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The Impact of Financial Inclusion on Household Wellbeing in Ethiopia

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ABSTRACT
This examines the impacts of financial inclusion on household well-being in Ethiopia. It analyzes household-level data from the World Bank's Ethiopian Socio-economic Survey and uses both descriptive and econometric approaches to analyze the data. Propensity Score Matching methods were used in the econometric analysis. The study finds that financial inclusion is positively related to household heads' literacy, the number of rooms in the residence, and wage employment. However, it is negatively related to being a rural resident, being female-headed, being married, and having a high dependency ratio. The results show that financial inclusion has a positive and significant impact on household well-being, as measured by adult equivalent monthly consumption expenditure and poverty headcount. The document concludes by discussing these results in detail and providing recommendations.

1. INTRODUCTION

1.1 Background of the Study

Financial inclusion (FI) is a multidimensional concept that refers to the process of ensuring access to financial services, particularly for the financially excluded, through formal financial institutions. The World Bank(2015), defines FI as the ability of individuals and businesses to access affordable financial products and services that meet their needs responsibly and sustainably. FI encompasses various aspects of financial services, including transactions, payments, savings, credit, and insurance (Sarma, 2008; De Koker and Jentzsch, 2013; Joshi et al., 2014). While there is no universally agreed definition of FI, it is generally understood as bringing the weaker and vulnerable members of society into the organized financial system, providing them with timely and adequate credit and other financial products at affordable prices. Despite progress in expanding financial inclusion, a significant proportion of the world population remains excluded from access to formal financial institutions.

According to the World Bank Group's latest estimates, (Global and Database, 2017) approximately 1.7 billion adults worldwide are unbanked, with the majority residing in developing economies. China and India have the largest shares of the unbanked population due to their large population sizes, with 225 million and 190 million adults respectively without an account. The gender gap in financial inclusion is notable, with 980 million unbanked individuals being women. Half of the unbanked population comes from the poorest 40% of households (Demirguc-kunt, 2018). Financial inclusion is crucial for day-to-day living, consumption smoothing, and reducing income inequality and poverty (Beck, 2016). Many developing and emerging countries have made financial inclusion a major policy objective, and several have implemented strategies since 2010 (Baza and Rao, 2017). Financial inclusion is believed to promote economic growth and development, particularly in developing countries, by mobilizing savings and investment.

The government of Ethiopia has launched the National Financial Inclusion Strategy to address financial inclusion barriers and improve access to formal financial products and services (NFIS, 2017). Despite progress in expanding bank branches, only 8% of the population has a bank account (Zwedu, 2014). Microfinance institutions have reached 35 locations with over 1,500 branches, but many individuals and businesses remain excluded from formal financial services (NBE, 2017). The rural population faces significant challenges in accessing and using formal financial services, with most banking activity concentrated in urban areas. Despite improvements in the financial sector since 1994, Ethiopia lags behind

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other Sub-Saharan African countries in financial access, and there is a need for more research on the impact of financial inclusion on household welfare.

1.2 Statement of the Problem

Financial inclusion has direct and indirect effects on household economic well-being, according to both economic theory and empirical evidence. A well-functioning financial system allows for efficient financial transactions, better investment opportunities, and reduced income inequality and poverty(Demiruckunt,2008). Financial development has positive impacts on poverty reduction, income, gender gap, child health, education,(Levine and Levine, 2014);(Chibba,2014)consumption, and economic self-sufficiency(Karlan and Mcconnell, 2014). It also allows for channeling capital to more productive sectors and reducing the cost of remitting funds. Insurance services help households and firms to better withstand unexpected shocks(Sahay 2015).

The literature on financial inclusion and its impact on household wellbeing is limited in several ways. Firstly, there is a lack of comprehensive understanding of the multidimensional concept of financial inclusion, with most studies focusing on microfinance rather than other dimensions(Demirguc-kunt, 2017). Secondly, most research is conducted at a country or cross-country level using aggregate data, with limited household-level analysis. Finally, there is a need for more microeconomic evidence in different contexts to understand the impact of financial inclusion on household well-being, as it may vary depending on institutional, socioeconomic, and geographic factors(Demirguc-kunt, 2017). This research aims to contribute to this limited literature by examining the impact of financial inclusion on household wellbeing in the context of Ethiopia using unique household data from the World Bank's ESS4.

