Determinants of Rural Women Access to Credit in Cheha District, Gurage Zone, Southern Ethiopia

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Abstract
Access of credit for rural women can play a significant role, especially in rural development activities. This study conducted with the aim of analyzing factors that affect access to credit of rural women in cheha woreda. Primary data collected through structured questionnaire from 100 sample women of chukara and Gasore kebeles selected randomly. The different sources of credit (formal & informal credit source) from which the women use credit to each source. Regarding the result from descriptive statistics showed that, women using the informal credit institution are greater than formal credit institution. The estimation results of the logit model show that marital status, family size, extension advise, distance to nearest credit institution are the important and significant factors that enhance access to credit. In general as these research indicates most samples rural women are on the problem of low land holding size, high family size, inadequate extension advise service and their livelihood is not sufficient for their family so they are on great demand of credit with more amounts in order to enhance their livelihood. Finally I recommended that women use their time and resources wisely and effectively and they may be choose savings than credit and governments give the advise for the women use their time and resource wisely and effectively. Appreciate women who participate in saving than credit.

Keywords: Credit Source, Logistic Regression Model.
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1. Introduction
Women’s access to credit had shown faster improvement than access to other economical resources, due to the intensive work done by various organizations and government in establishing special credit schemes and programmes targeted to women (UN, 2007). However, women’s access to formal credit sources such as bank loans remains extremely low compared to men’s due to lack of regular income, inability to guarantee the loans and limited access to information.

We motivated to identify socio economic, demographic, institutional communicional factors that affect the rural woman access to credit. While community-based organizations (CBOs and NGOs) are doing valuable work in improved women’s access to credit, the economic development was not sustained unless governments take actions to ensure women’s access to credit in the formal sector. Women’s access to credit correlates to their feeling of security and the amount of long-terms investments. If women were not able to buy technology to improve productivity and not able use the credit they remain poor.

Various organizations report relatively satisfactory results with credit schemes for women that result in tangible improvement of women’s quality of life as well as very high payback rates. But according to the general global trend, women were less likely to take bank loans than men throughout the pilot countries (Fletschner, 2009).

The institutional mechanisms to support women’s in various social, political and economic issues, including access to credit and other economic resources are not given to the women equally as men. Efforts made to put supportive institutional mechanisms in our country for women were very weak.

Currently the government was trying to curb this situation in all dimensions to improve the lives of women. Provision of credit to women in different forms, like providing money, livestock, farm land and inputs like, fertilizer, seeds and etc. was one of the efforts undergoing throughout the country in general and study area in particular. However, there was information gap on the status of women in accessing and utilizing credit services in study area. The findings of test reveal that Ethiopia still have a great deal to do in the field of budgeting and allocation of adequate resources to support women’s access to credit.

The institutional mechanisms had no advocate gender equality and women inheritance about access of credit at all levels. So the government and different institutions work together to avoid gender inequality about access of credit in rural area that emerge when financial institutions in the area consider women inactive and less experienced, or when institutions lack the knowledge to offer products tailored to women’s preferences (Fletcher, 2009).

The extent to which institutions reach out to women and the conditions under which they did vary noticeably, so women are at a disadvantage when an institution did not fund the type of activities typically run by women. Evidence in region show that in the past years credit institutions failed to reach the poor, when women compared with men, women tend to have limited control over resources accepted as collateral and less access to information. On this background the research was designed to assess the rural women’s source of credit, to analyses the role of credit in identify factors affecting rural women access to credit services in Chehaworeda.
1.2. Objectives Of The Study

1.2.1. General  objectives
The general objective of this study analysed the determinants of women access to credit in the study area.

1.2.2. The specific objectives
- To identify the sources of credit to cheha woredawomen
- To identify the factors affecting women access to credit service

2. Research Methods

2.1. Description Of The Study Area
ChehaWoredawas one of the woreda in Guragazone of (SNNPRS) in southern Ethiopia. It had common
boundaries with abeshge Woreda at north, Ezha and Gumer Wereda at south, ezha and Gumer Woreda at east and
yemspecialWereda and Oromiya region at west. It located 180 km, south west of Addis Ababa and 22 km south
west of Wolkite town. Population of the area male 67509 and female 70156, which total is 137665, from this rural
population male 62079 and female 64865 which total is 12944.

