Determinants of Financial Inclusion in East Gojjam, Ethiopia

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Abstract

Financial inclusion is defined as the process that ensures the ease of access, availability, and usage of formal financial system for all members of an economy. Financial inclusion is important for sustainable economic growth and the improvement of social well-being. How to build inclusive financial systems is a challenging subject on the agendas of researchers, policymakers, regulators and financial institutions. This is particularly important in developing countries and emerging markets, where banking penetration rates are relatively low. The main objective of this study is to investigate the determinants of financial inclusion in East Gojjam. The type of research applied in this study is explanatory or causal in nature. After a thorough review of previous empirical studies, a research questionnaire is developed as a means of data collection. Data collected from a total of 454 actual respondents / from eight woredas/ were used. Data gathered from customers were analyzed using Binary Logistic Regression and the finding implies that residence, financial literacy, documentation, trust, awareness, accessibility, availability and income have significant influence on financial inclusion. The findings from the current study suggested that financial institutions in Ethiopia and particularly in the study area should create continuous awareness about financial services and they should make their services more accessible and available.

Keywords: Financial Inclusion, Binary Logistic Regression, Explanatory Study, Eeast Gojjam, Ethiopia.

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1. Introduction

There is global consensus on the importance of financial inclusion due to its key role of bringing integrity and stability into an economy's financial system as well as its role in fighting poverty in a sustainable manner. It is more pertinent in the case of developing nation to use financial inclusion as a platform not just for growing the financial sector but more as an engine for driving an inclusive economic growth. Greater financial inclusion is achieved when every economic activities, geographical region and segments of the society have access to financial service with ease and at minimum cost. This helps to promote balanced growth through its process of facilitating savings and investment and thus causing efficient resource allocation from surplus sector/segments (unproductive) of the society to deficit sectors/segments (productive) of the society (Tamilarasu, 2014).   By this process, financial transaction is made easy, income level and growth increase with equity, poverty is eliminated, while the economy becomes insulated from external shock (Adigun and Kama, 2013). The importance of financial inclusion for sustainable economic growth and as a key factor in increasing prosperity by reducing poverty is a proven fact (Tuesta, Sorensen, Haring and Camara, 2015). Similarly Sharma, Jain and Gupta (2014) pointed out that financial inclusion is a priority to majority of developing countries. Inclusive growth is not possible for any economy without including most vulnerable segment of society in main stream economic activities. Ghatak (2013) also suggested that only with financial inclusion there can be economic development. This is because financial inclusion will help in the pooling up of the funds which remain idle, in the hands of the financially excluded. This will help in capital formation. The capital formed will be put to productive investments and these investments will generate more and more wealth in the economy. Financial inclusion is also used to reduce the problem of income inequality in a given economy. In this regard Kempson (2006) in his previous study found that countries with low levels of income inequality tend to have lower levels of financial exclusion, with high levels of exclusion are associated with the least equal ones. For example, in Sweden only less than two percent of adults did not have an account in 2000.

Financial inclusion is a broad concept. A review of literature indicated that there is no universally accepted definition of financial inclusion. Its definition varies across countries depending on their level of social, economic and financial development. For example, as defined by the reserve bank of India (RBI, 2010) Financial Inclusion is the process of ensuring access to appropriate financial products and services needed by vulnerable groups such as weaker sections and low income groups at an affordable cost in a fair and transparent manner by mainstream institutional players (Joshi, 2011).

According to Sarma (2008) and as per this paper financial inclusion is defined as the process that ensures the ease of access, availability, and usage of formal financial system for all members of an economy. It describes a process where all members of the economy do not have difficulty in opening bank account; can afford

to access credit; and can conveniently, easily and consistently use financial system products and facilities without difficulty. Similarly Raghuram committee (2008) shortly defined financial inclusion as universal access to a wide range of financial services at a reasonable cost. It is the process which ensures that a person's in-coming money is maximized, out-going is controlled and can exercise informed choices through access to basic financial services (PCC Financial Inclusion Strategy, 2009, as cited in Tamilarasu, 2014). An inclusive financial system has several merits. It facilitates efficient allocation of productive resources and thus can potentially reduce the cost of capital. In addition, access to appropriate financial services can significantly improve the day-to-day management of finances. An inclusive financial system can help in reducing the growth of informal sources of credit (such as money lenders), which are often found to be exploitative. Thus, an all-inclusive financial system enhances efficiency and welfare by providing avenues for secure and safe saving practices and by facilitating a whole range of efficient financial services. The importance of an inclusive financial system is widely recognized in the policy circle and recently financial inclusion has become a policy priority in many countries. Initiatives for financial inclusion have come from the financial regulators, the governments and the banking industry (Sarma and Pais, 2008). On the other hand, financial exclusion is defined as the inability of individuals, households or groups to access particularly the formal financial products and services (Tamilarasu, 2014).