This study fills a gap in the literature by assessing financial inclusion in Ethiopia using a multidimensional approach, measuring its impact on household wellbeing through household-level data, and providing timely microeconomic analysis on the link between financial inclusion and wellbeing.

1.3 Objective of the Study

to examine the impacts of financial inclusion on Household's wellbeing using household-level data. The specific objectives are to:

- Assess the status of financial inclusion,
- Identify factors affecting of financial inclusion
- Determine the impact of financial inclusion and its dimensions on household wellbeing

1.4 Research Hypothesis

Financial inclusion can improve household wellbeing by investing in the future, smoothing consumption, and managing financial risks.

1.5 Significance of the Study and Scope

This study investigates the impact of financial inclusion on household wellbeing in Ethiopia, contributing to existing literature on the subject. The findings provide valuable information for researchers, policymakers, and development actors interested in financial inclusion and well-being, particularly in rural and urban areas of Ethiopia. The study uses household-level cross-sectional data collected in 2018/2019.The study is organized into five sections: introduction, literature review, methodology, results, and policy recommendations.

2. LITERATURE REVIEW

2.1. Theoretical Literature Review

According to the World Bank (2015), financial inclusion is defined as individuals and businesses having access to useful and affordable financial products and services that meet their needs. Financial exclusion refers to the lack of access to suitable financial products and services from mainstream providers(Abhiyan, 2006),. Countries have their own definitions of financial inclusion, which are included in their financial inclusion strategies and aligned with their development goals. For example, in Burundi, financial inclusion is defined as stable access to financial products and services through formal and sustainable institutions, with adequate regulations and reasonable costs. In Nigeria(CBN), financial inclusion is achieved when adult Nigerians have easy access to a range of official financial services that meet their needs at a reasonable cost. In Tanzania, financial inclusion is the regular use of financial services through payment infrastructures to manage cash flows and mitigate shocks, delivered by formal suppliers through a range of suitable services with dignity and justice.

Developing countries, including Ethiopia, are implementing financial inclusion strategies to overcome supply and demand side barriers. The Ethiopian government has launched the National Financial Inclusion Strategy to improve access to and usage of formal financial products and services through four interrelated pillars: infrastructure development, product supply, consumer protection, and financial capability building(Ethiopian Journal of Economics Vol. XXVI No 2, October 2017).

2.2. Theories of Financial Inclusion

Financial inclusion outcomes benefit various groups beyond just women and the economy, including young people, the elderly, marginalized individuals, and those previously excluded from the financial sector(Ozili, 2020)**.**

Public good theory of financial inclusion: Financial inclusion is considered a public good, meaning that access to formal financial services should be unrestricted for all members of a population. This theory argues that providing financial services to one individual does not reduce their availability to others, and that everyone can benefit from financial inclusion. Under this framework, financial institutions will bear the cost of offering free services, and the government may provide subsidies to help them cope. Additionally, a lump-sum cash deposit can be offered to all citizens, making it the only requirement for accessing the free deposit. This approach aims to economically empower individuals who cannot pay their debts or meet their basic needs.

The public good theory of financial inclusion suggests that everyone will benefit from financial inclusion regardless of income level or demographics and that public funding is necessary to achieve it. However, this theory has four demerits: it does not address the root causes of financial exclusion, can divert public funds from other important projects, assumes that financial inclusion is free of charge, and may not be sustainable in the long term. Additionally, the theory may be less relevant for developing and emerging economies where financial institutions are primarily funded by private capital.

Dissatisfaction theory of financial inclusion: The dissatisfaction theory of financial inclusion argues that efforts should be targeted towards individuals who have previously been on-boarded into the formal financial sector but left due to dissatisfaction. This theory suggests that it is easier to bring back these individuals through persuasion than to target those who have never been in the formal financial sector. The theory identifies that previously on-boarded individuals may become dissatisfied due to reasons such as financial fraud, long waiting hours, and high transaction costs. The theory has merits in reducing voluntary financial exclusion, identifying financially excluded individuals, and not requiring public funding. However, it also has demerits, such as excluding people who have never been in the formal financial sector, ignoring poor people in remote areas, and assuming that financial exclusion is caused by customer dissatisfaction. Additionally, the theory does not prioritize financial inclusion for everyone in the population.

