degree or diploma to the best of my knowledge and belief. Where other sources of information have been used, they have been duly acknowledged.

Advisor: Fredu Nega (PhD)

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Date: \_\_\_\_\_

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# Dedication

I dedicated this thesis document to my wife, my entire family, for tending me with love, and for their wholehearted partnership in the success of my life.

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## Acronyms

ATT – Average Treatment Effect for the Treated

CSA – Central Statistics Agency

ESR – Endogenous Switching Regression

ETB – Ethiopian Birr

FAO – Food and Agriculture Organization

ILO - International Labour Organization

IVs - instrumental variables

MFIS – Microfinance Institutions

NGOs - Non-Government Organizations

OLS – Ordinary Least Squares

PSM - Propensity Score Matching

VIF – Variance Inflation Factor

WB – World Bank

## Abstract

*Youth unemployment remains a pressing challenge in Ethiopia, particularly in post-conflict regions such as Shire Town, where economic disruption has constrained livelihood opportunities. The main objective is to evaluate how participation in MFIs affects youth income and to identify the institutional and demographic determinants influencing microfinance participation. The study employs a cross-sectional survey of 270 youth respondents, combining descriptive statistics with an Endogenous Switching Regression (ESR) model to correct for self-selection bias. Descriptive results reveal that the average respondent is 25 years old, with a mean family size of four and an average education level of five years. Males constitute 79% of the respondents, and 50% are microfinance participants. Approximately 63% of married youths and 49% of house owners are MFI participants, indicating that gender, marital stability, and asset ownership are major factors associated with financial inclusion. The mean natural logarithm of income corresponds to an approximate monthly income of ETB 68,000, suggesting considerable income variation among youth. The ESR model results confirm that microfinance participation significantly improves youth income, validating its role in economic empowerment. In the selection equation, sex, age, marital status, family size, and asset ownership significantly influence participation decisions. Male and older youths are more likely to participate, whereas larger family sizes decrease participation probability. For microfinance participants (Regime 1), income is positively affected by age and house ownership but negatively influenced by gender (female), marital status, and family size. Among non-participants (Regime 0), distance to market and house ownership remain key income determinants. The high positive correlation coefficient ( $\rho_1 = 0.963, p < 0.01$ ) between the error terms of the selection and income equations confirms the presence of positive selection bias, indicating that youths inclined to participate in MFIs inherently have higher income potential. The results demonstrate that microfinance access enhances youth income and self-employment opportunities, consistent with prior empirical evidence. However, persistent gender disparities in income returns suggest that female participants face structural and institutional barriers even after gaining access to credit. Furthermore, the significance of asset and house ownership in both regimes underscores the importance of collateral and stability in fostering financial inclusion. In conclusion, microfinance institutions play a pivotal role in improving youth livelihoods in Shire Town by enhancing income, promoting self-employment, and strengthening asset accumulation. Strengthening institutional capacity and aligning microfinance services with youth development policies was crucial to*

*sustaining empowerment outcomes and fostering inclusive post-conflict recovery in Tigray.*  
**Keywords:** *Microfinance Institutions, Youth Economic Empowerment, Endogenous Switching Regression, Financial Inclusion, Shire Town*

# 1. Introduction

## 1.1. Background of the Study

Youth unemployment is a global concern affecting both developed and developing nations. According to the International Labour Organization (ILO, 2020), youth face disproportionate unemployment rates, limiting their ability to contribute to economic growth. Globally, youth constitute about 16% of the workforce but are three times more likely to be unemployed than adults. This has spurred international attention towards youth empowerment programs as a pathway to enhance employability, skills, and sustainable livelihoods (Jones et al., 2019).

Microfinance institutions (MFIs) have emerged as vital players in promoting economic development, particularly in developing countries. They provide financial services to underserved populations, including the youth, who often lack access to traditional banking systems. According to Ledgerwood (1999), microfinance encompasses a range of financial services, including microloans, savings accounts, and insurance, specifically designed for low-income individuals and small businesses. This financial inclusion is crucial for fostering entrepreneurship and improving livelihoods, particularly among youth in regions like Shire Town, Ethiopia.

The role of MFIs in youth economic empowerment extends beyond mere financial services. They often provide training and capacity-building programs that enhance the skills and knowledge of young entrepreneurs. For instance, research by Otero (1999) highlights that many MFIs offer business development services that equip youth with essential entrepreneurial skills, thereby increasing their chances of success. These programs often include financial literacy training, marketing strategies, and management skills, which are critical for navigating the complexities of running a business.

Africa is the youngest continent, with nearly 60% of its population under 25 years old. Many African countries struggle with high youth unemployment rates due to limited industrialization, inadequate skills training, and insufficient access to financial and entrepreneurial resources. Several studies have highlighted that well-structured youth empowerment programs can address livelihood challenges through vocational training, entrepreneurship support, and financial inclusion (Alemu & Azadi, 2018).

Youth unemployment is a pressing issue in Ethiopia, where a significant portion of the population is under 30 years old. The World Bank (2020) reports that youth unemployment rates in Ethiopia are alarmingly high, contributing to economic instability and social unrest.

In response, the Ethiopian government has recognized the need for targeted interventions to empower youth economically. Microfinance has been identified as a potential solution to this challenge, providing young entrepreneurs with the necessary capital to start and grow their businesses (Morduch, 1999).

Despite the positive impact of MFIs, challenges remain in effectively reaching and serving the youth demographic. Many young individuals are still unaware of the services offered by MFIs or face barriers such as high interest rates and stringent loan conditions (Zeller & Meyer, 2002). Furthermore, the stigma associated with borrowing can deter youth from seeking financial assistance. Addressing these barriers is essential for maximizing the potential of microfinance in promoting economic empowerment among young people in Shire Town.

The relationship between microfinance and youth economic empowerment is also influenced by socio-cultural factors. In many communities, traditional gender roles and societal expectations can limit the participation of young women in entrepreneurship. As noted by Mayoux (2001), empowering young women through targeted microfinance programs can lead to significant social and economic benefits, not only for the individuals involved but also for their families and communities. Thus, understanding the gender dynamics within the context of microfinance is crucial for developing inclusive strategies.

Moreover, the impact of microfinance on youth economic empowerment should be assessed through various indicators, including income generation, employment creation, and overall quality of life improvements. According to a report by the International Labour Organization (2017), youth who engage in entrepreneurial activities often experience increased self-esteem and social status, further contributing to their economic empowerment. This holistic approach to assessing the impact of microfinance is essential for understanding its effectiveness in enhancing youth livelihoods.

As the microfinance sector continues to evolve, it is important to consider the integration of technology in service delivery. Digital financial services have the potential to enhance access to microfinance for youth, particularly in remote areas. A study by Pousttchi and Schurig (2016) emphasizes that mobile banking and digital payment systems can significantly reduce transaction costs and improve the efficiency of financial services. This technological advancement could play a crucial role in bridging the gap between MFIs and young entrepreneurs in Shire Town.

Youth empowerment programs have emerged as vital mechanisms for enhancing the socio-economic development of young people, particularly in developing regions such as

Sub-Saharan Africa. In Ethiopia, where youth unemployment and underemployment remain pressing challenges, various governmental and non-governmental organizations have implemented empowerment initiatives aimed at improving the livelihoods of young individuals. These programs encompass skill development, entrepreneurship training, financial literacy, and access to credit, all of which contribute to increasing self-employment and economic resilience (UNDP, 2021).

In Ethiopia, youth unemployment has been a persistent challenge, exacerbated by rapid population growth and limited formal employment opportunities. National programs, such as the Youth Revolving Fund and the Urban Productive Safety Net Program, aim to empower youth to engage in micro-enterprises and self-employment initiatives (Baird et al., 2021). However, implementation success varies regionally due to resource constraints and socio-political conditions.

Microfinance institutions (MFIs) have emerged as pivotal players in fostering economic empowerment, particularly among youth in developing regions. In Shire Town, where unemployment rates among young people are alarmingly high, MFIs offer a lifeline by providing access to financial resources that are often unavailable through traditional banking systems. The motivation for this study stems from the pressing need to address youth unemployment, which is a significant barrier to economic development. By examining the role of MFIs in Shire Town, this research aims to uncover how these institutions can facilitate entrepreneurship and self-employment among the youth, thereby contributing to broader socioeconomic development.

In Shire Town, the presence of MFIs has shown promising results in fostering youth entrepreneurship. A study conducted by Abate (2021) found that young individuals who accessed microfinance services were more likely to start their businesses compared to those who did not. This finding underscores the importance of MFIs in providing not only financial resources but also the support necessary for youth to thrive in the competitive business environment.

Shire, located in the Tigray region of Ethiopia, has faced significant socio-economic disruptions due to prolonged conflicts and economic instability, which disrupted traditional livelihoods (Gebrihet et al., 2025). The youth in this region are particularly vulnerable to unemployment, poverty, and limited access to economic opportunities. Youth empowerment programs in Shire seek to bridge these gaps by equipping young people with the necessary skills, knowledge, and resources to participate effectively in the labor market and entrepreneurial ventures (World Bank, 2022). However, the effectiveness of these programs

in fostering sustainable livelihoods remains underexplored, necessitating a comprehensive study to evaluate their impact.

In conclusion, the role of microfinance institutions in youth economic empowerment in Shire Town is multifaceted, encompassing financial services, training, and socio-cultural considerations. While MFIs have the potential to drive significant change, addressing the challenges faced by youth and leveraging technological advancements was critical for maximizing their impact. This study aims to explore these dynamics further, providing insights into how microfinance can effectively empower young individuals economically in Shire Town.

As to the knowledge of the researcher, the significance of this study is underscored by the increasing recognition of microfinance as a tool for poverty alleviation and economic empowerment. Previous research has highlighted the multifaceted benefits of MFIs, including their ability to provide not only financial services but also training and support for business development (Putri et al., 2025). However, there remains a gap in understanding the specific impact of MFIs on youth empowerment in Shire Town, which this study seeks to address.

## 1.2. Statement of the Problem

Globally, microfinance institutions (MFIs) have been recognized as pivotal tools for promoting financial inclusion and youth economic empowerment, particularly in developing economies where formal credit access remains limited (Ledgerwood, 2013; World Bank, 2020). By offering micro-loans, savings opportunities, and entrepreneurial training, MFIs have enabled marginalized groups, especially young people, to start microenterprises, enhance their employability, and break cycles of poverty. Empirical evidence from South and Southeast Asia, such as studies in Bangladesh and India, shows that youth-targeted microfinance programs significantly improve self-employment and small business performance (Khandker, 2005; Banerjee et al., 2015). Similarly, research in Sub-Saharan Africa demonstrates that MFIs enhance income stability, asset accumulation, and skill development among the youth, although challenges such as high interest rates and limited financial literacy persist (Brau & Woller, 2004; Gichuki et al., 2014).

The empowerment of youth through economic initiatives has gained significant attention in recent years, particularly in the context of developing economies where youth comprise a large proportion of the population. Microfinance institutions (MFIs) have emerged as a pivotal factor in providing financial services to underserved populations,

including the youth in Shire Town, Ethiopia (Wolday, 2015; Nigatu & Lemma, 2017). Despite the critical role played by MFIs, there remains a knowledge gap regarding their effectiveness in enhancing economic opportunities for young individuals. Preliminary studies have indicated that while MFIs provide access to credit, the actual impact on youth empowerment—defined as the ability to engage in meaningful economic activities that elevate their socioeconomic status—remains underexplored.

Despite the potential of MFIs to empower youth economically, there are significant barriers that hinder their effectiveness in Shire Town. The high unemployment rate among youth, estimated at 26.1% (Kidane et al., 2015), reflects a broader issue of economic disenfranchisement. Many young individuals lack the necessary skills and resources to start their businesses, which is exacerbated by limited access to microfinance services.

Moreover, existing literature indicates that while MFIs provide financial support, they often fall short in offering comprehensive training and follow-up services that are crucial for the success of young entrepreneurs ("Empowering Women through Microfinance: I...", 2024). This gap in support can lead to high failure rates among youth-led enterprises, undermining the potential benefits of microfinance.