Regardless of the fact that the literature on financial inclusion is ample with studies carried out mostly in the developed countries, this area is not well studied in the developing countries especially in Africa. In Africa, even though the policy makers give priority for financial inclusion recently, the efforts towards the development of inclusive financial system was remained largely overlooked by many governments where by Ethiopia is not exceptional. Therefore, the aim of this study is to investigate the factors that affect financial inclusion in the study area.

The scope of this research undertaking is limited to study the major factors that influence individuals (not firms) financial inclusion in the study area and these factors were taken in to consideration both from supply and demand side. In the context of this study financial inclusion refers to the usage of financial services provided by banks, microfinance institutions and saving and credit cooperatives (SACOOS) only but financial services related to insurance companies are intentionally excluded because of its infant stage in Ethiopia and particularly in the study area.   According to this study, a person is considered as financially included if he/she has an account in any of the financial institutions, borrowing and if he or she is using financial institutions for saving function. The opposite side of financial inclusion is financial exclusion. Financial exclusion can be viewed from two angles (i.e. voluntary and involuntary exclusion) and the concern of this study is those who would like to use the financial services but are unable to do so because of some barriers (involuntarily excluded).

2. Statement of the problem/Justification/Rational of the study

Financial inclusion is important for sustainable economic growth and the improvement of social well-being. How to build inclusive financial systems is a challenging subject on the agendas of researchers, policymakers, regulators and financial institutions. This is particularly important in developing countries and emerging markets, where banking penetration rates are relatively low. This is mainly due to the traditional factors such as being a woman, living in a rural area or having a low income and low educational level (Clamara, Peña and Tuesta, 2014). In this regard, although many countries have agreed to make financial inclusion as policy priority, many of the rural poor in Africa are still financially excluded. The low level of financial inclusion in Africa reflects the impact of demand constraints, such as low levels of financial literacy; and supply constraints, such as the limited capacity of many African financial institutions (Oji, 2015). The research conducted by African Development Bank (AfDB) (2013) also prove that although Africa is now the world's second fastest growing region after Asia, with annual GDP growth rates in excess of 5% over the last decade, less than one adult out of four in the continent have access to an account at a formal financial institution. Similarly, a research study undertaken by Akudugu (2013) in Ghana to examine the determinants of financial inclusion indicated that only two in five adults are included in the formal financial sectors. This indicated that economic growth in the continent had not translated into shared prosperity and better livelihoods for the majority because of the existence of excluded segments of the society from main stream economic activities like the usage of financial services. The current poor status of financial inclusion is not exceptional to Ethiopia as part of Africa because despite the fact that Ethiopia has achieved its rapid financial sector growth in the last couple of years, many households are still excluded from access to financial services in the jurisdiction. The analysis of the access and usage of financial services by individuals in Ethiopia found that only 33.86 percent of adults have account with formal financial institutions. This finding indicates that due to lack of enough money, distance, cost and documentation requirements, even Ethiopia lags behind Sub-Saharan Africa and low income economies in this aspect (Andualem and Rao, 2017). Similarly, Zwedu (2014) on his study in Ethiopia also prove that majority of the population has no access to financial services. The supply side of financial inclusion is still poor as witnessed by very high population size per branch and very low number of deposit account holders. Therefore, the major aim of this study is to investigate the factors responsible for financial inclusion / exclusion in the study area.

3. Hypothesis Formulation

Based on the findings from review of literature, the following research hypotheses were formulated for the current study:

H1: Educational level of the individual has significant effect on financial inclusion.

H2: Gender has significant effect on financial inclusion.