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Vulnerable group theory of financial inclusion: The vulnerable group theory of financial inclusion argues that financial inclusion efforts should target the most vulnerable members of society, such as the poor, young people, women, and the elderly. This approach aims to reduce financial exclusion by bringing these groups into the formal financial sector. The theory has merits, including identifying the financially excluded and targeting them cost-effectively. However, it also has demerits, such as ignoring non-vulnerable people and assuming that women are inherently vulnerable, which can lead to social and income inequality(Peterson K Ozili, 2018). Additionally, targeting vulnerable groups may lead to unintended consequences, such as societal resentment among men towards women.

System Theory of Financial Inclusion: The systems theory of financial inclusion posits that financial inclusion outcomes are achieved through the existing economic, social, and financial systems. Changes in one part of the system can significantly impact financial inclusion outcomes. The theory suggests that financial inclusion can improve the functioning of these systems, making them more efficient and effective. However, the theory has some limitations, such as ignoring external factors that may affect financial inclusion outcomes and assuming a direct relationship between financial inclusion and the systems it relies on. Despite these limitations, the systems theory provides a macro perspective on financial inclusion and recognizes the role of existing systems in promoting financial inclusion(Peterson K Ozili, 2018).

2.3. Financial Development And Economic Growth

In developing countries, financial transformation is a crucial factor in reducing poverty. Research has shown that economies with higher levels of financial development experience faster poverty reduction(Beck and Demirgu, 2009). This is because finance plays a key role in resource allocation and economic growth('Schumpeter ' S 2018) (Karlan and Mcconnell, 2014. The financial system mobilizes savings, reduces transaction costs, and enhances resource allocation through diversification of risks, liquidity, and firm size. However, weak access to financial services can hinder economic growth due to the limited ability of the financial system to mobilize and channel resources to appropriate projects. This is why low-income countries often have weak financial systemsfirms (Levine, Literature and Jun, 1997). The role of finance in economic growth and development has been a topic of debate among economists, with some emphasizing its importance and others highlighting its limitations. Despite these differing views, the recent financial crisis has reinforced the notion that finance plays a critical role in driving economic growth and poverty reduction.

2.4. Financial Sector And Inclusive Growth

The financial sector has various channels that impact growth, including shaping confidence, improving physical access to services, and reducing costs. The National Bank of Ethiopia (NBE) regulates private banks to increase their credibility, but physical access to financial services remains limited, with only 16 commercial banks and one development bank serving a population of 90 million people. Additionally, the costs of accessing financial services are a significant barrier to inclusive growth.

2.3 Financial Sector in Ethiopia

In Ethiopia, the financial sector consists of both formal and informal institutions. Formal institutions are regulated and include banks, insurance companies, and microfinance institutions. These are overseen by the National Bank of Ethiopia (NBE). Informal institutions, such as traditional savings and credit associations, are also prevalent. The financial sector is dominated by banks, followed by microfinance institutions and insurance companies.

The formal sector: The major formal financial institutions in Ethiopia are banks, insurance companies, and microfinance institutions. The banking system in Ethiopia started in 1905 with the formation of Bank of Abyssinia, and later the government established the State Bank of Ethiopia in 1942. After liberalization and deregulation in 1991, private banks and insurance companies were established. Cur-

rently, 18 banks are operating in the country, with 31.2% owned by state-owned banks and 70.5% by private banks. The total branch network reached 6511 with a ratio of 1 branch per 15,702 population.
Insurance sector in Ethiopia is underdeveloped due to historical political instability and the command economy. Private sector participation has revived the sector since 1990s, leading to the formation of 18 insurance companies (1 public and 17 private).
In Ethiopia, the emergence of microfinance institutions is a recent phenomenon, with the first service introduced in 1994 in the northern region of Tigray. By 2019/20, there were 41 microfinance institutions, with total capital and assets increasing by 17.3% and 10.5% to reach birr 19.4 billion and birr 92.2 billion, respectively. Deposits also increased by 6.7% to birr 44.7 billion, while outstanding credit grew by 10.5% to birr 64.9 billion.
In Ethiopia, there are three types of saving and credit cooperatives (SACCOs): institution-based, community-based, and NGO-sponsored. These cooperatives provide financial services to rural areas and are owned, controlled, and capitalized by their members. Unlike formal financial institutions, SACCOs have less regulation and are supervised by the Ministry of Cooperatives. Loan disbursement policies are prudent, and only members with sufficient savings and collateral can borrow. Loans are usually for agricultural inputs, animal fattening, or off-farm activities, and interest rates are lower than those of commercial banks and money lenders.