In the Ethiopian context, microfinance has been integrated into national poverty reduction and youth development strategies since the mid-1990s. Institutions such as the Dedit Credit and Saving Institution (DECSI) and the Amhara Credit and Saving Institution (ACSI) have played significant roles in providing youth with financial services to start small and medium enterprises (SMEs) and engage in productive self-employment (Wolday, 2015; Nigatu & Lemma, 2017). Previous studies on Ethiopian MFIs commonly employ cross-sectional survey designs combined with econometric models such as logit/Logit regressions and Endogenous Switching Regression (ESR) models to assess participation determinants and income effects (Alemu & Asfaw, 2020). These methodologies allow researchers to control for selection bias and identify causal effects of MFI participation on youth income, savings behavior, and employment status. Findings consistently highlight that education level, access to training, credit availability, and asset ownership positively influence MFI participation and, in turn, improve income and self-reliance.

Additionally, there is a lack of empirical research specifically focused on the experiences of youth in Shire Town regarding microfinance. Most studies have concentrated on broader community impacts or have been conducted in different contexts, leaving a significant research gap in understanding the unique challenges and opportunities faced by young people in this area. The problem is further compounded by socio-cultural factors that

may discourage youth from pursuing entrepreneurship, such as stigma associated with failure and inadequate motivation (Kidane et al., 2015).

Moreover, existing literature indicates that while MFIs provide financial support, they often fall short in offering comprehensive training and follow-up services that are crucial for the success of young entrepreneurs ("Empowering Women through Microfinance: I...", 2024). This gap in support can lead to high failure rates among youth-led enterprises, undermining the potential benefits of microfinance.

Despite the existence of numerous youth empowerment initiatives in Ethiopia, youth unemployment remains persistently high, particularly in conflict-affected regions like Tigray (Gebru et al., 2024). According to the International Labour Organization (ILO, 2020), many youth-focused programs lack sustainability, effective implementation strategies, and proper monitoring mechanisms. As a result, their impact on improving the livelihoods of young people remains questionable.

The destruction of economic infrastructure during the Tigray conflict has further undermined existing livelihood opportunities for youth in Shire Town (Gebrihet et al., 2025). While several empowerment programs are in place, little empirical evidence exists on their effectiveness in enabling sustainable livelihoods in post-conflict settings.

Recent empirical evidence from northern Ethiopia, including studies in Tigray, underscores the transformative potential of MFIs in fostering youth entrepreneurship and livelihood diversification (Gebremedhin & Weldegiorgis, 2019). In Shire Town, where youth unemployment and underemployment remain critical challenges, participation in microfinance programs has been shown to increase income-generating capacity, promote business start-ups, and enhance financial literacy among young people. However, constraints such as inadequate collateral, high lending costs, and limited business support services continue to restrict the full empowerment potential of MFIs (Kebede, 2022). The present study extends this body of research by using household-level survey data and econometric analysis to quantify the impact of MFI participation on youth income and employment outcomes. It contributes empirical evidence to policy debates on how financial inclusion can be leveraged to address youth economic marginalization in post-conflict and economically constrained regions like Tigray.

This study, therefore, seeks to fill this literature and knowledge gap by examining the role of youth empowerment programs in enhancing the socio-economic well-being of young people in Shire Town. Besides, the research aims to provide evidence-based

recommendations for policymakers and development organizations to design more effective and sustainable youth interventions.

Furthermore, the study explored the challenges faced by young entrepreneurs in accessing microfinance services and the effectiveness of these institutions in meeting their needs. By focusing on Shire Town, this research contributed to the existing literature on microfinance and youth empowerment, providing insights that can inform policy and practice. The findings were relevant for stakeholders, including policymakers, MFIs, and community organizations, aiming to enhance the economic prospects of young people in the region. Indeed, addressing these issues is critical for maximizing the impact of MFIs on youth economic empowerment in Shire Town.

### 1.3. Objectives of the Study

#### 1.3.1. General Objective

- To examine the role of microfinance institutions in youth economic empowerment in Shire Town.

#### 1.3.2. Specific Objectives

- To identify the services provided by MFIS that support youth entrepreneurship
- To analyze the socio-economic variables that affect the likelihood of participation in MFIS
- To identify the challenges faced by youth in accessing Microfinance institutions' services
- To identify the strategies adopted by microfinance institutions to rectify constraints

### 1.4. Significance of the Study

This study is significant as it addresses the critical role of the Role of Microfinance participation in promoting the youth economic empowerment in Shire Town, which is a pressing issue in developing regions, particularly in Shire Town, Tigray. By examining how the role of microfinance participation promotes youth economic empowerment goes into the promotion of the livelihoods of the youth, the study provides a deeper understanding of the compounded roles played by youths, particularly in urban, non-agrarian settings. This research contributed to the broader body of knowledge on program intervention, livelihood improvement, sustainable development, and urban economic resilience in terms of youth livelihood improvements.

Mainly, the findings of this study are important for policymakers, local governments,

and development organizations working to design targeted interventions that address livelihood improvements and youth welfare improvements. Furthermore, the research shed light on the role of MFIS in youth economic empowerment programs in promoting the livelihoods of the Youth as a means for youth welfare, ensuring the youth's well-being, aligning with global goals such as the Sustainable Development Goals (SDGs).

In the end, the study's significance lies in its potential to influence policy, improve livelihoods, and contribute to the long-term goal of eradicating food insecurity in all its forms, especially in urban areas.

## 1.5. Scope of the Study

The study was focused on the role of microfinance Institutions (MFIS) in youth economic empowerment in Shire Town, examining the role of youth empowerment programs within the context of non-farm activities for ensuring livelihoods. The research explored the role of microfinance participation in welfare improvement and overall youth welfare within this specific geographical and socio-economic context. The study investigated how microfinance participation contributes to welfare changes, considering factors such as access to microfinance participation and the socioeconomic status of youth.

Additionally, the study assessed the role of variations in the effects of microfinance participation in income diversification and welfare status across the three different Kebeles that were taken in the Town, and examined location differences in its role on income earning. It also explores the role of other socio-economic factors, such as youth status, education, and infrastructure, on income changes of the youth who participate in MFIS. The study used a cross-sectional survey, which was conducted in the 2025 fiscal year. In the context of methodology, an econometric model was used, specifically, the endogenous switching regression was used to address the research title.

## 1.6. Organization of the Paper

The paper was organized into five sections covering Chapter one, introduction, chapter two, literature review, chapter three, methodology, chapter four results and discussion, chapter five conclusion, and recommendations.

## Chapter Two

### 2. Related Literature Review

#### 2.1. Definitions and Concepts

Microfinance refers to a range of financial services targeted at small businesses and entrepreneurs who lack access to traditional banking systems. According to Ledgerwood (1999), these services often include microcredit, savings, insurance, and payment services designed to support economically vulnerable populations in achieving financial independence.

Economic empowerment encompasses the processes that enable individuals to gain control over their economic resources and improve their socio-economic conditions. Kabeer (2005) defines economic empowerment as the enhancement of one's ability to make choices and transform those choices into desired outcomes.

Youth economic empowerment, on the other hand, specifically refers to initiatives and opportunities designed to improve the economic positions of young people. This includes creating pathways for skill development, employment, and successful entrepreneurship, as outlined by the World Bank (2014).

Microfinance has undergone several transformations in terms of concept, service type, and approaches/modes of provision. Indeed, microfinance is said to be a new and emerging field in which there is still a lot to learn (Dunford, 2000). Although an evolving concept, microfinance has been recognized as a development approach intended to benefit low-income women and men

(Ledgerwood, 1999; Otero, 1999).

In using the term microfinance, there exists, however, some confusion. The point of confusion lies like clients served and the types of services offered. Regarding the nature of clients, though different scholars stated microfinance programs from different perspectives, most of them tend to believe that the program has emerged to help the poorest sections of society. Others, however, argue that since it is rather not easy in practice to consistently serve clients who are living below the poverty line, micro-financing is meant for those who are presumed to be able to repay loans (Meagher, 2002).

By considering the types of services, microfinance is often defined as “lending small amounts of money for short periods with frequent repayments” (Ibid, 2002: 7). Such

understanding equates the concept with micro-credit, which is rather a part of microfinance service, and thus, microfinance is much more than simply credit (McGuire and Conroy, 2002). In some other cases, microfinance is conceived as the provision of credit and savings services only. This again limits the concept to micro-banking or simply banking services. But “microfinance is not simply banking; rather it is a development tool” (Ledgerwood 1999: 1).

In a broader understanding, Ledgerwood conceived that microfinance refers to the provision of financial services to low-income clients, including the self-employed. Financial services generally include savings and credit; however, some micro-finance institutions (MFIs) also provide credit cards, payment services, money transfers, and insurance services. Besides, many MFIs undertake social intermediation services such as group formation, development of self-confidence, and training in financial literacy and management capabilities among members of a group. “Thus, the concept of microfinance often includes both financial and social intermediations.” (Ibid, 1999: 1).

Thus, microfinance refers to the provision of financial services, usually in the form of small-sized financial transactions, to people who usually fall outside the reach of formal finance. They tend to be the poorest members of all societies. Commercial banks usually ignore them to avoid the high transaction costs of servicing small loans and savings deposits. Moreover, most of the poor do not possess assets normally demanded as collateral, and they are perceived as being too risky to be granted loans (Meyer, 2001).

### 2.1.1. The Concept and Definition of Empowerment

The verbal definition of empowerment is related to the word power. In English, the concept leans on its original meaning of investment with legal power, i.e., permission to act for some specific goal or purpose (Batliwala, 1995). Rowland (1997) has also conceived empowerment, giving greater emphasis on power. According to him the power process involves four dimensions, i.e. Power from within: individual changes in confidence and consciousness; Power to: capability and capacity improvement as in skills, income, and market and job access; Power over: overcoming subjugation at household, community and macro level; Power with: networking, partnership, collaboration and joint action to challenge and change power relations.

However, the term empowerment has different meanings in different socio-cultural and political contexts, and does not translate easily into all languages. In connection with this, Mayoux (2001, 2002) stated that although several works have been done on the

concept and indicators of empowerment, it is a loaded term that means many things to different people and has subsequently gained a language command within the development discourse.

Narayan (2002) conceived the subject in its broadest sense, in which empowerment is the expansion of freedom of choice and action. It means increasing one's authority and control over the resources and decisions that affect one's life. In addition, Borchgrevink et al (2005) indicated that empowerment's core meaning refers to a process whereby a person or a group becomes less dependent on external circumstances (force) and more capable of influencing key processes relating to the situation of their life and livelihood. Empowerment underpins the process of change that determines the dominant pattern of power relations by strengthening resistance and the need to disengage from power networks using an inherent stimulated autonomy i.e., reinforcing claim-making capacity (Villarreal, 1994: 227).

Empowerment includes change and transformation from one level or stage to another. These changes can be in the minds or consciousness level of individual people. If it is at the consciousness level, it is psychological, where the mind develops a different way of thinking. This process is reflected through changes in behavior, attitude, and actions, or at the social and community level (community empowerment through development programs), or in the traditions and culture of communities. The concept of empowerment, according to these views, focuses on: (i) a gradual process of change of both actors and structures; (ii) power and capacity that are requisite in asserting oneself in resource access and attaining the desired human capabilities; and (iii) interactions amongst actors, including the individual, household, and community.

### 2.1.2. The Micro-finance Experience in Ethiopia

A study conducted on the Dedebit Credit and Saving Institution (DECSI); found that DECSI's program has had a positive impact on the livelihoods of its clients. Compared to non-clients, clients have experienced greater improvements over the last five years (2000 – 2004). Their situation has improved in terms of income, consumption, and assets. They also seem to be more food secure and less vulnerable to shocks and have a greater diversification in terms of income sources. The study found that the improvement in the economic condition of the clients is a necessary condition for DECSI's program that could lead to social and political empowerment for the marginalized groups. The study also concluded that economic empowerment leads to social and political empowerment. On the

other hand, this study also indicated the negative effects of DECSI's program. A considerable number of credit-financed ventures fail, with a possible effect on indebtedness and asset depletion of clients. In addition, a high level of school dropout rates among the client's children is registered. This is for shepherding animals purchased by the program fund (Borchgrevink et al, 2005).