H3: Age has significant effect on financial inclusion.
H4: Income has significant effect on financial inclusion.
H5: Occupation has significant effect on financial inclusion
H6: Residence has significant effect on financial inclusion.
H7: Family size has significant effect on financial inclusion
H8: Financial literacy has significant effect on financial inclusion.
H9: Documentation requirement of financial institutions has significant effect on financial inclusion.
H10: Trust on financial institutions has significant effect on financial inclusion.
H11: Awareness about financial service products has significant effect on financial inclusion.
H12: Availability of the required physical and telecommunication infrastructure has significant effect on financial inclusion.
H13: Accessibility of financial institutions has significant effect on financial inclusion.
H14: Availability of the required financial service has significant effect on financial inclusion.
H15: Deposit interest rate of financial institutions has significant effect on financial inclusion.

4. Research Methodology

4.1 Population and Sampling

The sampling population was defined as urban and rural users and non-users of the services of financial institutions in the study area. Both private and public financial institutions located in the study area were included as a target population. A total of randomly selected eight woreda out of 20 located in east Gojjam (study area) were considered as sampling unit for this study. It includes: Dejen (Dejen), Amanuale, Awabel (Lumamie), Debre Alias (Debre Alias), Yejubie, Bichena / Enemay/, Motta / Huletujinesie/ and Debre Markos and then sample kebeles were taken both from urban and rural part of each woreda. Proportional random sampling technique was also used to select the required sample size for this study.

4.2 Sample Size Determination

In this study the necessary sample size was estimated based on the number of independent variables. In this regard, Hair, Black, Babin, and Anderson (2010), recommended that the sample size should be 15-20 observations per variable for generalization purposes. Krejcie and Morgan (1970) also recommended that for a population having more than 1,000,000 target groups a sample size of 384 is acceptable. Therefore, based on these justifications, and by giving allowance for errors and non-response rates, a total of 500 (15 variables*20 observation for each variable plus 200 as allowance) estimated respondents were considered as acceptable sample size for the current study.

4.3   Sources of Data and Method of Collection

Both primary as well as secondary sources of data were used. In this study secondary data was obtained from related published journals, online articles, books and international conference papers for the purpose of literature review. On the other hand, primary data was collected by administering well- structured questionnaire/ schedule to the target respondents. The questionnaire include both closed ended and open ended questions, however, majority of the questions are closed ended.

4.4   Development of Measurement Instrument (Questionnaire)

This study was used the survey method to collect the required cross-sectional data. A self-administered questionnaire was developed based on preliminary semi-structured interview with selected financial institution employees and extensive literature review to identify the factors responsible for financial inclusion/exclusion. Accordingly, most of the items in the questionnaire were adopted from previous works with significant modification.

4.5   Method of Data Analysis

In this study, the intention is to investigate the factors responsible for financial inclusion in the study area. Therefore, to achieve this objective, once the data is collected, coded, entered and cleaned; it goes through quantitative **binary logistic regression** analysis.

Binary logistic regression analysis is a specialized form of regression that is formulated to predict and explain a binary (two group) categorical variable rather than a metric dependent measure. Therefore, when the dependent variable is categorical (binary) and the independent variables are metric or non-metric, binary logistic regression is appropriate (Hair et al., 2010). Logistic regression represents the two groups of interest as binary variables with values of zero and one. In this study the intention is to identify the independent variables that impact group membership in the dependent variable (i.e., financial inclusion) and the model was assessed the probability of being either included or excluded from the usage of financial services from formal financial institutions. When the individual is using financial services, the value 1 is assigned and zero if not. So, in this study the Logit regression model as explained below was used to explain financial inclusion in the study area.