Informal Finance Sector in Ethiopia:In Ethiopia, community-based organizations (CBOs) are common in both rural and urban areas. These organizations, which are often informal, vary in nature and purpose but are united in their goal of addressing the needs of the community. Examples of CBOs include iddirs, which are voluntary associations established for mutual aid and other social activities, and mahbers, which are religious communities that provide informal financial services and community support. Iqqubs is another type of informal saving and credit association that pools members' savings and provides loans to members on a rotating basis. These CBOs play a crucial role in providing financial services and addressing community needs in Ethiopia.

2.5. Financial inclusion strategy

Most studies on financial inclusion in Ethiopia have focused on access to credit through microfinance institutions, which are seen as a means to achieve financial inclusion. However, there are limited studies on financial inclusion at both macro and micro levels in Ethiopia. Recent studies have used household-level panel data to assess access to finance and poverty in Ethiopia. These studies have shown that access to credit can ease poverty and improve household consumption and living standards. Specifically, one study found that access to microfinance institutions and credit opportunities can increase household income and improve household welfare(Berhane and Gardebroek, 2011). Another study found that participation in microfinance services leads to higher mean annual income compared to non-participants.
The National Bank of Ethiopia launched a financial inclusion strategy in 2016 to combat poverty and promote inclusive growth. The strategy is designed to accelerate financial inclusion and support the country's development priorities, with the help of the World Bank. The strategy takes into account Ethiopia's vision to become a middle-income economy by 2025 and the targets of the second GTP plan

2.6. Empirical Literature

Empirical research has shown that access to credit can improve consumption, employment, and income, particularly for low-income households. Studies have found that financial inclusion can lead to increased household welfare, smoother consumption, and higher economic growth by (Mwangi, 2017). Access to cheaper credit allows individuals to smooth their consumption and farmers to increase their sowing in ChinaZhang, Q. and Mallick, D. (2019). Low-income households can benefit the most from financial inclusion, leading to inclusive growth.(Beck and Demirgu, 2009).

Ethiopian case: Most studies on financial inclusion in Ethiopia have focused on access to credit through microfinance institutions. These studies have shown that access to credit can reduce poverty and improve household consumption and income. For example, Geda et al. (2008) found that access to credit reduces poverty and helps households smooth their consumption. Berhane & Gardebroek (2011) found that access to microfinance institutions increases household consumption and improves house improvements. Bocheret al. (2017) found that access to credit increases household consumption expenditure. Geleta et al. (2018) found that microfinance participation increases household income. Overall, these studies suggest that financial development and inclusion have a positive impact on households by providing them with greater investment opportunities, flattening their consumption, and protecting them from risks.

3. RESEARCH METHODOLOGY

3.1 Data Types and Sources

The study used the Ethiopian Socio-economic Survey (ESS4) data from the World Bank database(WB) in 2018/19 implemented in collaboration with Living Standards Measurement Survey (LSMS) with a nationally representative sample of over 7,000 households from 11 regions, including urban and rural areas. Despite security issues, 6,770 households were interviewed. The data includes information on household demographics, education, health, agriculture, employment, assets, income, consumption, and finance.

3.2 Methods of Data Analysis

Two types of data analysis used: descriptive stats and econometric analysis. Descriptive analysis: quantitative analysis of sample data using percentages and frequencies. Econometric analysis: binary response regression model and propensity score matching methods used to study the determinants of financial inclusion and evaluate its impact on household wellbeing.

3.3 Model of Specification

1. Financial inclusion and its determinants: A binary response regression model, specified as a latent variable model, is used to examine the determinants of financial inclusion.

$$F(i) = \begin{cases} 1, & Y > Z \\ 0, & other \end{cases}$$

Where **Fi** is an indicator of financial inclusion and **z** is a threshold used to classifyhouseholds as financially included or not based on their scores on Y (in this case 0.5).Given, the binary nature of the dependent variable, the appropriate econometric technique will be index function models. For this paper, the logit model will be used. The basic interest is probability of households' financial inclusion and the factors that determine it. Suppose X is a vector of covariates of financial inclusion, the conditional probability that a household is financially included is given byThe model estimates the probability of households' financial inclusion and the factors that determine it using logit models.

$$Pr(〚Fi = 〛 _x\text{^}1) = G(X\beta) = e\text{^}(x\beta + \epsilon) / (1 + e\text{^}(x\beta + \epsilon)) \text{ ....1}$$

Where β are vector of parameter associated with each covariate and & ϵ is a random term. Suppose P stands for the probability that a given household financially included (Fi = 1), then the probability that the same household is financially deprived (Fi = 0)is given by 1 – P. The ratio P / 1 = P is the odds ratio. The logistic transformation of the odds ratio is given by

$$l' = (\log {}^{p}/_{1-p}) = X\beta + \epsilon \text{ ....2}$$

compute marginal effects by taking derivatives of estimated model parameters.