Economic activity of the area was concerned with agricultural activity, the main animal are 110280, equine
2427, goats and sheep 12672, then total animal population is 125379. Topograph of the area, attitude of this woreda
range from 1710-2800 Mater above sea level. From the total area of woreda distribution of land use in hectare
cultivated land 25792 (13106 annual crop and 12686 perennial crop), grazing land 1465, forest land 5877,
miscellaneous land 5163, potential cull tilted land 3171 and uncultivable land (degraded land) 2504 hectare, which
total land of woreda in hectare was 43972.

The main crops of the woredawere divided in two categories: one was perennial crop (ensset, coffee, mango
etc.) and other annual crop (teff, wheat, maize, etc.) Agro climate of the woredaisdega 20% and wenedega 80%. The

2.2. Types Of Data And Data Collection Method
Both primary and secondary sources used. The primary data collected by directly interviewing the sampled
rural women. Secondary data obtained from published and unpublished available sources. Qualitative data
collected through focused group discussions, key informants interview (some local formal and informal leaders),
and personal observations. To collect quantitative data, this study used semi-structured interview schedules.

2.3. Sampling Technique And Sampling Size
According to the basic principle, the availability of prior information about the target population in the study area
and the overall objective of a given study determine the decision of choosing a specific sampling technique. For
the achievement of the objective of this research, sampling techniques used to cheha woreda purposively. A
stratified sampling procedure used to select sample households. At the first stage, two kebeles cukuara, Gasore
randomly selected from 41 kebeles using purposively.

From these two kebeles, a total of households randomly selected using the probability proportion to size. From
the total sample households, 54 and 46 are users of credit and non-users of credit respectively using every
household in the selected kebeles given equal chance of being selected. Simple random sampling techniques used
to collect the necessary information from the households. The random sampling was used as an appropriate
technique because it avoid bias of representative and all people in the population had an equal chance of being
selected. The solving formula with 90 percent confidence level used to determine sample respondant.

Solving formula: \( n = \frac{N}{1 + N \times E^2} \) where \( n = \text{sample size}, N = \text{total number of households}, E = \text{margin of error} \)

Number of household
- Gasore kebele = 1230
- Chukara kebele = 1030

Total households = 2260

\( n = \frac{1230 + 1030}{1 + 2260 	imes (0.1)^2} = 100 \)

The above formula shows that the actual sample size for this study is 100. Proportional sample size based on household
was essential to determine the number of respondents from two kebeles.

- \( \frac{2260}{100} \)
- \( \frac{1230}{100} \times 1230 \)
- \( \frac{2260}{54} \)
- \( \frac{2260}{100} \)
2.4. Methods Of Data Analysis

2.4.1. Descriptive analysis

Descriptive statistics is, one of the techniques used to summarize the data collected from a Sample representing a given population. By applying descriptive statistics such as percentage, frequency and others, one can compare and contrast different categories of Sample units (in this case women households) with respect to the desired characters so as to draw some important implications about the source of credit for the rural women in the area.

2.4.2. Econometric models

Regression which involves yes or no is a dummy dependent variable regression model. Which are applicable in a wide variety of fields and are used extensively in survey or census-type of data (Gujarati, 1995). The dependent variable in this study was dummy variable, which assumes a value of zero or one depending on whether or not the borrowers are default. When one or more of the explanatory variables in a regression model are binary, we can represent them as dummy variables and proceed to analysis. The loan repayment performance is a dependent variable, which is dichotomous taking on two values, one if the borrower is a non-defaulter and zero otherwise. Estimation of this type of relationship requires the use of qualitative response models.