4.6   Model Specification

The Logit model used for the estimation of financial inclusion in the case of this research is specified as follows:

$$FI = \beta_0 + \beta_1 EDUC + \beta_2 GEN + \beta_3 AGE + \beta_4 INCM + \beta_5 AWR + \beta_6 ACSB$$
$$+ \beta_7 INT + \beta_8 INFR + \beta_9 DOCM + \beta_{10} AVAL + \beta_{11} FAMSIZ$$
$$+ \beta_{12} RESID + \beta_{13} FILITERACY + \beta_{14} TRUST$$
$$+ \beta_{15} OCCUPATION + u_i$$

Where, FI is the dependent variable (financial inclusion), β_0 is the constant term of the model, $\beta_1 - \beta_{15}$ denote the regression coefficients of the model, EDU=Educational status of the individual (respondent), GEN=Gender of the respondent, AGE=Age of the respondent, INCM=Average monthly income of the respondent, AWR=Awareness level of the respondent, ACSB=Accessibility of financial institutions, INT=deposit interest rate of financial institutions, INFR=Infrastructure, DOCM=Documentation requirement, FAMSIZ= Total family size of the respondent, RESID= Residence of the respondent, FILITERACY=Financial literacy level of the respondent, TRUST= Trust of the respondent on financial institutions, OCCUPATION=Occupation status of the respondent, AVAL=Availability of the required financial service and u_i is the error term.

In short form it looks like the following:

$$Pi(Fi) = \ln\left(\frac{p_i}{1 - p_i}\right) = \beta_0 + \beta_i \Sigma X_i + u_i$$

The entire test for assumptions and analysis is done using SPSS version 21.

4.7   Definition of Variables Included in the Model

Educational level: It represents a respondent's highest level of education at the time of survey measured using categorical scale

Gender: It refers to gender / sex of the individual (dummy variable with dichotomous response of 1 and 0, 1= male and 0= female).

Age: It refers to the age of the respondent at the time of data collection measured in years (continuous variable).

Income: It refers to the average monthly income of the individual measured in birr (continuous variable).

Occupation: it refers to the respondents' nature of job as well as his / her employment status at the time of data collection measured using categorical scale.

Residence: it refers to the respondents place of living (dummy variable with dichotomous response of 1 and 0, 1= urban and 0= rural.

Family size: It refers to the number of peoples in a single family / household during data collection measured in number (continuous variable).

Awareness: It refers to the individual's level of awareness about the available financial products and services at the time of data collection (dummy variable with dichotomous response of 1 and 0, 1= yes (aware) and 0= No (Not aware).

Accessibility: It refers to the accessibility or outreach of financial institutions for individuals / target groups at the time of data collection (dummy variable with dichotomous response of 1 and 0, 1= yes (accessible) and 0= No (Not accessible).

Interest rate: It refers to the attractiveness of deposit rate of financial institutions for depositors (dummy variable with dichotomous response of 1 and 0, 1= yes (attractive) and 0= No (Not attractive).

Financial literacy: It refers to the respondents level of literacy / knowledge about financial products and services such as savings and credit services (dummy variable with dichotomous response of 1 and 0, 1= yes (literate) and 0= No (illiterate).

Infrastructure: It refers to the availability of physical and telecommunication infrastructure to enhance the services of financial institutions (dummy variable with dichotomous response of 1 and 0, 1= yes (no problem) and 0= No (problem).

Documentation: It refers to the simplicity of documentation requirement by financial institutions during service provision like to open bank account and to get loan (dummy variable with dichotomous response of 1 and 0, 1= yes (simple) and 0= No (difficult / not simple).

Availability: It refers to availability of the required financial services from financial institutions depending on the need of the individual (dummy variable with dichotomous response of 1 and 0, 1= yes (available) and 0= No (Not available).

Financial Inclusion: It refers to the usage or patronage of a single financial product or multiple financial products (dummy variable with dichotomous response of 1 and 0, 1= included and 0= not included).

Trust: It refers to how customers trust or rely on different financial institutions (dummy variable with dichotomous response of 1 and 0, 1= yes (trust) and 0= No (No trust).

5. Data Analysis and Discussion

5.1   Diagnostic Tests

Similar to other multivariate data analysis techniques, major/ important assumptions or diagnostic tests were performed to check the validity of the data for the current binary logistic regression model. Accordingly diagnostic tests such as autocorrelation, Omnibus Tests of Model Coefficients and Hosmer and Lemeshow Test were used to check model fitness.