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2. Impact of financial inclusion on household well-being: One of the objectives of this paper is to evaluate the impact of financial inclusion on household well-being. The specification of the model starts with a general description of the relationship is given as:

$$Yi = \beta o + \beta \text{Fi} + \gamma X\text{i} + \mathcal{E}\text{i}$$

Yi is the outcome measure of household well-being, Fi is an indicator of the financial inclusion status of households measured multidimensionality as described above and Xi is a set of control variables. Household wellbeing is measured by using three alternative measures: per capita household income, household asset ownership, and per capita consumption.

The study used propensity score matching and quintile regression to estimate the impact of financial inclusion on wellbeing, accounting for individual decision-making and potential biases.

i.e., $Pr\,[A = 1|X_1, X_2 . . . X_p]$.

3.4.Variables Definitions and Expected Results

Table 1 variable definitions and expected result

Variables	Definitions	Expected Results
Financial Inclusion(Fin)	A measure of financial inclusion (1 if the household is financially included 0 otherwise)	(+)
Age	Age of household head (years)	(+/-)
Household size	Total household members in number	(+)
Dependency ratio	The proportion of dependents in the households	(-)
Gender	Sex of the household head (male=1; female=0)	**(-)**
Read write	Whether the household head can read and write	**(+)**
Employment	The proportion of employed people within the household	**(+)**
Education	highest education level with in the household)	**(+)**
Marital status	Whether the household head is married or not (Married=1; otherwise=0)	**(-)**
Housing	Whether the household owner the house or not	**(-)**
TLU	Total numbers of live stocks	**(+)**
Rooms	Numbers of rooms	**(+)**

3.4. measuring financial inclusion

Table 2: Dimensions, indicators, financially disadvantaged scores and weighs for

Dimension (Weight)	Indicator (Weight)	Financially disadvantaged if...
Saving (0.33)	Deposit account (0.33)	The household does not have any deposit
Credit (0.33)	Access to credit (0.33)	Household does not access any credit
Insurance (0.33)	Insurance (0.33)	Household does not have a Insurance Participation

Source: Adapted from Zhang and Posso, 2017

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4.RESULTS AND DISCUSSIONS

4.1. Socio- Economic Profile

The Ethiopian population is young, with 42% aged 15 and under, 54.3% in the working age group (15-64), and 3.8% aged 65 and older. The rural dependency ratio is higher than urban at 92% compared to 59%. The dependency ratio ranges from 41% in Addis Ababa to 119% in Somalia. About 45% of respondents are never married, 45% are in monogamous marriages, 4% are widowed, 3% are divorced, and 1% are separated. Literacy rates show significant gender inequality, with 57% of males and 43% of females able to read and write. Most households (77%) live in their own houses, but there are differences between rural and urban areas, with 50% of urban households renting their homes compared to 3% in rural areas. Farm households own most of the land they cultivate, with 94% owning some of their land, and 6% renting land from others.

4.2. Financial Inclusion

Financial inclusion is aimed at offering banking and financial services to individuals, particularly those in economically underprivileged groups. The mean difference between financially included and financially not included groups is presented in Table 4, which shows that financially not included rural households are 65%, while financially included households are 30.4%. Financially not included households have larger household sizes (4.56% vs 3.97%). The mean female-headed households of financially not included are larger (3.44% vs 2.81%). The mean age of financially not included households is higher (44.9% vs 40.2%). Married financially not included households are larger (6.99% vs 6.91%). Literate financially not included households are lower (37.3% vs 77%). The mean wage of financially not included households is 9%, while the mean wage of financially included households is 3.2%. Financially not included households have larger numbers of livestock (2.27% vs 0.82%). Financially included households live in their own houses (7.7% vs 5.4%). Financially not included households have more rooms (1.66% vs 1.93%). The Per adult equivalent consumption of financially not included households is lower (1366 vs 2219). The poverty status of financially not included households is higher (32.2% vs 11.2%). Financially included households have a higher mean of saving account (0.55), insurance (0.456), and credit (0.06).