The other study was conducted on OMO and SIDAMA micro-finance institutions' women clients in Awassa town, Southern Nations and Nationalities Peoples' Regional State. According to this study, a majority of the clients are involved in the making and trading of food and food-related products. The study also witnessed that there is no diversification in their business activity. The reason for this is that the production of food and related items trade involves less risk compared to other activities. The study further found that 92% of them are not very much aware that the savings are more important than credit to build their future. The researchers' explanation of this finding is that MFI's savings policy is only to cover the risk situation rather than creating any element of thrift among the clients. Nevertheless, the study argued that there is a positive influence of micro credit on the urban women working groups in terms of income and self-employment generation. Furthermore, it also reflected in many cases in business improvements, decision-making process, and asset formation at low levels, and it is believed not to be sufficient (Padma and Getachew, 2004)

### 2.1.3. Microfinance Development and Women's Participation in Ethiopia

Up until the early 1990s, the sources of finance for rural and urban poor and micro and small enterprise operators in Ethiopia were confined only to informal sources of finance like moneylenders, friends, and relatives (Itana et al, 2004). He further noted that, starting in the mid-1990s, following the drought of 1984/85, some Non-Government Organizations (NGOs) introduced the idea of saving and credit among poor people as a strategy for rehabilitation and development. Later on, special government programs operated mainly in collaboration with international financial institutions came into the picture. However, both types of programs were operated in a scattered manner and lacked sustainability until 1996. Of the substantial measures taken to liberalize the financial sector, the promulgation of Proclamation No.40/96 is most commonly cited. The proclamation provides the framework to create, expand, and develop microfinance programs. Micro-financing is viewed as a means to alleviate poverty through pumping capital into subsistence agriculture and micro-enterprises.

Following the Agricultural Development Led Industrialization (ADLI) strategy of the

EPRDF government, rural finance has been considered as an important tool for agricultural and food security (Belay, 2001). Consistent with its ADLI policy, the government had to reconsider the operational modality of microfinance to facilitate a very significant improvement in service delivery and outreach. Consequently, the government came up with Proclamation No.40 in June 1996. The central elements of the proclamation seem to be outreach and sustainability. That is, if properly implemented, the proclamation has the potential to facilitate significant outreach and the flourishing of several sustainable Micro-finance institutions (Meklit MFI et al., 2005).

After the enactment of this Proclamation, about 26 MFIs have been legally registered by the National Bank of Ethiopia (NBE) (Wolday, 2007). The importance of the micro and small enterprises sector in Ethiopia, particularly for the low-income, poor, and women groups, is evident from their relatively large presence, share of employment, and small capital requirement. These are sufficient reasons for governments and other stakeholders in development to be interested in micro and small enterprises (Gebrehiwot and Wolday, 2001).

In line with the development of micro-finance institutions, the Government of Ethiopia set up participatory rules and policies that gave space for women's productivity. Padma and Swamy (2003) noted that, government has formulated and issued the Ethiopian Women's Policy to speed up the economic and social advancement of women. This policy gives special emphasis to rural women by 'facilitating the necessary conditions whereby they can have access to basic services and to ways and means of lightening their workload'. Consequently, all development programs at national and regional levels should be able to integrate gender concerns in their plans and programs to ensure that women participate, contribute, benefit, become recognized, and obtain technological support. Rural development programs need to reorient their implementation strategies so that they target rural women as beneficiaries of development initiatives and programs.

Within this framework, anti-poverty and women's empowerment could be aspects of the major development strategies. Ethiopian MFIs have served 1,211,305 clients nationwide up to June 2005. The loan portfolio in the hands of active clients was about Br 1.5 billion (173 million USD). The average loan size was about Br. 1000 (116 USD). The Ethiopian microfinance industry is dominantly serving the rural poor. About 38 percent of clients of the MFIs are female (Wolday, 2007). As the overriding objective of MFIs in Ethiopia is to provide a broad range of micro-finance services to large numbers of poor households, it should be their (MFIs') priority to accommodate a remarkable number of women clients to accomplish tangible changes in the livelihood of the rural poor.

Microfinance Institutions play a crucial role in offering financial services to underserved populations, thereby acting as catalysts for entrepreneurial endeavors (Brett, 2013). Their operational models vary widely, from non-profits to cooperatives and commercial banks, each with unique approaches to reaching clients. Moreover, youth are often considered a vulnerable demographic, particularly in economies where job markets are competitive. The challenges youth face includes not just economic barriers but also social stigmas and limited access to networks that can facilitate employment (Ammermüller and Arntz, 2017). This demographic specificity underscores the importance of tailoring microfinance products to meet their unique needs. The nexus between microfinance and economic empowerment is underpinned by theories of financial inclusion and social capital. Financial inclusion broadens access to necessary financial resources, while social capital emphasizes the networks and relationships that can facilitate economic opportunities (Putnam, 1995). Both theories are integral in understanding the multifaceted impact of MFIs on youth empowerment.

## 2.2. Theoretical Literature Review

Theories surrounding microfinance suggest that providing access to financial resources can alleviate poverty and enhance economic participation. As posited by Robinson (2001), microfinance is a tool for poverty alleviation that promotes self-sufficiency among low-income individuals. The framework of social capital theory supports the premise that individuals with robust networks are more likely to succeed economically. It enhances their access to resources, information, and opportunities, which can be particularly beneficial for youth starting out in entrepreneurship (Bourdieu, 1986).

Another pertinent theory is the capability approach advocated by Sen (1999), which posits that economic empowerment derives from the ability to pursue and realize one's goals. This approach emphasizes the importance of empowering individuals to make choices that lead to better livelihoods. The dual-sector model by Lewis (1954) also illustrates the relevance of microfinance in integrating informal economic activities with formal structures, suggesting that microfinance can facilitate transitions for youth into formal employment or entrepreneurship.

Furthermore, the concept of sustainable livelihoods reinforces the need for integrated strategies that align financial services with skill development, thereby promoting holistic economic empowerment among youth (Scoones, 1998). In light of these theoretical frameworks, it is evident that microfinance's effectiveness in empowering youth

economically is influenced by a range of factors, including individual capabilities, social networks, and the broader economic environment.

## 2.3. Empirical Literature Review

Empirical studies examining microfinance's impact on youth are growing, yet remain sparse. For instance, Khandker (2005) conducted an extensive analysis of microfinance programs in Bangladesh, utilizing a longitudinal approach that measured multiple economic outcomes over time. His findings indicated a remarkable improvement in income levels among youth who accessed microfinance compared to non-users. However, the study did not include a detailed analysis of demographic variables and their influence on outcomes. In a more localized study in Nigeria, Adebayo (2014) employed both qualitative and quantitative methodologies to determine the direct correlation between microfinance and youth entrepreneurship. The findings suggested that access to microcredit significantly increased youth employment rates. However, the research failed to assess the long-term sustainability of these changes. A contrasting approach was taken by Adjei et al. (2020), who focused on the demographic diversity within youth populations, using a mixed-methods framework to analyze the effects of different types of microfinance services on economic outcomes. Their results highlighted significant variances in empowerment levels based on education, gender, and age. Nevertheless, this study lacked a comprehensive view of how geographical contexts, such as Shire Town, affect these outcomes.

Moreover, a meta-analysis by Dupas and Robinson (2013) synthesized results from multiple studies, revealing that while microfinance could facilitate short-term income increases, it often failed to produce comprehensive economic empowerment. The gap remained in understanding the social dynamics and psychological factors influencing youth engagement with MFIs.

Recent research by Ater and Tesfaye (2021) specifically examined challenges faced by youth accessing microfinance in rural Ethiopia. Their findings revealed heightened barriers due to socio-cultural perceptions around youth entrepreneurship. However, the study did not explore the effectiveness of different MFI models in addressing these barriers. Despite these contributions, a significant gap persists in the empirical literature regarding the contextualized experiences of youth in Shire Town concerning MFIs. As such, a comprehensive investigation is required to bridge these existing gaps and elucidate the multifaceted role of MFIs in facilitating youth economic empowerment.

## 2.4. Conceptual Framework

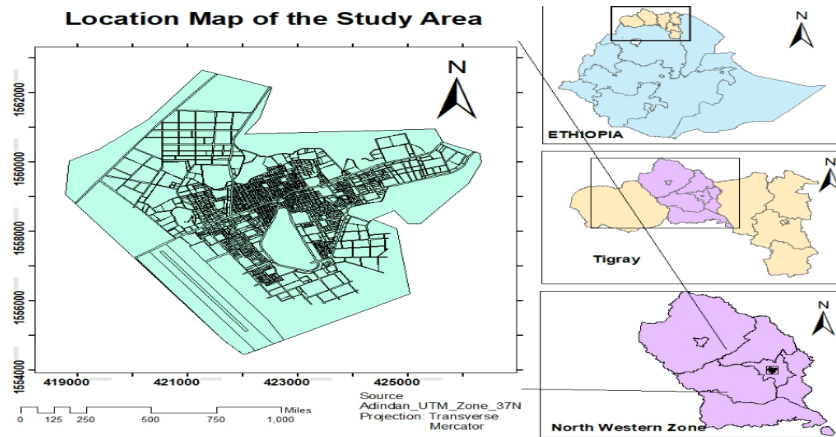
The conceptual framework for this study is grounded in the interaction between microfinance accessibility, youth demographics, and economic empowerment outcomes. It posits that access to microfinance products tailored for youth leads to improved financial literacy, entrepreneurial skills, and employment opportunities. Furthermore, understanding the different demographic characteristics, such as gender, education, and socio-economic background, is crucial in analyzing the differential impact of MFIs. This framework incorporated qualitative insights from beneficiary narratives, providing a more nuanced understanding of the challenges faced by youth in Shire Town. By integrating existing economic theories with empirical findings, the proposed conceptual framework aims to illustrate the dynamic interplay between microfinance and youth empowerment, thereby filling the identified research gaps and informing future microfinance policies aimed at this demographic.

## Chapter Three

### 3. Methodology of the Study

#### 3.1. Description of the Study Area

This study was conducted in the Northwest zone, Shire Town, Tigray Region. Particularly, the study was done in Shire Town, which is one of the highly potential zones in youth intervention programs in the Tigray region. Shire Town is around 291 km away from Mekelle City, the capital city of the Tigray region.



Source: Shire Town Administration, 2025

##### 3.1.1. Demographic characteristics

Based on the Shire Town Administration report in 2025, the Shire town has a total population of 230,108, out of which 109,816 are male and 120,292 are female. On the other hand, in terms of household equivalence, 11,392 are male households, and 25,920 are female households, with a total of 37,312 households. Therefore, the average family size of the town is 6.2, which is greater than the national average of 4.5. In terms of religion, the majority of the inhabitants are the followers of the Ethiopian Orthodox Church, Christianity, which accounts for 97.5%, followed by Islam, which accounts for 2.47 % of the population. On average, as per the overall national and the Tigray region age category of the youth statistics, around 40% of the population is categorized as the youth age group. Therefore, out of the 230,108 total population projected by the Shire Town Kebelle Administration, approximately 92,043 are the number of the youth individuals calculated from the entire population.

##### 3.1.2. Economic activity

Based on the annual report of the Shire Town Administration, Shire Town is one of the top economically performing towns in Tigray, especially in trade activities. Thus, trade and

agriculture are the main economic activities of the urban youth in the Town. Especially, trade is the dominant and backbone of the urban youth's economy, and a significant number of youths are involved in various intervention activities (Shire Agricultural Office Report, 2025).

### 3.2. Research Design

The research adopted a mixed-methods approach, combining both qualitative and quantitative research methodologies. This design allows for a comprehensive exploration of the role of MFIS on youth economic empowerment, focusing on the livelihood changes or improvement, or variations between the beneficiaries and non-beneficiaries' livelihood-promoting hire Town, Tigray. By employing both data collection and analysis techniques, the study aims to provide a detailed and holistic understanding of the issues at hand. The qualitative data were focused on the narrations and the analysis of the key informants obtained using the focus group discussion and interview results of the semi-structured questionnaires. The quantitative component was focused on the collection of numerical data to identify the status, power of interactions, and the correlations of the role of MFIS on youth economic empowerment in livelihood promotion for individual well-being changes or improvements.

### 3.3. Data Type, Source, and Method of Data Collection

The data type was a cross-sectional survey focused on the role of MFIS on youth economic empowerment, obtained during the 2024/2025 fiscal year. In this paper, the sources of the data collection were both primary and secondary data sources. To collect the primary data, the methods or instruments to be used were a scheduled questionnaire focusing on the most significant variables. To enrich the primary data, secondary data sources were used. The secondary data was collected from reliable sources such as the FAO, the central statistics agency, the Ministry of Finance and economic cooperation, MFIS, the Bureau of Tigray Statistics, the Bureau of Social Affairs and Rehabilitation Office, and the Tigray Bureau of Agriculture, and from published, reputable works of literature.