5.2   Autocorrelation

For any two observations the residual terms should be uncorrelated. This eventually is sometimes described as a lack of autocorrelation. This assumption was tested with the Durbin-Watson d statistics which tests for serial correlation between errors. This is the most celebrated test for detecting correlation developed by statisticians Durbin and Watson. The test statistics for this can vary between 0 and 4 with the value of

2 meaning that the residuals are uncorrelated. A great advantage of the d statistic is that it is based on the estimated residuals, which are routinely computed in regression analysis. Because of this advantage, it is now a common practice to report the Durbin–Watson d along with summary measures, such as R square, adjusted R square, t, and F. If there is no serial correlation; d is expected to be about 2. Therefore, as a rule of thumb, if d is found to be 2 in an application, one may assume that there is no autocorrelation, either positive or negative (Guajarati, 2004).

From the regression result shown in the table below the Durbin-Watson d statistics for the current study is 1.865 which is approximately near to 2, so we can conclude that the autocorrelation assumption is met or the residual terms are uncorrelated.

Table 1: Autocorrelation

Model	Durbin-Watson
1	1.865

Source: SPSS survey output, 2018

Other major assumptions such as normality, heteroscedasticity and linearity which are common in many multivariate data analysis techniques are not compulsory for logistic regression because the error terms of a discrete variable follow the binomial distribution instead of normal distribution, thus invalidating all statistical tests based on normality assumption. In addition, the variance of dichotomous variable is not constant creating instances of heteroscedasticity as well. Moreover, logistic regression does not require linear relationships between the dependent and independent variable, it can address non-linear effects even when exponential and polynomial terms are not explicitly added as additional independent variables because of the logistic relationship (Hair et al., 2010).

Table 2: Model Fitness

A. Classification Table					
Observed			**Predicted**		
			Financial inclusion		**Percentage Correct**
			Non-user	**User**	
Step 1	**Financial inclusion**	**Non-user**	67	5	93.1
		User	5	377	98.7
	Overall Percentage				97.8
a. The cut value is .500					
B. Omnibus Tests of Model Coefficients					
		Chi-square		**Df**	**Sig.**
Step 1	Step	330.302		22	0.000
	Block	330.302		22	0.000
	Model	330.302		22	0.000
C. Hosmer and Lemeshow Test					
Step 1	**Chi-square**		**Df**		**Sig.**
	7.734		8		0.460

Source: SPSS survey output, 2018

The first table under model fitness assessment above provides us with an indication of how well the model is able to predict the correct category (financially included/not included) for each case after predictors are included (Pallant, 2011). The result for the current study indicated that the model correctly classified 97.8 percent of cases overall which is above the cut of value of 0.5.

The Omnibus Tests of Model Coefficients presented above gives us an overall indication of how well the model performs as compared to a model with none of the predictors entered. This is referred to as a 'goodness of fit' test. For this set of results, we want a highly significant value (the Sig. value should be less than .05). In this case, the value is .000. Therefore, the model (with our set of variables used as predictors) is better than SPSS's original guess, which assumed that everyone is included in the usage of the services provided by financial institutions and it is reported as a chi-square value of 330.302 with 22 degrees of freedom (Pallant, 2011).

The other statistical measure is Hosmer and Lemeshow measure of overall fit. This statistical test measures the correspondence of the actual and predicted values of the dependent variable. In this case better model fit is indicated by a smaller difference in the observed and predicted classification (Hair et al., 2010). So, the results shown in the table headed Hosmer and Lemeshow Test above also support our model as being worthwhile but it is interpreted very differently from the omnibus test discussed above. For the Hosmer-Lemeshow Goodness of Fit Test poor fit is indicated by a significance value less than .05 indicating the existence of significant

difference between the observed and predicted value, so to support our model we actually want a value greater than .05 (showing the absence of significant difference between the observed and predicted value). In our study, the chi-square value for the Hosmer-Lemeshow Test is 7.734 with a significance level of .460. This value is greater than .05, therefore indicating support for the model (Pallant, 2011; Hair et al., 2010; and Tabachnick and Fidell, 2007).

The table below headed **Model Summary** gives us another piece of information about the usefulness of the model. The **Cox & Snell R Square** and the **Nagelkerke R Square** values provide an indication of the amount of variation in the dependent variable explained by the model / independent variables. These are described as pseudo R square statistics, rather than the true R square values that you will see provided in the multiple regression output. In this example, the two values are .517 and .887, suggesting that between 51.7 percent and 88.7 per cent of the variability is explained by this set of variables (Pallant, 2011).