Table 4.2: Descriptive statistics on all variables

Variable	Description	Obs	Mean	Std. Dev.	Min	Max
Cons_aeq	Monthly consumption per aeq	6770	1834.4	1799.567	22.71505	41394.05
Poverty	=1 if household is below poverty line	6770	.208	.4050369	0	1
Fi	=1 if financially included	6,770	.548449	.4976839	0	1
savAcc	=1 if household have saving acc.	6,647	.4570483	.4981892	0	1
insurance	=1 if household have insurance	6,648	.0612214	.239754	0	1
credit	=1 if household have credit access	6,770	.1208272	.3259504	0	1
TLU	Tropical livestock unit	6,768	1.478978	3.679235	0	122.3
rural	=1 if household lives in rural	6,770	.4601182	.4984437	0	1
hhsize	Household size	6,770	4.24195	2.286526	1	19
sex	=1 if female headed	6,726	.3099911	.462524	0	1
age	Age of household head	6,726	42.35058	15.2073	13	99
marstat	Marital status	6,666	.6945695	.4606241	0	1
read_write	If household can read_write	6,665	.587847	.4922594	0	1

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dep_ratio	Dependency ratio	6,726	.480602	.3061509	0	4
wage_emp	Wage of employment	6,726	.2176628	.4126876	0	1
housing	Housing ownership	6,770	.6462334	.4781732	0	1
rooms	Numbers of room in the house	6,770	1.812851	1.449086	1	50

Account ownership: Account ownership allows access to financial services such as saving, loans, money transfers, wages, and insurance. Account ownership is often used as a measure of financial inclusion. Account ownership is defined as having an account at a bank, microfinance institution, SACCO, mobile money application, or any other formal financial institution. In 2018/19, about 30.4% of adult Ethiopians had an account at a formal financial institution, up from 21.8% in 2015/16. About 59% of Ethiopians live more than 5 kilometers away from the nearest financial institution, with rural areas having worse proximity to financial services. The top reasons for being unbanked in Ethiopia are insufficient funds, distance to the nearest financial institution, and poor understanding of the benefits of owning an account. 32.5% of individuals in urban areas with a bank account are from the capital city, indicating that banks and their branches are more located in major cities, particularly Addis Ababa. Individuals in urban areas are over three times more likely to have a formal account than those in rural areas. The main reason given for not having an account is not having extra money for saving. This reason is also the main obstacle for account ownership in Ethiopia and is a common reason in Sub-Saharan Africa. Other reasons mentioned include not knowing where and how to open an account, financial institutions being too far, and not understanding the benefits.

Adoption of new technologies: Adoption of new technologies in the financial sector can bring greater productivity, profitability, and efficiency. New technologies such as digital banking, online banking, internet free banking, and mobile banking systems can result in faster service and increased customer satisfaction. These technologies offer convenience and flexibility to users. They also provide large space coverage and cost saving opportunities. The adoption of new technologies promotes financial inclusion. Only 37 percent of sampled individuals with access to financial institutions have used ATM (debit card). Most ATM users are from urban areas. Urban individuals have better access to information and services related to ATMs. Only 14.8 percent of rural people in the sampling have used ATMs. Rural individuals lack information and knowledge about ATM usage.

Saving: The concept of saving, including various ways to save such as deposit accounts, pension accounts, investment funds, and cash. It highlights that Only 26% of individuals aged 18 and older reported saving in the past 12 months, 40% of households had one or more individuals who saved in the past 12 months, Participation rates in saving varied by residence and region. Urban areas had higher rates of saving compared to rural areas. Formal institutions were more commonly used for saving than informal methods. Savings deposits in formal institutions were mostly irregular, but Monthly savings were more common in microfinance institutions and SACCOs. Informal channels like associations or Equb had consistent weekly or monthly savings. The main reason for saving was to be prepared for emergencies (73%).Other reasons for saving included building assets, starting or expanding a business, education, health, children's future, and old age. Reasons for saving varied by region.

Insurance:Insurance is a risk transfer mechanism that provides financial compensation for loss or damage.Formal insurance coverage is minimal compared to informal membership in iddir. Only 7.8 percent of individuals nationally have formal insurance. Over 50 percent of individuals have iddir membership. Formal insurance coverage has increased since 2015/2016 when only 1.4 percent had it. Majority of those with formal insurance rely on public providers. Fewer individuals rely on private providers, employers, or microfinance institutions for insurance. The survey asked respondents about their insurance status in the 12 months preceding the survey.