In this regard, the non-linear probability models, Logit and Probit are the possible alternatives. The ordinary least square regression, when the dependent variable is binary, produces parameter estimates that are inefficient. Consequently, hypothesis testing and construction of confidence interval become inaccurate and misleading. To alleviate these problems and produce relevant empirical outcomes, the most widely used qualitative response models are the Logit models credit access is a dependent variable, while different socio-economic and lender related factors considered as independent variables. In this case the value of this dependent variable is 0 and 1, which stands for 1 if the borrower is user and 0 if the borrower is non-user. Therefore, credit access treated as dichotomous dependent variable. credit access is, therefore, a non continuous dependent variable that does not satisfy the key assumptions in the linear regression analysis. When the dependent variable to be modeled is limited in its range, using ordinary least squares (OLS) may result in biased and inconsistent.

2.4.3. Specification of the logit model

This study was intend to analyze which and how much the hypothesize repressor can relate to the loan repayment performance of urban women. As already noted, the dependent variable is a dummy variable, which will took a value zero or one depending on whether or not the borrower defaulted. However, the independent variables were of both types, that is, continuous or categorical.

Probit and logit models are similar and yield essentially identical results. Aldrich and Nelson (1984) indicated that in practice these models yield estimated choice probabilities that differ by less than 0.02 and which can be distinguished, in the sense of statistical significance, only with very large samples. The choice between them therefore, revolves around practical concerns such as the availability and flexibility of computer programs, personal preference, experience and other facilities.

The logit models is commonly used in studies involving qualitative choices. The probit probability model is associated with the cumulative normal probability function, whereas, the logit model assumes cumulative logistic probability distribution. The advantage of these models over the Linear Probability Model is that the probabilities are bound between 0 and 1. Moreover, they fit best the non-linear relationship between the probabilities of the dependent variable and the explanatory variables, that is one which approaches zero at slower and slower rates as Xi gets larger and larger. Gujarati (1988), Feder et al., (1985), Aldrich and Nelson (1984) and Maddala (1981) have recommended probit model for functional forms with limited dependent variables that are continuous between 0 and 1, and logit models for discrete dependent variables. Hence, the logistic model is selected for this study. Therefore, the cumulative logistic probability model is econometrically specified as follows:

To identifying factor affecting access to credit service at the individual household level, Binary logit model used. This method chosen because it was a standard method of analysis when the outcome variable was dichotomous (Hosmer and Lemeshow, 2000), measured as had a value of 1 or 0, where 1 = participant on credit and 0 = non participant on credit. Generally, the Binary logit model written as: Therefore, the cumulative logistic probability model is econometrically specified as follows: Pi=F (zi) =F (αi+∑βixi ) = 11+e−z

Where, P i is the probability that an individual will participate in formal credit or does not participate given X i; e denotes the base of natural logarithms, which was approximately equal to 2.718; X i represents the i th explanatory variables; and αi and βi are parameters to be estimated Logit model written in terms of the odds and log of odds, which enables one to understand the interpretation of the coefficients. The coefficient of the logit model therefore represents the change in the log of the odds associated with a change in the explanatory variables.
The odds ratio implies the ratio of the probability (P_i) that an individual choose an alternative to the probability (1-P_i) that he/she not choose it.

\[ 1 - p_i = \frac{1}{1 + e^{zi}} \]  

\[ p_i = \frac{1}{1 + e^{-zi}} \]  

Or Therefore, to get linearity, we take the natural logarithms of odds ratio equation (4), which results in the logit.

\[ \frac{p_i}{1 - p_i} = e^{(\alpha + \sum \beta_i x_i)} \]  

\[ zi = \ln(p_i/1-p_i) = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \ldots + \beta_m x_m \]  

If the disturbance term (ui) is taken into account, the logit model becomes

\[ Z_i = \alpha + \sum \beta_i x_i + ui \]  

2.5. Hypothesis

Dependant variable

A woman in cheha woreda either participant on credit or not participant on credit so this study approached the dependant variable in “user” or “nonuser” responses which was dummy variable. Credit participation was defined in this study as participation of credit comprizing all those credit activities. Woman participation in credit the dependant variable for logit model.

Independent variable

Marital status: this variable was a dummy variable which take a value of “1” if the respondent women is married and “0” single. This independent variable hypothesize to affect access to credit positively assumed that married women can handle and manage there overall livelihood (social duties and farm activities) better than households who income. Therefore, married women households can get access of credit repay than single households.