Table 3: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	66.789[a]	0.517	0.887
a. Estimation terminated at iteration number 10 because parameter estimates changed by less than .001.			

Source: SPSS survey output, 2018

Table 4: Binary Logistic Regression Estimation Result

Variables	B	S.E.	Wald	df	Sig.	Exp(B)
Sex	0.602	1.120	0.289	1	0.591	1.826
level of education			6.400	4	0.171	
level of education(1)	-0.143	1.609	0.008	1	0.929	0.867
level of education(2)	0.012	1.579	0.000	1	0.994	1.012
level of education(3)	3.178	2.032	2.445	1	0.118	4.994
level of education(4)	1.616	2.190	0.545	1	0.460	5.035
Occupation			11.695	5	0.039	
occupation(1)	0.886	2.429	0.133	1	0.715	2.426
occupation(2)	0.859	1.301	0.436	1	0.509	2.361
occupation(3)	-5.590	2.942	3.611	1	0.057	0.004
occupation(4)	-3.546	2.997	1.400	1	0.237	0.029
occupation(5)	-8.833	3.145	7.889	1	0.005	0.000
Residence	-7.489	2.887	6.729	1	0.009	0.001
family size	-0.096	0.289	0.110	1	0.741	0.909
Financial Literacy	4.225	1.561	7.324	1	0.007	0.015
Documentation	5.138	1.303	15.553	1	0.000	8.443
Trust	4.989	1.137	19.268	1	0.000	7.759
Awareness	3.344	1.174	8.108	1	0.004	6.327
Infrastructure	1.307	0.942	1.927	1	0.165	3.697
Accessibility	2.372	1.064	4.967	1	0.026	10.723
Availability	5.262	1.457	13.046	1	0.000	8.771
Deposit Rate	-2.221	1.189	3.487	1	0.062	0.108
Log of average income	6.278	1.530	16.835	1	0.000	9.867
Log of age	1.929	3.873	0.248	1	0.618	6.880
Constant	-23.750	8.898	7.124	1	0.008	0.000

Source: SPSS survey output, 2018

6. Discussion of Findings

As indicated in the above table the full model containing all predictors was statistically significant, χ2 (22, N = 454) = 330.302, $p < .001$, indicating that the model was able to distinguish between respondents who are financially included and excluded. The model as a whole explained between 51.7% (Cox and Snell R square) and 88.7% (Nagelkerke R squared) of the variance in financial usage (being included) status, and correctly classified 97.8% of cases. As shown above only eight of the independent variables made a unique statistically significant contribution to the model (income, residence, financial literacy, documentation, trust, awareness, accessibility and availability). Accordingly, the contribution of each significant explanatory variable is discussed below by supporting with empirical evidence. The *B* value which indicates the direction of relationship and the Exp(B) value indicating the odds ratio / likelihood of being included in the usage of financial service/ as well as the *P* value showing the level of significant for each independent variable were used for discussion purpose.

6.1   Residence

As presented above, the result related to residence indicated that it had negative significant impact on financial inclusion with   p value of 0.009 and odds ratio of 0.001 which implies that those who are living in urban areas had 0.001 times less likely to be financially included as compared to rural people. This may be due to the fact the accessibility of microfinance institutions and SACCOS to the rural people are more than the accessibility of banks for the urban residents. In short, the result implies that the alternate hypothesis H6 is accepted.

6.2   Financial literacy

The direct binary logistic regression result related to the impact of financial literacy on financial inclusion revealed that it had positive significant impact on financial inclusion with p value of 0.007 and an odds ratio of 0.015. The implication   is that the odds of being financial included are 0.015 times more when respondents are financially literate   than when they are illiterate or it can be interpreted that those who are financially literate had 0.015 times more likely to be financially included as compared to those who are financially illiterate. In other words the result implies that the alternate hypothesis H8 is accepted. In line with this finding, a study conducted by Joshif (2011) revealed that lack of financial literacy is the factor responsible for low level of financial inclusion. Similarly, Evans and Adeove (2016) on their study to investigate the determinants of financial inclusion in Africa also conclude that literacy rate especially financial literacy has significant positive effect on financial inclusion. Thus, the result from the current study as well as the empirical evidence implies that the better one has financially educated, the higher will be the probability of being included in the financial system.