### 3.4. Sampling Technique and Sampling Size

#### 3.4.1. Sampling Technique

The multistage sampling technique was used. First, Shire Town was selected purposively due to the reason of the intensity of the second top economically performing town in terms of youth employment opportunities in the Tigray region, hosting high trade transactions that pave the way for youth economic engagement activities. Second, out of the five Kebeles, three sample Kebeles were selected using a stratified sampling technique,

considering the justification of the intensity of the youth benefiting and non-benefiting from MFIS programs, the potential of high youth participation in MFIS programs, and the high number of youths engaged in livelihood improvement programs. Third, a systematic sampling technique was used to select the sample beneficiaries and non-beneficiaries based on the obtained list from the MFIS in the three kebelles that were included in the entire survey. Fourth, the random sampling technique was used to select the sample youths from the sampling frame, to give an equal chance of being selected from the sampling frame, and to minimize the sampling error. Lastly, the sample size of the youths was allocated to each Kebele using a proportional random sampling technique.

### 3.4.2. Sample Size Determination

Given the definite number of the youth population, the sample size is determined based on the scientific formula indicated by Kothari (2004) for sample size determination for a finite population. To determine the sample size of the youth from the three Kebelles in Shire Town that were included, the following scientific sample size determination formula was used:

$$n = \frac{N * Z^2 * P * (1 - P)}{E^2 (N - 1) + (Z^2 * P(1 - P))}$$

Where n = is the required sample size, N = total population size (unknown youth), Z = z-value (1.645 for a 90% confidence level), p = estimated proportion of the attribute present in the population, was used 0.5 for maximum sample size, E = margin of error (expressed as a decimal, 0.05 for 5%). Hence, the actual sample size determination was given as follows:

$$n = \frac{92,043 * 1.645^2 * 0.5 * (1 - 0.5)}{0.05^2 (92,043 - 1) + (1.645^2 * 0.5 (1 - 0.5))} = \frac{62,268}{231} = 269.56 \approx 270$$

Thus, the hypothetical sample size was 270 sample youth participants who were included in the entire study. This ensures representation of beneficiaries and non-beneficiaries' subgroups, enhancing the reliability of the findings.

Table 3.1: Sample size distribution across the Kebelles

S.No.	Kebelles	Youth population	Sample computation	Sample size (n)
1	Kebele One	27,612	$\frac{27,612}{92,043} * 270 \approx 81$	81
2	Kebele Three	34,976	$\frac{34,976}{92,043} * 270 \approx 102.6$	103
3	Kebele four	29,454	$\frac{29,454}{92,043} * 270 \approx 86.4$	86

<b>Total</b>	<b>92,043</b>	$\frac{92,043}{92,043} * 270 \approx 270$	<b>270</b>
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Source: Own Computation, 2025

### 3.5. Method of Data Analysis

To analyze the collected data, both descriptive statistics and the econometrics model were used. Particularly, the descriptive statistics were addressed using mean, standard deviation, frequency, table, percentage, and charts. On the other hand, in the econometrics model, the empirical analysis was addressed using the logit model for the participation decision and the Endogenous Switching Regression Model for the outcome variable. Moreover, the detailed representations of the descriptive and econometric models are given as follows:

#### 3.5.1. Descriptive Statistics Method

The descriptive method was used as the foundational analysis, providing a comprehensive overview of the research population and key variables. This involved several steps:

#### 3.5.2. Description of Variables

In the analysis of this paper, two dependent variables were considered, specifically the MFIS participation and income earning after participation in MFIS. Thus, taking both dependent variables, the role of microfinance participation in income variation or welfare improvement, and the likelihood of MFIS participation decision were assessed. In addition, the independent variables are given as follows:

##### 3.5.2.1. *Demographic Characteristics:*

In the demographic characteristics, age of the youth, gender, family size, and educational background were used in order to see the role of the MFIS on youth economic empowerment. Age, family size, and educational status were measured in a continuous variable form, whereas gender was a binary variable.

##### 3.5.2.2. *Socio-economic Characteristics:*

Youth endowments (assets), family background, income (farm/non-farm income), social position, information access, and infrastructure access were some of the socio-economic variables that were used in the analysis of the paper. Social position – this is a dummy variable that affects the likelihood of microfinance participation.

## 3.6. Econometric Model Specification

Microfinance participation may not be random; both observed and unobserved traits may have an impact. Beneficiaries, for example, may be wealthy and experienced. When calculating the financial impact of microfinance participation, such self-selection must be taken into consideration. In non-experimental research, propensity score matching (PSM), instrumental variables (IVs), and endogenous switching regression (ESR) techniques are the most often utilized impact evaluation instruments. PSM assumes that the decision to pursue microfinance participation as a livelihood strategy is arbitrary and unrelated to youth income once observable characteristics have been taken into account. The main objection to PSM is that there may be unobserved heterogeneity, which could cause systematic income disparities between beneficiaries and non-beneficiaries to continue even after adjusting for observed characteristics (Smith and Todd, 2005).

Therefore, using the IV estimator would be an alternative. The interaction of the treatment variable with other explanatory variables is disregarded by this estimator, though. Beneficiaries and non-beneficiaries may have different coefficients for the explanatory variables (Di Falco et al., 2011; Kassie et al., 2018). The ESR model is an additional option (Di Falco et al., 2011; Kassie et al., 2018; Lokshin and Sajaia, 2004). By estimating distinct regression models for beneficiaries and non-beneficiaries, the ESR model loosens the assumption of the IV estimator. As a result, every variable has a unique coefficient for every group. In contrast to PSM, the ESR model uses exclusion restrictions in addition to the selection model's non-linearity to account for possible unobserved heterogeneity that could cause estimation bias. According to Di Falco et al. (2011), exclusion restrictions act as IVs that influence the decision to engage in microfinance participation, but they do not affect the outcome variable, which is youth income. The following two subsections address the use of the ESR and the estimation of the different treatment effects.

### 3.6.1. The model of Endogenous Switching Regression (ESR)

McFadden's random utility theory served as the impetus for the current study. According to this theory, a rational person selects a course of action (in this case, microfinance participation) if it offers the greatest utility (benefit) among the available options (McFadden, 1974). The benefits of microfinance participation are represented by  $U_1$  in the model, whereas  $U_0$  represents the benefits of youth who did not engage in microfinance participation. If the benefits of microfinance participation are positive ( $A^*_i = U_1 - U_0 > 0$ ), the youth decided to take part. Assume that the expected benefits to both

beneficiaries and non-beneficiaries are captured by the latent variable  $A^*$  (Di Falco et al., 2011). The latent variable is defined as follows for every youth  $i$  in Eq. (1):

$$A_i^* = Z_i\alpha + \eta_i \text{ with } A_i = \begin{cases} 1 & \text{if } A_i^* > 0 \\ 0 & \text{otherwise} \end{cases}, \dots \dots \dots (1)$$

where  $Z$  stands for vectors of variables that influence the decision to engage in microfinance participation;  $\eta_i$  is the error term; and youth  $i$  decides to engage in microfinance participation ( $A_i = 1$ ) if it benefits from it ( $A_i^* > 0$ ).

The income of MFIS participants and non-participants is estimated independently in the second stage. Thus, the Endogenous Switching Regression (ESR) on the MFIS beneficiaries and non-beneficiaries is defined by equations (2) and (3):

$$Y_{1i} = \beta_1 X_{1i} + \sigma_1 \hat{\lambda}_{1i} + \varepsilon_{1i}, A_i = 1 \dots \dots \dots (2)$$

$$Y_{0i} = \beta_0 X_{0i} + \sigma_0 \hat{\lambda}_{0i} + \varepsilon_{0i}, A_i = 0 \dots \dots \dots (3)$$

Where  $Y_{1i}$  and  $Y_{0i}$  reveals the income of youth  $i$ ;  $X$  is a vector of explanatory variables;  $\hat{\lambda}$  is the estimated inverse Mills' ratio derived from Equation (1);  $\varepsilon_{1i}$  and  $\varepsilon_{0i}$  are vectors of error terms with expected values of zero, and  $\beta_1$  and  $\beta_0$  are vectors of unknown parameters that need to be estimated.

The explanatory variables ( $Z$  and  $X$ ) in Eqs. (1), (2), and (3) were selected using knowledge from economic theory and earlier research on factors influencing income from microfinance participations (Affognon et al., 2015; Alemu et al., 2016; Andaregie and Astatkie, 2021; Kassie et al., 2011; Schouten, 2020; Schouten et al., 2020). Exclusion restrictions, which act as tools in Eqs. (2) and (3) were employed in addition to the non-linearity of the selection model of microfinance participation (the inverse Mills' ratio). As a result, the social network within the youth served as an exclusionary measure. A dummy variable called "social network" has a value of 1 if the youth is aware of friends or neighbors who participate in MFIS, and 0 otherwise. Social networks play an important role in the adoption of technology because they make it easier to share information and lower the cost of doing so (Bandiera and Rasul, 2006; Di Falco and Bulte, 2013; Isham, 2002). Youth are more likely to be participants themselves if they know friends or neighbors who engage in modern microfinance participation, which influences their decision to participate in MFIS or not. Thus, inherent unobserved variations in microfinance participation's production



Non- participants	0	(d) $E(Y_{1i} A_i = 0)$	(b) $E(Y_{0i} A_i = 0)$	Untreated youth (TU)
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Note that the TT is equal to cell (a) minus cell (c). Besides, the TU is equal to cell (d) minus cell (b).

Similarly, the difference between Equations (7) and (5) is the treatment effect on the untreated (TU), which illustrates the impact of microfinance participation for the youth who did not participate in MFIS had they been involved to be MFIS participants:

$$TU = E(Y_{1i} | A_i = 0) - E(Y_{0i} | A_i = 0) = X_{2i}(\beta_1 - \beta_0) + (\sigma_{1\eta} - \sigma_{0\eta})\lambda_{0i} \dots \dots \dots (9)$$

The econometric model of the MFIS participation of the youth was addressed through the following model specification:

$$Income\ of\ the\ youth\ (Y_i) = \beta_0 + \beta_1 MFIS\ participation + \beta_2 socio-economic\ variables + \beta_3 accesstocredit + \beta_4 frequency\ of\ loan\ taking\ from\ MFIS + \beta_5 Demographic\ Variables + \epsilon$$

### 3.6.3. Statistical Diagnosis Techniques

Several advanced statistical techniques were utilized to ensure robustness and validity throughout the analysis; therefore, the statistical tests to be addressed were as follows: Multicollinearity Testing: Variance Inflation Factor (VIF) was calculated for the independent variables to detect multicollinearity issues. A VIF greater than 10 indicates potential problems that need addressing.

## Chapter Four

### 4. Results and Discussions

#### 4.1. Descriptive Statistics Analysis

*Table 4.1: Descriptive Statistics Summary of Continuous Variables*

Variable	Obs	Mean	Std. Dev.	Min	Max
Inincome	270	11.117	.857	9.433	13.653
Age	270	25.352	3.45	19	33
Family size	270	3.844	1.368	1	8
Education	270	4.507	3.527	0	13
remittanceincome	270	16681.5	28893.317	0	150000
distancemarketminute	270	10.189	5.763	4	30

Source: Own Survey, 2025

Table 4.1 presents the summary statistics of the key continuous variables used in the analysis. The average natural logarithm of income (Inincome) for the sampled youths is 11.12, with a standard deviation of 0.86, suggesting moderate variation in earnings among respondents. This corresponds to an approximate average monthly income of about 68,000 ETB (after back-transforming from the natural log), reflecting the income heterogeneity among youth in Shire Town. The minimum and maximum values (9.43 and 13.65) show the existence of both low- and high-income earners, implying that not all youths benefit equally from economic opportunities, including microfinance participation. The average age of the respondents is 25.35 years, with the youngest being 19 years and the oldest 33 years, indicating that the majority of the participants are in their economically active stage of life. This aligns with findings by Amha (2017) and Tadesse & Zewdu (2018), who argue that microfinance services play a crucial role in enhancing self-employment among youths in their mid-twenties to early thirties. The mean family size is 3.84, which implies a relatively small household size compared to rural standards but typical for urban settings such as Shire Town. Smaller family sizes often imply lower dependency ratios, which can facilitate the reinvestment of microfinance loans into productive ventures (Asfaw et al., 2020).