Age of the household head: It was defined as the period from the respondent’s birth to the time of the interview measured in years. It was a continuous variable. Those farmers having a higher age due to life experience had much better association with cooperatives and other formal credit institutions, and it will be hypothesized that older farmers with higher age may have more access to use credit from the formal sources and increase its income (Samuel, 2010).

Education of the woman household head (heduc): This variable was measured using formal schooling of the household head and hypothesized to affect access to credit positively. It had taken dummy values 1 if the woman household attended any formal education of any level and 0 otherwise. Education increases woman’s ability to get and use information. Educated women may had the ability to analyze costs and benefits and thereby improve their livelihood. According to Samuel (2010) those women who have better level of schooling has high chance of being participant. It was hypothesized that educated women had more access to credit compared to others.

Family size: It was the number of people in the household. The larger the family members, the more labor force available for the production purpose. Based on this, families with sufficient labor force were expected to participate in credit program and increase household income. On the other hand, large family size may imply self-insufficiency in terms of food consumption because large households consume more than do small households. Households who had more number of family members were less likely to participate in the project than households with less family members (Samuel, 2010). Therefore, the effect of family size on credit access and increasing income may be indeterminate a priori.

Distance from source of credit institution: It was a continuous variable and measured in kilometer which producers walk or travel to reach the nearest district Micro finance institution. The closer the household was located to the micro finance institution, the lesser would be the transportation cost, loss due to spoilage, better access to market information, and less time spent. Therefore, distance was hypothesized to affect smallholder farmers’ participation in credit finance negatively.

Total land size in hectare (landsiz): This was a continuous variable referring the total land owned by households in hectare. It consists of the sum of owned cultivated land, rented-in land and land secured through sharecropping arrangements) by the household. On the other hand, households owning large farms had a lower probability of attaining credit from formal financial institutions. This variable was hypothesized that, the farmer who had larger size of land can utilize more capital and access for credit and therefore he/she more participate in the formal sources.

Access to extension service: this is a categorical variable. It also positively affect credit because extension services give awareness about advantage of rural credit to women, as result, they are interested to take credit.
table 3.1: factor affecting of credit access

| no | Factors (Determinants) | Variable Type | Impact on credit access |
|----|------------------------|---------------|-------------------------|
| 1  | Marital Status         | Continous     | +                       |
| 2  | Age Of House Hold(Women) | Continous     | +                       |
| 3  | Education Status Of House Hold | Continous     | +                       |
| 4  | Family Size            | Continous     | +                       |
| 5  | Total Land Size(In Hectar) | Continous     | +                       |
| 6  | Extension Service      | Continous     | -                       |
| 7  | Distance From Tcredit Institution(Inkillo Meter) | Continous     |                         |

3. Result And Discussion
In this part the result of the study are discussed including econometric analysis and statistical data analysis.and presented. The result of the study presented by using descriptive and inferencial statistical analysis.

3.1. Demographic Character The Respondant

3.1.1 Marital status

Table 4.1: Marital status of the respondent

| Marital status | Status of taking credit | Number of user | Percent (%) | Number of non user | Percent (%) |
|----------------|-------------------------|----------------|-------------|--------------------|-------------|
| Married        |                         | 16             | 32.00       | 39                 | 78.00       |
| Single         |                         | 34             | 68.00       | 11                 | 22.00       |
| Total          |                         | 50             | 100.00      | 50                 | 100.00      |

Source: survey 2019

As mentioned the above table among the total number of sample respondents, from the users of credit 32% are married, 68% are single. on the other hand from non users of credit service 78% are married and 22% are single.