Credit: The credit access and sources of credit for rural and urban households. It states that access to credit is limited, with Only 16 percent of households have taken out a loan in the past 12 months. No significant gap between urban and rural areas in terms of loan uptake. Borrowing is least common in Dire Dawa (8 percent) and Addis Ababa (9 percent). Borrowing is most common in Amhara (23 percent). Relatives are the primary source of loans (35 percent). SACCOs are another common source of loans (19 percent). Women are more likely to depend on relatives for loans (44 percent). Men are more likely to borrow from SACCOs (21 percent). Other common sources of borrowing include neighbors, microfinance institutions, and the government. Over one-third of households borrow to purchase agricultural inputs. Reasons for borrowing vary by region. Borrowing for food or non-food-related expenditure is highest in Dire Dawa and Addis Ababa. Borrowing for agricultural inputs is more common in rural areas (43 percent) than in urban areas (25 percent). Only 3.9 percent in Tigray borrow for food or non-food-related expenditures.

4.3 The effects of Financial inclusion on Household Wellbeing

The Empirical analysis was conducted using a binary response regression model and Propensity Score Matching methods. The dependent variable in the analysis is household well-being. There are eleven independent variables included in the analysis. Two outcome variables were considered: per adult equivalent consumption and poverty status. The national poverty line in Ethiopia for 2016 was 7184 per adult per month. The poverty line was converted to the year 2017/18, taking into account inflation rates of 6.62% in 2016 and 10.68% in 2017. The poverty line for 2018 was calculated to be 8477.6 per month. The monthly adult equivalent poverty line was 706.5. A poverty variable was created using Stata codes. The analysis aimed to examine the relationship between the independent variables and household well-being and poverty status.

Results from Propensity Score Matching (PSM)

The paper aims to estimate the impact of financial inclusion on household well-being. A quasi-experimental approach is used to measure the treatment effect. The propensity score matching method is used to estimate the impact. Logit models are used to estimate the propensities of selection into each treatment variable. Financial inclusion is positively related to household heads' literacy, room, and wage employment. Households with literate household heads are more likely to be financially included. Households with more rooms are more likely to be financially included. Households with a head in wage employment are more likely to be financially included. Rural residents, female-headed households, married households, and a high dependency ratio are negatively related to financial inclusion. Rural households are less likely to be financially included compared to urban households. Unmarried households are more likely to be financially included than married households. Households with age 0 to 14 and over age 65 are less likely to be financially included. Households that own a house and have livestock are less likely to be financially included.

5.1 Conclusions

The results of a survey on financial inclusion in Ethiopia. It shows Only 26% of individual respondents aged 18 and older reported saving in the past 12 months. 63% of households reported saving in the past 12 months, compared to 29% in rural areas. Access to credit is limited, with only 16% of households taking out a loan in the past 12 months. 7.8% of individuals have formal insurance, while over 50% have bidder membership. The insurance market in Ethiopia is at an initial stage, especially in rural areas. Financial inclusion is positively related to household heads' literacy, the number of rooms in the house, and wage employment. Financial inclusion is negatively related to being a rural resident, being female-headed, being married, and dependency ratio. Financial inclusion has a strong positive effect on household wellbeing. Financial inclusion has a statistically significant negative impact on poverty headcount. Financially included households have a poverty headcount of around 8.5% lower than fi-

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nancially not-included households. The results are robust across different matching algorithms, with only small variations in the average treatment effect on the treated.

5.2. POLICY IMPLICATIONS

The Empirical findings show a strong relationship between financial inclusion and household well-being. Implementation of policies to challenge barriers to financial inclusion will positively impact household well-being and poverty reduction. Policies should encourage inclusive growth and enable the participation of all sections of society. Financial inclusion has a positive contribution in lifting low-income people out of poverty. Access to financial services, particularly credit services, enables lower-income households to undertake productive activities. Policymakers and regulators should continue to promote financial inclusion to improve household wellbeing and reduce income inequality. Expanding the provision of financial services, like micro-credit, in rural and depressed urban areas can potentially improve household earnings. The study used cross-sectional data, focusing on the fourth wave of the Ethiopian Socio-economic Survey (ESS). The fifth round of ESS data is expected to provide more information on financial inclusion. Establishing a clear causal relationship between financial inclusion and household wellbeing requires more advanced data and longitudinal information. Further research is needed to explore this causal relationship.

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