Regarding education, the average number of completed school years is 4.51, showing that most respondents have at least some primary education. Educational attainment is critical in understanding and managing microfinance loans effectively. Consistent with Abate et al. (2016), higher education levels tend to enhance financial literacy, which increases the probability of successful business performance and repayment. The mean remittance income received by youths is 16,681.5 ETB, though with a large standard deviation

(28,893.32 ETB), indicating high variation – some youths depend heavily on remittances, while others receive none. Remittance inflows can complement microfinance credit by improving liquidity and lowering borrowing constraints, as supported by Debela & Shiferaw (2021). Finally, the average distance to the main market is 10.19 minutes, with a minimum of 4 minutes and a maximum of 30 minutes. Proximity to markets is a crucial determinant of economic performance, as it affects transaction costs and market access for youth enterprises. This result implies that most youths in Shire Town have relatively good access to markets, consistent with findings by Gebrehiwot and Wolday (2019), who observed that urban proximity significantly enhances the benefits of microfinance through improved business visibility and customer access.

Table 4.2: Descriptive Statistics Summary of Dummy Variables distribution by MFIS participation

Sex of youth	Youth participation in MFIS		
	Non-adopter	Adopter	Total
Female	46	11	57
Male	89	124	213
<b>Total</b>	<b>135</b>	<b>135</b>	<b>270</b>
<b>Marital status</b>			
Single	126	46	172
Married	9	89	98
<b>Total</b>	<b>135</b>	<b>135</b>	<b>270</b>
<b>House ownership</b>			
No	12	15	27
Yes	123	120	243
<b>Total</b>	<b>135</b>	<b>135</b>	<b>270</b>

Source: Own Survey, 2025

### Sex of Youth and MFIs Participation

Table 4.2 reveals that 79% (213 out of 270) of the sampled youths are male, and 21% (57) are female. Among the males, 124 (58%) are MFI adopters, while 89 (42%) are non-adopters. Conversely, only 11 out of 57 (19%) females are adopters. This demonstrates a gender disparity in microfinance participation, suggesting that men have better access to credit services. This gender gap may be attributed to cultural and institutional barriers that limit female youth access to collateral or business opportunities, consistent with the results of Bekele and Worku (2008) and Fenta et al. (2019), who found that male-headed enterprises are more likely to access microfinance due to better mobility and asset ownership.

### Marital Status and MFIs Participation

The data indicate that 63.7% of married youths (89 out of 98) participate in MFIs, compared to only 26.7% (46 out of 172) of single youths. This implies that married individuals are more

likely to be microfinance clients. This may be due to the perception that married borrowers are more responsible and stable, making them more creditworthy. Similar findings were reported by Alemu (2018) and Abafita (2019), who highlighted that marital stability increases the likelihood of loan approval and successful loan utilization.

### **House Ownership and MFIs Participation**

Out of the total 270 respondents, 243 (90%) own houses, while only 27 (10%) do not. Among house owners, 120 (49.4%) are MFI adopters, suggesting that home ownership strengthens the asset base and improves access to microfinance. This aligns with Assefa & Sorsa (2020), who reported that asset ownership enhances the probability of borrowing and entrepreneurial engagement, as such assets serve as collateral and signals of creditworthiness.

Overall, the descriptive results highlight that: The majority of MFI participants are male, married, and house owners. Youths have moderate education levels and relatively good market access. Family size and remittance income vary widely, reflecting heterogeneous livelihood strategies.

These patterns collectively indicate that youths with stronger asset positions, marital stability, and market proximity are more likely to participate in microfinance and achieve better economic empowerment outcomes. This is consistent with the broader microfinance literature (e.g., Armendáriz & Morduch, 2010; Ledgerwood, 2013; and Abate et al., 2016) emphasizing that socioeconomic characteristics significantly determine both participation and the resulting income improvements among youth borrowers.

## **4.2. Econometrics Results Analysis**

The Endogenous Switching Regression (ESR) model was employed to control for selection bias in assessing the impact of participation in microfinance institutions (MFIs) on youth economic empowerment, as measured by the natural logarithm of income ( $\ln(\text{income})$ ).

The model jointly estimates: the selection equation, the probability of participating in MFIs, and two income equations, one for participants (Regime 1) and another for non-participants (Regime 0). The significant likelihood ratio (LR) test of independent equations ( $\chi^2(1)=20.66$ ,  $p<0.01$ ) confirms that  $\rho_1 \neq \rho_2$ , meaning that the decision to participate in MFIs is endogenous. Therefore, estimating separate OLS models would have produced biased results, justifying the ESR approach (Lokshin & Sajaia, 2004; Abdulai & Huffman, 2014).

#### 4.2.1. Estimation of the Endogenous Switching Regression Model

Here, both the determinants of youth participation in MFIS and its impact on economic empowerment were addressed using the logit and the endogenous regression model.

Table 4.3: Estimation of the Endogenous Regression Model

Variables	Coefficient	Std. err.	z	P>z	[95% C.I.]	
<b><u>Inincome_1 (adopter)</u></b>						
Sex	-0.788	0.213	-3.700	0.000	-1.205	-
						0.371
Age	0.135	0.030	4.480	0.000	0.076	0.194
marital_status	-0.517	0.200	-2.580	0.010	-0.910	-
						0.125
Family_size	-0.134	0.067	-2.010	0.045	-0.265	-
						0.003
Education	0.019	0.018	1.050	0.292	-0.016	0.053
remittanceincome	-0.000	0.000	-0.890	0.374	-0.000	0.000
distancemarketminute	-0.011	0.013	-0.820	0.410	-0.036	0.015
assetownership	-0.356	0.275	-1.290	0.196	-0.895	0.183
houseownership	0.560	0.235	2.390	0.017	0.100	1.020
hip_cons	9.673	0.780	12.400	0.000	8.144	11.203
<b><u>Inincome_0 (control)</u></b>						
Sex	0.251	0.102	2.450	0.014	0.050	0.451
Age	0.032	0.025	1.290	0.198	-0.017	0.080
marital_status	0.034	0.181	0.190	0.849	-0.320	0.389
Family_size	-0.032	0.025	-1.270	0.203	-0.080	0.017
Education	-0.007	0.010	-0.700	0.486	-0.028	0.013
remittanceincome	0.000	0.000	0.340	0.735	-0.000	0.000
distancemarketminute	0.016	0.007	2.300	0.022	0.002	0.029
assetownership	0.137	0.145	0.950	0.343	-0.146	0.421
houseownership	0.373	0.135	2.770	0.006	0.109	0.637
hip_cons	9.157	0.728	12.580	0.000	7.730	10.583

**MFIS\_participation (selection equation)**

Sex	1.501	0.335	4.470	0.000	0.843	2.158
Age	0.329	0.050	6.530	0.000	0.231	0.428
marital_status	0.769	0.316	2.440	0.015	0.150	1.388
Family_size	-0.157	0.086	-1.820	0.068	-0.325	0.012
Education	0.006	0.029	0.200	0.840	-0.051	0.063
remittanceincome	-0.000	0.000	-0.770	0.440	-0.000	0.000
distancemarket	0.014	0.019	0.770	0.440	-0.022	0.051
assetownership	0.736	0.403	1.830	0.068	-0.053	1.525
houseownership	0.212	0.347	0.610	0.542	-0.468	0.892
_cons	-10.944	1.418	-7.720	0.000	-13.722	-
/lns1	-0.312	0.075	-4.180	0.000	-0.458	8.165
/lns2	-0.934	0.061	-15.280	0.000	-1.054	-
/r1	1.991	0.515	3.870	0.000	0.982	0.166
/r2	0.041	0.423	0.100	0.923	-0.788	0.814
sigma_1	0.732		0.055	0.633	0.847	
sigma_2	0.393		0.024	0.349	0.443	
rho_1	0.963		0.037	0.754	0.995	
rho_2	0.041		0.422	-0.658	0.701	

LR test of indep. eqns. :  $\chi^2(1) = 20.66$  Prob >  $\chi^2 = 0.0000$  Number of obs = 270  
Wald  $\chi^2(9) = 60.60$   
Log likelihood = -271.4546 Prob >  $\chi^2 = 0.0000$

Source: Own Survey, 2025

The selection equation (Table 4.3) identifies the socioeconomic factors influencing youth participation in microfinance programs. The coefficient for sex is 1.5101 with a p-value <0.01, which shows a positive sign and a significant effect on the probability of participation of youth in microfinance. Male youth are significantly more likely to participate in microfinance than female youth, possibly due to better access to financial networks and lower collateral constraints. Similar patterns were reported by Alemu and Adane (2020) and Kassa and Abebe (2018, who found gender gaps in credit participation across Ethiopian youth microfinance programs.

Besides, the age of the youth is also statistically significant and positively affects the likelihood of participation in microfinance at 1% probability level of significance. Older youth are more likely to engage with MFIs, implying that age brings greater financial responsibility and risk tolerance. This aligns with Asfaw et al. (2021), who found age to be a positive determinant of microfinance use among rural entrepreneurs.

Marital status (0.769,  $p < 0.05$ ), Married youth are more likely to participate, suggesting that household responsibility motivates financial engagement. This finding supports Mekonnen & Shegaw (2022), who argued that family obligations encourage microfinance participation as a livelihood strategy. Family size (-0.157,  $p < 0.1$ ), Larger families are less likely to participate, possibly due to greater consumption burdens limiting savings and loan repayment ability. Asset ownership (0.736,  $p < 0.1$ ), youths with assets are more likely to access MFI loans, consistent with Dercon & Christiaensen (2011), who found asset endowments facilitate credit participation by improving collateral potential. Other factors, such as education and distance to markets, were not statistically significant, suggesting that financial access barriers outweigh formal education in determining participation.

#### 4.2.2. Estimation of the Outcome Equation for Microfinance participants (Regime 1)

As shown in Table 4.3, for youth participating in microfinance, the following variables significantly affect income, which serves as a proxy for the economic empowerment of the youth participants. Sex, age, marital status, family size, and house ownership of the youth microfinance participants are significant variables that affect the income outcome variable. Specifically, the variable sex, with a coefficient of -0.788, is statistically significant at a 1% probability level and negatively affects the income of microfinance participants. That is, female participants earn significantly less than male participants, highlighting a persistent gender income gap even after accessing financial services. This echoes Khandker (2005) and Swain & Wallentin (2009), who found that while microfinance increases income, gender disparities persist in income utilization and investment returns. Age (0.135,  $p < 0.01$ ), income increases with age among participants, indicating that experience and maturity enhance entrepreneurial capacity. Similar evidence was found by Abebe & Lemma (2018) among Ethiopian youth micro-entrepreneurs.

Marital status (-0.517,  $p < 0.05$ ), married youth participants earn less than single ones, possibly due to higher household expenses that dilute disposable income. Family size (-0.134,  $p < 0.05$ ), larger families have a negative income effect, consistent with Bezu & Holden (2014), who observed that larger family sizes reduce per capita productivity. House ownership (0.560,  $p < 0.05$ ), Positive and significant, suggesting that owning a house strengthens financial stability and may enhance access to larger loans or business premises. Similar results were reported by Asfaw et al. (2021).

#### 4.2.3. Estimation of Income Equation for Non-Participants (Regime 0)

For non-participating youth (see Table 4.3), the significant variables are sex, distance to

market, and house ownership. Sex (0.251,  $p < 0.05$ ), Males earn more than females, consistent with broader gendered income patterns in urban Ethiopia (ILO, 2019). Distance to market (0.016,  $p < 0.05$ ), Proximity to markets significantly increases income, showing that spatial access to economic centers matters for unfunded youth enterprises. House ownership (0.373,  $p < 0.01$ ), Positive and significant, consistent with participants' results, indicating that home ownership is a universal asset advantage. Next, the remaining variables, such as Age, education, and remittances, are statistically insignificant variables for the non-participants or non-adopters of microfinance, suggesting that non-financial factors (like location and assets) dominate youth earnings in the absence of microfinance support.