3.1.2 Educational status

Table 4.2: educational status of respondent

| Educational status | Status of using credit | Number of user | Percent (%) | Number of non user | Percent (%) |
|--------------------|------------------------|----------------|-------------|--------------------|-------------|
| Litrate            |                         | 28             | 56.00       | 24                 | 48.00       |
| Illiterate         |                         | 22             | 44.00       | 26                 | 52.00       |
| Total              |                         | 50             | 100.00      | 50                 | 100.00      |

Source: survey result 2019

As indicated in the table above, education level of rural women affects the access of credit which means as the women are learned they have more awareness to take credit and they are confidential to take and use it. In other words, women who are not learned fear to take credit because of lack of awareness. Out of the total respondents who use credit and illiterate are 44%, who use credit and literate are 56%. From out of respondents who does not use credit and who are illiterate are 52% and who does not use credit and who are literate are 48%. Since education helps to acquire skills and knowledge.

3.1.3 Extension Service

Table 4.3: extension service of the respondent

| Extension advise | Status of using credit | Number of user | Percent (%) | Number of non user | Percent (%) |
|------------------|------------------------|----------------|-------------|--------------------|-------------|
| Yes              |                         | 28             | 56.00       | 8                  | 16.00       |
| No               |                         | 22             | 44.00       | 42                 | 84.00       |
| Total            |                         | 50             | 100.00      | 50                 | 100.00      |

Source: survey result 2019

According to the above table, from 50 credit users, 56% can get access of extension contact and the rest 44% have not get access of extension contact. Whereas from 50 credit non users 16% only get access of extension contact and 84% does not get access of extension contact as a result they cannot get credit.
3.1.4 Summary of continuous variables by descriptive statistics

Table 4.4: Summary of descriptive statistics in continuous variables

| Variable            | Obs | Mean   | Std.dev  | Min  | Max  |
|---------------------|-----|--------|----------|------|------|
| Age                 | 100 | 40.11  | 18.41601 | 25   | 95   |
| Family size         | 100 | 3.16   | 1.502321 | 1    | 6    |
| Distance            | 100 | 7.03   | 8.196396 | 1    | 29   |
| Farm(land) size     | 100 | 3.3    | 1.593864 | 1    | 8    |

Source: survey result 2019

In the above table we have summarized the descriptive statistical analysis of continuous variables used in this survey. Mean, Standard deviation, minimum, and maximum of the four continuous variables i.e. age, family size, farm size, and distance. The mean age of the access to credit is estimated from the stata table and shows that most of the women are in the average years of 40 and women in this age of the total women shows that most of the rural women are at the productive stage to credit access. Mean size of family size is 3, just this shows that family size with 40 years old has at least 1 and at most 6 family members respectively. On other side they can get credit access. Mean distance shows most of the rural women has not easy access to credit.

3.1.5 Major source of credit

Table 4.5: Source of credit for respondent

| major source of credit | status of taking credit(%) |
|------------------------|----------------------------|
|                        | number | percent(%) |
| formal institution     | 19     | 38.00      |
| informal institution   | 31     | 62.00      |
| Total                  | 50     | 100.00     |

Source: survey result 2019

There are different sources of credit for rural women. The table above shows that the source of credit to rural women who use credit are get 62% from informal institutions and 38% from formal institutions. From this there are different types commercial bank, development bank, nib bank, construction and business bank, OMO micro finance institution. Women also get credit from informal credit sources for instance from money lenders, money traders, friends and relatives, neighbors, etc.

3.2 Econometrics model of logistic regression result

Table 4.6: the logistic regression of factor affecting rural woman access to credit service

| Variable          | coef  | Std.err  | p>z    | dy/dx   | Std. Err  | p>z    |
|-------------------|-------|----------|--------|---------|-----------|--------|
| Age               | .0146871 | .0184928 | 0.47  | .0036692 | .00462    | 0.427  |
| Marital status    | -.1.510493 | .7498259 | .044** | -.353936 | .15449    | 0.022  |
| Education         | .4162734  | .6906067 | 0.547 | .1035069 | .17054    | 0.544  |
| Family size       | -.9961788 | .2938352 | 0.001* | -.248868 | .07325    | 0.001  |
| Extension service | 2.236867  | .8265467 | 0.007* | .50108   | .14564    | 0.001  |
| Distance from credit institution | .0755553 | .043802  | 0.085*** | .188754 | .01093    | 0.084  |
| Farm(land) size   | -.7122652 | .2732326 | 0.009* | -.1779398 | .06824    | 0.09   |
| cons              | 4.40576   | 1.488581 | 0.003                                         |