6.3   Documentation

The other variable included in the model is documentation and the output with regard to this variable shows that it had positive significant impact on financial inclusion status with p value of 0.000 and an odds ratio of 8.443. This result implies that when the documentation requirement is simple respondents had 8.443 times more likely to become financially included or it is interpreted as the odds of being financial included is 8.4443 times greater when documentation requirement is simple than when documentation requirement is difficult. On the other hand it also implies that when the documentation requirement is so difficult or bulky respondents had 8.443 times less likely to be financially included which implies that the alternate hypothesis H9 is accepted. In line with the current finding Das (2015) in his study on factors affecting financial inclusion found that many and not easy to provide documentation requirements and structural procedural formalities are among the main obstacles for financial inclusion. Similarly, Baza & Rao (2017) on their empirical evidence prove that the main factor that contributes to financial exclusion is too many documentation requirements.

6.4   Trust

Trust had also positive significant impact on financial inclusion with p value of 0.000 and an odds ratio of 7.8.   The interpretation is that the odds of being financial included are 7.8 times greater when respondents have the confidence or trust on financial institutions than when they don't have trust or similarly it can be interpreted that those who had trust on financial institutions had 7.8 times more likely to become financially included as compared to their counter parts implying that the alternate hypothesis H10 is accepted. With regard to the impact of trust on financial inclusion, other previous works also found similar result. For example, Akudugu (2013) on his study found that lack of trust for formal financial institutions are the significant determinants of financial inclusion in Ghana. Das (2015) on his study also prove that one of the Key influencers of demand and willingness to utilize financial services is establishing trust with financial institution or in other words it implies that financial institutions must gain the trust and goodwill of the poor through developing strong linkages with the community in order to enhance financial inclusion (Tamilarasu, 2014).

6.5   Awareness

The result related to the impact of awareness on the respondents status towards financial inclusion revealed that it had positive significant impact with p value of 0.004 and an odds ratio of 6.32 which implies that those who have the awareness about the services provided by different financial institutions had 6.32 times more likely to become financially included or to become the user of the service which implies that the alternate hypothesis H11 is accepted. Similarly, Tuesta et al. (2015) on their research finding also proves that the level of awareness is an important variable that determine financial inclusion. Further, Kumar and Mishra (2015)

investigated that lack of awareness is one of the major determinants of financial inclusion that need to be looked into with much more prudence and emphasis. Lack of awareness also leads to underuse of financial interfaces and financial services. People should be made aware of the available facilities and its related advantages to make use of the services provided by the financial system for their betterment and also for the nation's betterment. The findings of both these empirical evidences imply that awareness has positive significant impact on financial inclusion or in other words the more peoples are aware about the different services provided by financial institutions, the more becomes their usage practice.

6.6 Accessibility

Accessibility as one of the predictor variable in the model had positive significant impact on financial inclusion with p value of 0.026 and an odds ratio of 10.72. This implies that those respondents who are near to financial institutions had 10.72 times more likely to use financial services as compared to those who are far from financial institutions. Or it implies that the more the accessibility of financial institutions, the better becomes the respondents' financial service usage practice which leads to the acceptance of the alternate hypothesis H13. Similarly, in line with current finding, Akudugu (2013) on his study also found that distance to financial institutions is the significant determinant of financial inclusion. His finding implies that most people's living far from financial institutions are financially excluded. In addition, Baza & Rao (2017) on their study in Ethiopia also prove that problem of access to bank branches and ATMs is an important obstacle to use financial services. Finally, according to Kumar & Mishra (*2015),* accessibility is the most influential factor of the demand for financial inclusion, so they recommend that financial services must be more accessible to those who are financially excluded.

6.7 Availability

The impact of availability of different financial services as per the need of the consumers is also included in the model and the result revealed that it had positive significant impact on respondents financial inclusion status with p value of 0.000 and an odds ratio of 8.8 which implies that when financial institutions deliver financial services as per the need of the consumer, respondent will have 8.8 times more likely to become financially included. Therefore, the alternate hypothesis H14 is accepted. In line with the current finding, Shem, Misati and Njoroge (2010) in Ghana stated that households' access to financial services is based on availability of services.   Das (2015) on his study to identify factors affecting financial inclusion revealed that availability of informal and alternate channels (together with their cost and convenience) is a factor responsible for financial inclusion/ exclusion. Their findings imply that when financial institutions are ready to provide different services as per the need of the consumer, their probability to become a user of financial service becomes increased.