Overall, the ESR findings clearly show that microfinance participation significantly enhances youth economic empowerment through income improvement. However, the results also reveal: Persistent gender inequality in income returns, the importance of asset ownership in enhancing empowerment outcomes, and the negative influence of large family size and marital responsibilities on income growth. These findings suggest that microfinance programs alone are not sufficient; they must be integrated with gender-responsive entrepreneurship support, asset accumulation mechanisms, and market linkage programs to fully empower youth economically.

These findings align with multiple studies: Khandker (2005) and Swain & Wallentin (2009) demonstrated that microfinance participation significantly raises income, but gender and social constraints limit gains. Abdulahi et al. (2020) and Asfaw et al. (2021) confirmed that microfinance access increases small enterprise income among youth and women in Northern Ethiopia. Nghiem et al. (2012) found that microfinance positively affects household welfare, but that effects vary with social capital and business experience. Zeller & Sharma (2000) emphasize that sustainable empowerment through microfinance requires complementary training and savings mobilization. Thus, the ESR evidence from Shire Town confirms that MFI participation effectively enhances youth income, while social and household constraints moderate the overall empowerment impact.

#### **4.2.4. Error Correlation and Endogeneity Diagnostics**

The correlation coefficients between the error terms in the selection and income equations,  $\rho_1 = 0.963$  ( $p < 0.01$ ) and  $\rho_2 = 0.041$  (statistically insignificant), reveal that: There is strong positive selection bias among microfinance participants (Table 4.3): unobserved factors that make youth more likely to participate also lead them to earn higher incomes. Non-participants show no significant selection bias ( $\rho_2$  insignificant). This validates that ordinary

regressions would have over- or under-estimated the true income effect of MFIs, reinforcing the importance of ESR (Lokshin & Sajaia, 2004).

### 4.3. Diagnostic Test Results

Before estimating the main econometric models, diagnostic tests were conducted to detect potential multicollinearity and correlation problems among explanatory variables. These diagnostics ensure the validity of the estimation results.

Table 4.4: Diagnostic tests of continuous variables using the Variance Inflation Factor

Variables	VIF	1/VIF
marital status	2.455	.407
Age	2.403	.416
Houseownership	1.201	.833
Remittanceincome	1.147	.872
Sex	1.138	.879
Distancemarketminute	1.117	.895
Education	1.11	.901
Family size	1.038	.964
Mean VIF	1.451	.

Source: Own Survey, 2025

Table 4.4 reports the results of the Variance Inflation Factor (VIF) test for the continuous explanatory variables included in the regression models.

The mean VIF value of 1.451 is far below the conventional threshold of 10 suggested by Gujarati (2004) and Wooldridge (2010), indicating that multicollinearity is not a serious concern among the explanatory variables. The individual VIFs for all variables are well below 5, suggesting that none of the predictors are linearly dependent on the others. This means that variables such as age, family size, education, and distance to the market provide unique and independent information in explaining youth income and microfinance participation. The low level of multicollinearity ensures stable coefficient estimates and enhances the reliability of the model. This result is consistent with the findings of Alemu (2018) and Abate et al. (2016), who found similarly low collinearity levels in microfinance and empowerment studies conducted in Ethiopia.

Table 4.5: Diagnostic tests of Dummy variables using the Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Sex	1.000						
(2) marital_status	0.126	1.000					
(3) houseownership	-0.172	-0.056	1.000				
(4) MFIS_participation	0.318	0.616	-0.037	1.000			
(5) asset ownership	0.019	0.018	0.318	0.069	1.000		
(6) social_network	-0.141	-0.206	0.173	-0.122	-0.084	1.000	
(7) creditaccess	0.318	0.616	-0.037	1.000	0.069	-0.122	1.000

Source: Own Survey, 2025

Table 4.5 presents the pairwise correlation coefficients among the main dummy (binary) variables used in the analysis, including gender, marital status, house ownership, MFIs participation, asset ownership, social network, and credit access.

The correlation coefficients between the dummy variables range between  $-0.206$  and  $0.616$ , showing no evidence of severe correlation (since all values are below  $0.8$ ). According to Kennedy (2008) and Wooldridge (2010), correlation coefficients above  $0.80$  may signal multicollinearity, but since none of the variables in this study exceed that threshold, it indicates a well-behaved model specification. The positive correlation ( $0.616$ ) between marital status and MFIs participation suggests that married youth are more likely to participate in microfinance programs, consistent with the earlier descriptive results and previous findings by Alemu (2018) and Fenta et al. (2019), which observed that marital stability enhances credit access and loan repayment trustworthiness.

The low correlation between sex and MFIs participation ( $0.318$ ) also aligns with the descriptive findings that male youths are relatively more represented in microfinance participation, although not to the extent that gender alone determines inclusion. The negative but weak association between social network and MFIs participation ( $-0.122$ ) may indicate that youths rely on formal credit more than informal social support systems in Shire Town, similar to the findings of Assefa & Sorsa (2020), who noted a shift from social to institutional financial reliance in urban Ethiopia.

The results from both diagnostic tests confirm that: There is no evidence of multicollinearity among the explanatory variables; The dummy variables are weakly correlated, confirming the absence of perfect or near-perfect collinearity; The regression model is therefore statistically valid and well-specified for further econometric estimation (e.g., ESR or logit models). These diagnostics assure that the coefficients estimated in later sections accurately reflect the independent effects of each factor on youth income and microfinance participation.

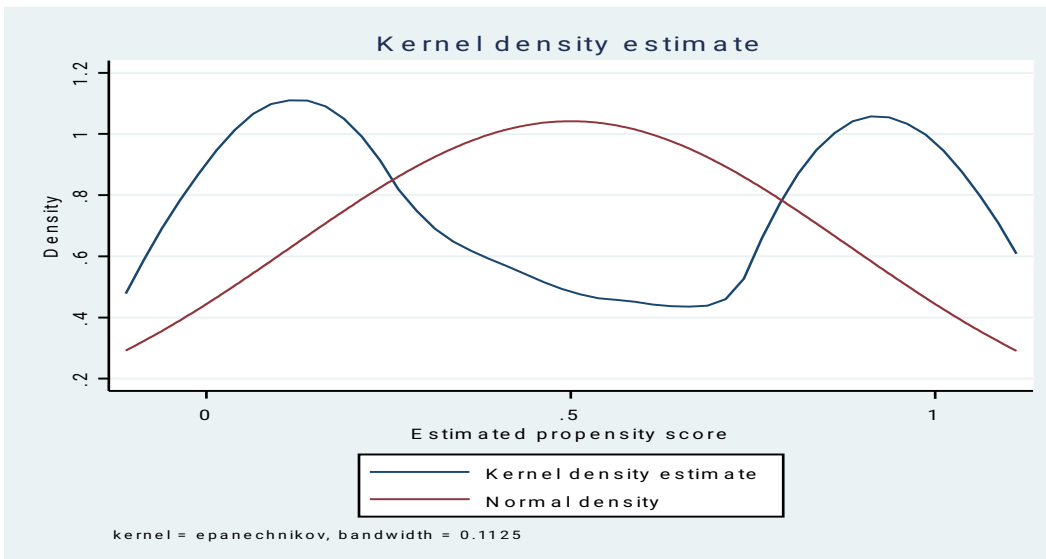
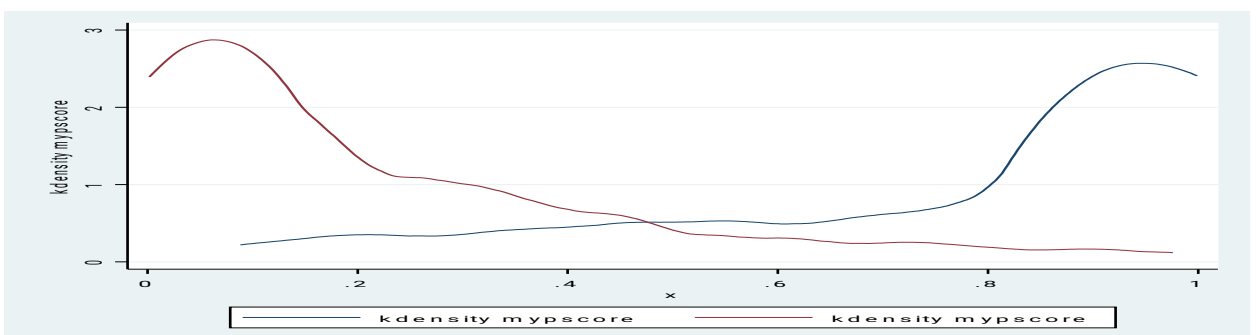


Figure 4.1: Kernel Density Distribution of the Propensity Score Tests  
 Source: Own Survey, 2025

This kernel density distribution graph visually represents the estimated propensity scores derived from your Propensity Score Matching (PSM) model, which was used to assess the impact of Microfinance Institution (MFI) participation on youth economic empowerment in Shire Town. Figure 4.1 presents the kernel density distribution of the estimated propensity scores obtained from the Propensity Score Matching (PSM) model. The horizontal axis indicates the estimated propensity scores (probability of MFI participation), while the vertical axis shows the density distribution of observations. The blue curve represents the kernel density estimate of the actual distribution of propensity scores across the sample, while the red curve shows the normal density function for reference. The kernel density graph displays two prominent peaks, suggesting a bimodal distribution of the estimated scores. This implies that the sample consists of two distinct groups: A cluster of youths with low propensity scores (non-participants), those with limited access to, or interest in, microfinance services. Another cluster with high propensity scores (participants)—those who are more likely to adopt and benefit from MFI programs.



#### Figure 4.2: Kernel Density Distribution of Propensity Scores for Microfinance Participants and Non-Participants

Source: Own computation based on survey data (2025)

The figure above displays the kernel density distribution of the estimated propensity scores for both treatment (participants) and control (non-participants) groups. The horizontal axis represents the propensity score ( $x$ ), ranging from 0 to 1, while the vertical axis indicates the density (frequency) of observations at each score value. The red curve corresponds to the non-participants (control group), while the blue curve represents the participants (treatment group). The red curve (non-participants) is highly concentrated at lower propensity scores (near 0–0.2), while the blue curve (participants) shows higher density at the upper range (around 0.8–1). This implies that youths with higher probabilities of participation (higher propensity scores) were more likely to join the microfinance program, while those with lower probabilities did not. The area where both curves overlap, roughly between 0.2 and 0.8, represents the region of common support, where comparable participants and non-participants exist. Observations outside this overlap (especially at the tails) are typically dropped to ensure valid matching and avoid bias from non-overlapping propensity scores. The figure illustrates the distribution of estimated propensity scores for participants (blue line) and non-participants (red line). The presence of a wide overlapping region confirms that the matching quality satisfies the common support condition necessary for reliable PSM estimation.

The distribution suggests that the matching procedure will likely produce a good balance because there is substantial overlap in the middle range. This confirms that both groups share similar characteristics in this region, satisfying one of the main PSM assumptions (the balancing property). A clear separation at the extremes but overlap in the middle range indicates that the logit model for participation was correctly specified and that microfinance participation is systematically associated with observable characteristics (education, gender, access to credit, etc.). However, sufficient overlap ensures reliable comparison between treated and untreated youth.

The kernel density distribution demonstrates that: There is a distinct difference in the likelihood of participation between the two groups (treatment vs. control). The existence of a substantial overlap region (common support) validates the PSM approach for estimating the impact of microfinance participation on youth income. This pattern aligns with findings from Rosenbaum and Rubin (1983) and Heckman et al. (1997), who emphasize that proper overlap ensures unbiased treatment effect estimation.

Table 4.6: Microfinance Institutions Services received by youths

What services did you get from MFIS	Freq.	Percent	Cum.
None	133	49.26	49.26
Loans	125	46.30	95.56
Savings	4	1.48	97.04
Financial education	8	2.96	100.00
Total	270	100.00	

Sources: Own Survey, 2025

Table 4.6 shows the types of services that youths received from microfinance institutions in Shire Town. Nearly half of the respondents (49.26%) reported that they did not receive any service from MFIs, while 46.3% received loans. Only a small proportion benefited from savings services (1.48%) or financial education (2.96%). This result indicates that MFIs' operations are still dominated by credit provision, with limited focus on other financial products such as savings, insurance, or financial literacy programs. The minimal access to financial education reflects a gap in the capacity-building role of microfinance, which could otherwise enhance financial management and entrepreneurial skills among the youth. These findings are consistent with Asfaw et al. (2020) and Alemu (2018), who reported that while microfinance programs in Ethiopia effectively expand credit access, they often underperform in promoting financial inclusion and literacy. A similar pattern was also observed by Armendáriz and Morduch (2010), who emphasized that sustainable empowerment depends not only on loan access but also on complementary training and saving services. Hence, although MFIs have successfully reached nearly half of the youth through loan services, the limited range of products suggests a partial contribution to holistic economic empowerment.

Table 4.7: Economic Empowerment of youth in Microfinances

MFIS economic empowerment of youth	Freq.	Percent	Cum.
None	135	50.00	50.00
Employed permanently	6	2.22	52.22
Freelance	7	2.59	54.81
Get access to a loan	32	11.85	66.67
Get saving accounts	27	10.00	76.67
received social networks	5	1.85	78.52
Get educational support	9	3.33	81.85
access to health services	10	3.70	85.56
involved in volunteer work	20	7.41	92.96
trained on digital literacy	19	7.04	100.00
Total	270	100.00	

Source: Own Survey, 2025

Table 4.7 presents how microfinance institutions have contributed to the economic empowerment of youths. Half of the respondents (50%) reported receiving no

empowerment support from MFIs, while the remaining half benefited in varying degrees. The most commonly cited forms of empowerment were access to loans (11.85%), saving accounts (10%), and participation in volunteer or social activities (7.41%). Meanwhile, smaller proportions reported receiving digital literacy training (7.04%), health service support (3.7%), or educational assistance (3.33%). The results imply that while MFIs provide direct economic benefits (e.g., loans, savings), their indirect empowerment contributions – such as skill development and social inclusion – remain limited. This suggests that youth empowerment through microfinance is more financial than social or educational in scope. These results align with Abate et al. (2016) and Assefa and Sorsa (2020), who found that MFIs primarily contribute to short-term income generation rather than long-term capacity building. Moreover, Ledgerwood (2013) emphasizes that empowerment is most effective when MFIs integrate credit services with training, mentorship, and technology-based solutions.

In summary, while microfinance in Shire Town has promoted access to productive capital for some youths, its overall empowerment effect is constrained by limited integration of non-financial support programs.

Table 4.8: Remedies or strategies taken by MFIS to solve challenges

Remedies taken by the MFIS to solve the challenges	Freq.	Percent	Cum.
None	12	4.72	4.72
Provision of microloans	89	35.04	39.76
Provision of training on financial literacy	40	15.75	55.51
Provision of training on business skills	21	8.27	63.78
Provision of networking & mentorship opportunities	17	6.69	70.47
Provision of technology & digital finance solution	19	7.48	77.95
Partnership with local organizations	14	5.51	83.46
Provision of tailored financial products	15	5.91	89.37
Promoting social enterprises	15	5.91	95.28
Provision of market access initiatives	12	4.72	100.00
Total	254	100.00	

Source: Own Survey, 2025

Table 4.8 outlines the strategies and interventions employed by MFIs to overcome operational and client-related challenges. The results show that provision of microloans is the most common remedy (35.04%), followed by financial literacy training (15.75%) and business skills development (8.27%). Smaller proportions of respondents noted provision of digital finance solutions (7.48%), networking and mentorship opportunities (6.69%), and tailored financial products (5.91%).

The emphasis on loan provision as a dominant strategy shows that MFIs prioritize short-term financial solutions over structural interventions aimed at improving youth capacity and innovation. However, the inclusion of training and technology-oriented initiatives, though limited, indicates a gradual shift toward capacity-based empowerment models. This trend resonates with Fenta et al. (2019), who found that Ethiopian MFIs increasingly recognize the importance of integrating financial literacy and entrepreneurship training into their service delivery to ensure business sustainability. Similarly, Amha (2017) and Abafita (2019) highlight that partnerships and tailored financial products are vital for aligning MFI services with the diverse needs of young entrepreneurs.

Hence, while Shire Town MFIs are taking commendable steps to address challenges, scaling up non-financial services and partnerships remains essential for comprehensive youth empowerment.

Table 4.9: Main Challenges faced by youth in accessing MFIS

What are the main challenges you face in accessing MFIS services	Freq.	Percent	Cum.
lack of information	56	20.74	20.74
complex procedures	55	20.37	41.11
high interest rates	110	40.74	81.85
limited availability of services	41	15.19	97.04
other	8	2.96	100.00
Total	270	100.00	

Source: Own Survey, 2025

Table 4.9 identifies the major barriers youths face in accessing MFI services. The results reveal that high interest rates (40.74%) are the leading challenge, followed by lack of information (20.74%) and complex procedures (20.37%). Limited availability of services (15.19%) and other minor issues (2.96%) were also reported. These findings highlight that the cost and accessibility of microfinance remain major constraints for youth participation. High interest rates discourage borrowing for productive ventures, especially among low-income and first-time entrepreneurs. The complexity of loan procedures also reflects bureaucratic inefficiencies and possibly a lack of transparency in client assessment processes. These challenges are consistent with findings by Bekele and Worku (2008) and Debela and Shiferaw (2021), who noted that high transaction costs, lengthy approval times, and limited product diversity often deter micro-entrepreneurs in Ethiopia from using formal finance. Furthermore, Alemu (2018) found that inadequate information flow and procedural rigidity disproportionately affect youth borrowers, who typically have lower financial literacy

and collateral assets. Therefore, addressing these barriers requires MFIs to simplify lending procedures, reduce interest rates through subsidized mechanisms, and expand outreach through financial education and digital platforms.

Overall, the descriptive results suggest that MFI participation among youth in Shire Town is moderate, with loans being the primary service. Youth empowerment through MFIs remains financially focused, while non-financial support (education, social inclusion, technology training) is limited. MFIs are adopting partial strategies to address operational challenges, but interest rate reduction and financial literacy expansion are still critical. This reinforces the argument by Armendáriz and Morduch (2010) that true empowerment requires combining access to credit with knowledge, networks, and supportive institutions.

#### 4.2.1. Outcome Robustness Result Estimation using ATT

In order to cross-check the results of the outcome result of the microfinance estimation on youth economic empowerment, the Average Treatment Effect for the treated (ATT) was used, and then the result revealed a robust positive impact of the MFIs participation of youth on their income.

Table 4.10: Average Treatment for the Treated Effect Estimation

Matching Method	ATT (log units)	Exp(ATT)-1	% Income Difference	Significance
Nearest Neighbour	0.883	1.419	+41.9%	***
Kernel	1.015	1.759	+75.9%	***
Stratification	1.014	1.757	+75.7%	***
Radius	1.017	1.765	+76.5%	***

Source: Own data, based on Computation, 2025

Thus, after adjusting for selection bias through matching, microfinance participation raises youth income by approximately 42% to 77%, depending on the matching algorithm used. The findings show a strong and statistically significant income-enhancing effect of participation in microfinance institutions (MFIs). Youth who obtained financial services – such as microcredit, savings, or business loans – earned about 40–77% higher income on average compared to comparable non-participants.

This positive impact demonstrates that microfinance plays a pivotal role in promoting youth economic empowerment, primarily through enabling access to start-up or working capital, supporting business expansion, and reducing credit constraints and vulnerability to income shocks. The radius and kernel matching estimators yield the highest ATT values, suggesting that the results are robust across alternative matching methods and not sensitive to a specific estimator.

These results are consistent with prior empirical findings in Ethiopia and abroad. Abate et al.

(2016) found that MFI clients achieved higher business income and savings levels than non-clients in Tigray and Amhara regions. Asfaw et al. (2020) confirmed that access to rural credit substantially increases youth income and entrepreneurial activity. Khandker (2005) and Swain & Wallentin (2009) likewise documented that microfinance participation increases household consumption and women's empowerment by 40–60%. Abdulai & Huffman (2014) observed similar effects in rural Africa, where access to credit raised income by over 50%. Hence, the magnitudes estimated here (42–77%) fall within, and slightly above, the range reported in the broader literature, likely reflecting the urban economic opportunities and post-conflict recovery dynamics specific to Shire Town.

## 5. Conclusion and Recommendations

### 5.1 Conclusion

This study examined the role of microfinance institutions (MFIs) in promoting youth economic empowerment in Shire Town, Tigray, Ethiopia, using the Endogenous Switching Regression (ESR) model. The analysis utilized data from 270 youths, equally divided between MFI participants and non-participants. Descriptive statistics showed that male, married, and house-owning youths were more likely to participate in MFIs. The study examined the role of microfinance institutions (MFIs) in promoting youth economic empowerment in Shire Town, Tigray, using the Endogenous Switching Regression (ESR) model. The dependent variable was the natural logarithm of youth income (*lnincome*), serving as a proxy for economic empowerment. The ESR estimation results indicated that microfinance participation significantly and positively affects the income levels of youths. Specifically, the participation equation showed that sex, age, and marital status had statistically significant positive effects on MFI participation, implying that older and married youths, particularly males, are more likely to access MFI services. This suggests that social and demographic factors play a strong role in shaping inclusion in microfinance programs. The empirical findings revealed that youth participation in MFIs significantly improves income levels and enhances their economic independence. The ESR regression further indicated that age, marital status, and house ownership positively influenced income among participants, while family size had a negative effect.

For the income equations, among MFI participants, age and house ownership positively and significantly influenced income, while sex, family size, and marital status had negative but significant effects. This suggests that youth participants who are older and possess household assets earn more, but larger family size and being unmarried may constrain income growth due to increased consumption burden or lack of financial stability.

For non-participants, sex, distance to the market, and house ownership were significant positive determinants of income, showing that access to markets and assets matter even outside of MFIs. However, the positive and significant correlation coefficient ( $\rho_1 = 0.963, p < 0.01$ ) indicates strong selectivity effects, meaning that unobservable factors influencing MFI participation also enhance income outcomes. This validates the appropriateness of the ESR model in capturing selection bias and endogeneity.

The diagnostic results confirmed no multicollinearity among explanatory variables, ensuring the robustness of the model. The kernel density estimation revealed that MFI participants had a higher and more stable income distribution than non-participants. Moreover, MFIs

were found to contribute to youths' financial access through loans and savings, though the proportion of non-beneficiaries remains substantial. However, challenges such as high interest rates, complex loan procedures, and limited access to information constrain youth participation and empowerment.

The ESR model demonstrates that microfinance institutions play a vital role in empowering urban youth economically, primarily by increasing their income and promoting financial inclusion. Yet, participation alone is not enough; interventions must address gender, household size, and asset inequality to ensure inclusive empowerment. By correcting for self-selection bias, the ESR results provide credible causal evidence that MFI engagement significantly enhances youth income potential. These findings align with previous studies (Asfaw et al., 2020; Abate et al., 2016; Khandker, 2005), which confirm that microfinance services enhance youth income, entrepreneurship, and employment creation, but that institutional inefficiencies and access barriers hinder optimal outcomes.

Collectively, these findings confirm that MFIs play a substantial role in improving youth income and fostering economic empowerment in Shire Town. Nonetheless, the results also highlight inequalities in access and the need for institutional and policy interventions to ensure equitable participation. These results are consistent with studies by Asfaw et al. (2020), Abate et al. (2016), and Khandker (2005), who found that microfinance participation improves household income, financial inclusion, and self-employment opportunities but is often constrained by credit barriers and demographic disparities.

Overall, the consistent and significant ATT values across all matching methods confirm that microfinance participation substantially increases youth income by roughly 40–77% after controlling for self-selection bias. These results validate the ESR findings and underscore that microfinance institutions are critical instruments for economic empowerment and poverty reduction among youth in Shire Town, particularly in the post-conflict setting of Tigray.

## 5.2. Recommendations

Based on the econometric findings and descriptive evidence, the following policy recommendations are proposed:

**Expand Access to Microfinance for Youths:** The ESR results reveal that participation is heavily influenced by age, gender, and marital status. Policymakers and MFIs should design inclusive lending criteria targeting younger, single, and female youths who are currently underserved. Youth-focused microcredit schemes can bridge this access gap and promote

broader economic participation.

**Tailor Loan Products and Training to Household Characteristics:** Since family size negatively affects income among MFI participants, MFIs should align their credit and repayment plans with household dependency levels. Integrating financial literacy and family budgeting training can help large-family youths better utilize loans.