6.8   Income

The last explanatory variable in the model is average monthly income and the logistic regression output result with regard to this predictor indicated that it had positive significant impact on financial inclusion with p value of 0.000 and beta value of 6.3. Income is a continuous variable, so its result is interpreted differently as compared to dummy variables coded as 0 and 1. In this case beta values are used instead of odds ratio (Pallant, 2011). Accordingly, the result for the impact of income on financial inclusion implies that as income increases by 1 unit the respondents financial usage behavior will be increased by 6.3 times or on the other hand the higher the level of income the higher will be their financial service usage practice. Or similar to the way other variables are interpreted, it is interpreted as those respondents who are in a higher income category had 9.8 times more likely to be financially included. So, this finding implies that the alternate hypothesis H4 is accepted. Different empirical evidences also prove that income had significant positive impact on financial inclusion, for example, Clamara et al. (2014), Tuesta et al. (2015) and Joshif (2011) on their previous work found that having low level income reduce the likelihood of being included in formal financial system. Kumar and Mishra (2015) on their study also prove that lower level of income among individuals is the major determinant factor responsible for low level of financial inclusion especially in developing countries (Hoyo, Peña and Tuesta, 2014).   In addition their findings imply that poor income level reduces the likelihood of being financially included while high income level increases the chances of being financially included.

Table 5: Summary of Hypotheses Test Results Using Binary Logistic Regression

Research Hypotheses	Hypotheses Code	Result/Decision
Educational level of the individual has significant effect on financial inclusion.	**H1**	Not accepted
Gender has significant effect on financial inclusion.	**H2**	Not accepted
Age has significant effect on financial inclusion.	**H3**	Not accepted
Income has significant effect on financial inclusion.	**H4**	Accepted
Occupation has significant effect on financial inclusion	**H5**	Not accepted
Residence has significant effect on financial inclusion.	**H6**	Accepted
Family size has significant effect on financial inclusion	**H7**	Not accepted
Financial literacy has significant effect on financial inclusion.	**H8**	Accepted
Documentation requirement of financial institutions has significant effect on financial inclusion.	**H9**	Accepted
Trust on financial institutions has significant effect on financial inclusion.	**H10**	Accepted
Awareness has significant effect on financial inclusion.	**H11**	Accepted
Availability of the required physical and telecommunication infrastructure has significant effect on financial inclusion.	**H12**	Not accepted
Accessibility of financial institutions has significant effect on financial inclusion.	**H13**	Accepted
Availability of the required financial service has significant effect on financial inclusion.	**H14**	Accepted
Deposit interest rate of financial institutions has significant effect on financial inclusion.	**H15**	Not accepted

7. Conclusion and Recommendation

The main objective of this study is to identify the factors that affect financial inclusion or the usage of financial services among the peoples in East Gojjam. Therefore; based on the findings from binary logistic regression result, it is possible

to conclude that among the independent variables included in the model, income, residence, financial literacy, documentation, trust, awareness, accessibility and availability have significant impact on financial inclusion. However, documentation, trust, awareness and availability are the major ones. On the other hand sex, age, education, occupation, family size, infrastructure and deposit rate have no significant impact on financial inclusion. The findings of this study have important practical implications for financial institutions as well as for the government. Therefore, in order to make the people fully and effectively financially included, all financial institutions should aggressively create continuous awareness to the people by using different media, financial institutions should be more accessible to all peoples especially to rural people and thereby they have to increase their level of outreach, financial education should be delivered starting from primary school. In addition, different workshops should be organized to deliver financial education to different segments of the people especially to those who are financially excluded.

7.1   Limitations and Directions for Future Research

It is impossible to make a single study comprehensive by incorporating all dimensions, so like previous research's, the current study has also its own limitations. Accordingly, the major limitations include the usage of binary logistic regression than developing financial inclusion index to measure the dependent variable (financial inclusion) and the usage of only primary data for data analysis and interpretation. Therefore, we recommend future researchers to consider the limitations of this research as a gap / opportunity/ while doing similar researches.

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