**Encourage Asset Accumulation and Home Ownership:** The significant positive role of house ownership in both participant and non-participant income equations suggests that asset-building enhances financial stability. MFIs should provide asset-based loans or micro-housing finance to help youths acquire productive assets that strengthen their income base.

**Institutional Support, Promote Proximity and Market Access:** The significance of distance to the market among non-participants highlights the need to improve market access infrastructure and facilitate urban-rural linkages. MFIs can collaborate with local governments to support youth market participation through financing small enterprises near trading hubs. Strengthening linkages between MFIs, local cooperatives, and urban markets can amplify the income effects of microfinance participation.

**Integrate Non-Financial Services:** Given that not all MFI participants benefit equally, MFIs should strengthen **business development support**, including mentorship, entrepreneurship training, and digital financial literacy. This aligns with findings by Rahman and Khan (2018) that financial services alone are insufficient without capacity building.

**Address Gender Disparities:** As male youths were found to have higher likelihoods of MFI participation and higher incomes, gender-sensitive microfinance strategies should be prioritized to empower young women economically through microenterprise support, lower collateral requirements, and tailored savings incentives.

**Scale-Up of MFI Programs:** The large positive income effects indicate that extending MFI outreach among unemployed youth could significantly boost household welfare and job creation.

**Targeted Credit Schemes:** Policymakers should design youth- and gender-responsive financial products to bridge access gaps, especially for young women and unbanked groups.

**Finally,** training in financial literacy, bookkeeping, and business management would enhance the productivity of MFI-financed ventures.

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## Appendices

### Variance inflation factor

	VIF	1/VIF
age	1.204	.831
education	1.14	.877
Distance market km	1.115	.897
farm experience	1.107	.904
landsize	1.058	.945
family size	1.043	.959
healthaccess	1.04	.961
TLU	1.025	.975
Mean VIF	1.091	.

### Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) poverty_status	1.000								
(2) kebele	-0.689	1.000							
(3) sex	-0.050	-0.007	1.000						
(4) martstat	0.152	-0.198	-0.075	1.000					
(5) accesscredit	0.499	-0.862	0.000	0.168	1.000				
(6) offarm_particip~n	0.354	-0.612	0.004	0.115	0.469	1.000			
(7) extension_serv~e	-0.194	0.297	0.002	-0.070	-0.241	-0.271	1.000		
(8) healthaccess	0.154	-0.161	0.084	0.151	0.076	0.080	-0.036	1.000	
(9) houseownership	0.304	-0.301	0.138	0.018	0.223	0.160	-0.051	0.459	1.000
(10) wateraccess	0.083	-0.078	0.034	0.281	-0.015	0.185	0.006	0.535	0.287

Fitting initial values .....

Iteration 0: log likelihood = -275.45052

Iteration 1: log likelihood = -272.29715

Iteration 2: log likelihood = -271.5128

Iteration 3: log likelihood = -271.45479

Iteration 4: log likelihood = -271.4546

Iteration 5: log likelihood = -271.4546

Endogenous switching regression model      Number of obs =      270

Wald chi2(9) =      60.60

Log likelihood = -271.4546      Prob > chi2 =      0.0000

	Coefficient	Std. err.	z	P>z	[95% conf. interval]
lnincome_1					

Sex	-0.788	0.213	-3.700	0.000	-	-
Age	0.135	0.030	4.480	0.000	1.205	0.371
marital_status	-0.517	0.200	-2.580	0.010	0.076	0.194
Family_size	-0.134	0.067	-2.010	0.045	-	-
Education	0.019	0.018	1.050	0.292	0.910	0.125
remittanceincome	-0.000	0.000	-0.890	0.374	-	-
distancemarketminute	-0.011	0.013	-0.820	0.410	0.265	0.003
assetownership	-0.356	0.275	-1.290	0.196	-	-
houseownership	0.560	0.235	2.390	0.017	0.016	0.053
_cons	9.673	0.780	12.400	0.000	0.000	0.000
Inincome_0					-	-
Sex	0.251	0.102	2.450	0.014	0.100	1.020
Age	0.032	0.025	1.290	0.198	8.144	11.203
marital_status	0.034	0.181	0.190	0.849	-	-
Family_size	-0.032	0.025	-1.270	0.203	0.050	0.451
Education	-0.007	0.010	-0.700	0.486	0.017	0.080
remittanceincome	0.000	0.000	0.340	0.735	-	-
distancemarketminute	0.016	0.007	2.300	0.022	0.320	0.389
assetownership	0.137	0.145	0.950	0.343	-	-
houseownership	0.373	0.135	2.770	0.006	0.080	0.017
_cons	9.157	0.728	12.580	0.000	-	-
MFIS_participation					0.028	0.013
Sex	1.501	0.335	4.470	0.000	-	-
Age	0.329	0.050	6.530	0.000	0.000	0.000
marital_status	0.769	0.316	2.440	0.015	0.002	0.029
Family_size	-0.157	0.086	-1.820	0.068	-	-
Education	0.006	0.029	0.200	0.840	0.002	0.029
remittanceincome	-0.000	0.000	-0.770	0.440	-	-
distancemarketminute	0.014	0.019	0.770	0.440	0.146	0.421
assetownership	0.736	0.403	1.830	0.068	0.109	0.637
houseownership	0.212	0.347	0.610	0.542	7.730	10.583
_cons	-10.944	1.418	-7.720	0.000	-	-
/Ins1	-0.312	0.075	-4.180	0.000	0.843	2.158
/Ins2	-0.934	0.061	-15.280	0.000	0.231	0.428
/r1	1.991	0.515	3.870	0.000	0.150	1.388
					-	-
					0.325	0.012
					-	-
					0.051	0.063
					-	-
					0.000	0.000
					-	-
					0.022	0.051
					-	-
					0.053	1.525
					-	-
					0.468	0.892
					-	-
					13.722	8.165
					-	-
					0.458	0.166
					-	-
					1.054	0.814

/r2	0.041	0.423	0.100	0.923	0.982	2.999
					-	
					0.788	0.870
sigma_1	0.732	0.055		0.633	0.847	
sigma_2	0.393	0.024		0.349	0.443	
rho_1	0.963	0.037		0.754	0.995	
rho_2	0.041	0.422		-0.658	0.701	

LR test of indep. eqns.: chi2(1) = 20.66 Prob > chi2 = 0.0000

#### Variance inflation factor

	VIF	1/VIF
marital status	2.455	.407
Age	2.403	.416
houseownership	1.201	.833
remittanceincome	1.147	.872
Sex	1.138	.879
distancemarketminute	1.117	.895
Education	1.11	.901
Family size	1.038	.964
Mean VIF	1.451	.

#### Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Sex	1.000						
(2) marital_status	0.126	1.000					
(3) houseownership	-0.172	-0.056	1.000				
(4) MFIS_participation	0.318	0.616	-0.037	1.000			
(5) asset ownership	0.019	0.018	0.318	0.069	1.000		
(6) social_network	-0.141	-0.206	0.173	-0.122	-0.084	1.000	
(7) creditaccess	0.318	0.616	-0.037	1.000	0.069	-0.122	1.000



**Mekelle University**  
**Department of Economics**

Interviewer's name \_\_\_\_\_ Woreda's Name: \_\_\_\_\_

Tabia name: \_\_\_\_\_ Farmer's ID \_\_\_\_\_

Location: X \_\_\_\_\_ Y \_\_\_\_\_ Z \_\_\_\_\_

Hello Sir/ Madam,

This survey tool has been designed to gather vital data on the **Role of Microfinance Institutions in Youth Economic Empowerment in Shire Town, Tigray, Ethiopia**, to be conducted by Fisseha Gebremedhin as part of the requirements for the Master of Science

Degree in Economics at the Department of Economics, Mekelle University. Your input is crucial in addressing this master's thesis and in understanding these pressing issues. The survey will take a few minutes, and the answers will be completely confidential and strictly for academic purposes only.

- ✓ Circle your response on the given questions.
- ✓ Write the exact answer to open-space questions.

Thank you in advance!!

### Section 1: Background Information

- 1) Your Sex: 1 = Male youth 0 = Female youth \_\_\_\_\_
- 2) The age of the youth. \_\_\_\_\_years:
- 3) Your religious affiliation: (1) Protestant, (2) Orthodox, (3) Muslim, (4) Catholic, (5) Other\_\_\_\_
- 4) Your Ethnicity: (1) Tigrai (2) Erope (3) kunama (4) if other, specify \_\_\_\_\_
- 5) Your Marital Status: (1) Single (2) Married (3) Divorced (4) Widowed \_\_\_\_\_
- 6) Your total family Size\_\_\_\_: Active \_\_\_\_\_ Dependents \_\_\_\_\_
- 7) Your Educational level of the household head. \_\_\_\_\_in years
- 8) Your current Employment Status: 1 = Employed 2 = Unemployed 3 = Self-employed 4 = Student

### Section 2: Participation in Microfinance Institutions (MFIs)

- 2.1. Have you ever participated in an MFI? 1 = Yes, 0 = No
- 2.2. If yes #2.1, which MFIs have you been involved with? 1 = DECSI 2 = Mehazut 3 = Fana 4 = Semen 5 = Geez 6 = Other (specify) \_\_\_\_\_
- 2.3. How did you learn about the MFI? 1 = Friends/Family 2 = Community Meetings 3 = Social-media 4 = Other (please specify): \_\_\_\_\_
- 2.4. Do you have market access? \_\_\_\_\_ distance to the market (in hours) \_\_\_\_\_
- 2.5. Do you have a technology adoption related to MFIS? 1 = Yes, 0 = No

### Section 3: Services Provided by MFIs

- 3.1. What services have you accessed from MFIs? (**Select all that apply**) 1 = Loans 2 = Savings Accounts 3 = Financial Education 4 = Business Training 5 = Insurance 6 = Other (please specify): \_\_\_\_\_
- 3.2. How would you rate the usefulness of these services for your economic activities? 1 = Very useful 2 = Useful 3 = Neutral 4 = Not useful 5 = Not useful at all

### Section 4: Impact of MFIs on Youth Entrepreneurship

- 4.1. Have the services from MFIs helped you in starting or expanding your business? 1 = Yes 0 = No
- 4.2. If yes #4.1, please describe how MFIs have helped you: \_\_\_\_\_
- 4.3. How would you rate your youth's economic empowerment? 1 = Very high 2 = high 3 = neutral 4 = low 5 = very low.
- 4.4. Has MFIS participation contributed to economic empowerment in your family? 1 = Yes, significantly 2 = Yes, somewhat 3 = No 4 = Not sure.
- 4.5. In what ways has MFIS participation contributed to your economic empowerment? (**Select all that apply.**) 1 = increased income for purchasing food 2 = opened business opportunities 3 = Improved nutrition 4 = Other: \_\_\_\_\_
- 4.6. What was the average number of meals per day in the family in the last month, 2017?  
\_\_\_\_\_

## Section 5: Socio-Economic Variables

- 5.1. What is your monthly youth income? \_\_\_\_\_ Birr \_\_\_\_\_ annual (birr)
- 5.2. What is your primary source of income? (**Select all that apply.**) 1 = Agriculture 2 = Business 3 = Employment 4 = Other (please specify)  
\_\_\_\_\_
- 5.3. What is your annual food and non-food expenditure? \_\_\_\_\_ birr
- 5.4. Do you have any prior experience in running a business? 1 = Yes, 0 = No
- 5.5. If yes, # 5.4, how many years of experience do you have? \_\_\_\_\_
- 5.6. What are the main challenges you face in accessing MFI services? (**Select all that apply.**) 1 = Lack of Information 2 = Complex Procedures 2 = High-Interest Rates 3 = Limited Availability of Services 4 = Other (please specify): \_\_\_\_\_
- 5.7. Do you believe that your socio-economic status influences your ability to participate in MFIs? 1 = Yes, 0 = No, 2 = Not sure
- 5.8. Did you have an asset? 1 = yes 0 = No \_\_\_\_\_
- 5.9. How much is the monetary estimated value of your asset? \_\_\_\_\_ (birr)
- 5.10. Do you have your own house? 1 = Yes 0 = No \_\_\_\_\_
- 5.11. How much number of houses do you own? \_\_\_\_\_ qty \_\_\_\_\_ total value in birr
- 5.12. In your opinion, what socio-economic factors play a role in MFI participation?  
\_\_\_\_\_

# The End!