***,**,* Represent level of significance at 1%, 5% and 10%, respectively

Logistic regression Number of obs  = 100, LR chi2(7)  = 72.69,
Prob > chi2  = 0.0000, Log likelihood = -32.970239 Pseudo R2  = 0.5243

3.2.1 Discussion on significant variable

Marital status: influenced negatively the marital status of rural woman in credit access service. The effect was significant at 35 percent. Other things remain equal; result from the marginal effects reveals that the decrease the number of women participate in credit access. But the number of men participate in credit access is increase. The possible reasons are as men become more likely access to credit service compared with women because they affect social norms, cultural norms, far apart from credit institutions.

Family size: other things remain constant when the size of family increase by one member the probability of woman user in credit access decrease by 24.88 percent as the marginal effect shows. This study result disagrees with the finding of (Samuel, 2010). Households who have more number of family members are less likely to participate in the project than households with less family members, the larger the family members, the more labor force available for the production purpose. Based on this, family with sufficient labor force are expected to have more access to credit.
participate in credit program and increase household income. On the other hand, large family size may imply self-insufficiency in terms of food consumption because large households consume more than do small households.

Extension service: The marginal effect analysis shows extension advice positively affects rural women access to credit as the effect was significant at 1 percent. Women which get extension advice are expected to have more information that influences farm household’s demand for credit access from the microfinance institution. Therefore, this variable positively influences women’s use of credit access.

Distance to nearest credit institution: This is an expected variable which were hypothesized to affect rural women’s use of credit access negatively. As the marginal effects analysis shows other things remain constant, distance from credit institution is increased by 1 kilometer, the probability of rural women use credit access rises by 18.8 percent as rural women become less users of access to credit. The possible reasons are: rural women users in credit access even if there is users of credit access because of the enforced credit nature of informal credit lending systems. Most of rural women users choose informal lending systems those are local money lenders, friends, and relatives. Because they are attracted by the outcomes of informal credit institution like friendship and mutual assistance among members.

Farm size: This was a continuous variable referring the total land owned by households in hectares. This variable also an expected variable which were hypothesized to affect rural women use of credit access positively. As the marginal effects analysis shows other things remain constant, farm size increased by 1 hectare, the probability of rural women use credit access decreased by 17.79 percent. Thus, rural women become less users of access to credit.

4. Conclusions and Recommendations

4.1 Conclusions.

- The objective of the study were to know rural women’s access to credit in Cheha woreda, to identify major sources of credit and the factors affecting rural access to credit.
- As the descriptive result shows most of women are participated or users of informal credit sources.
- The logistic regression analysis result show that among 7 explanatory variables which were include in the model namely, age, marital status, education status, family size, extension service, distance to nearest to credit institution, farm size, from those variables 5 variables (marital status, family size, extension advise, distance from credit institution, farm size) were stastically significant. Among those significant variables extension advise distance from credit institution and family size affects positively, the rest of other variables affect negatively.

4.2 Recommendations

- Based on the results obtained from descriptive analysis and econometric estimates and also based on personal observation during the study the following recommendations are recommended.
- As the descriptive result shows most of women are participated or users of informal credit sources so government and other stakeholders should have give emphasis for those informal financial institution and they have to interfere and encourage and appreciate informal credit source in terms of giving training how to hold their money and on how to maintain books of accounts. As one of the problem in informal credit source likeiquib, Idir, Local money lender, borrowing from friends and relatives are mostly friendship and their social relation is use as a collateral to be a member so this result in frightening and loss of confidence among members so government should enter to those informal credit source.
- Even if women users of different types of informal credit source some informal financial institution are not going with the interest of households for instance money lenders and borrowers since they are not require collaterals and have high transaction cost they use but their interest rate is very high since they charge interest rate based on their personal relations this may affect badly especially the poor women so government should interfere and have to regulate the interest rate to be charged by money lenders.
- As the logistic regression results shows extension service is one of the variables which have positively effect on women’s users in credit access. In informal credit source that means the presence of formal credit source does not contradict with and can work together with informal credit source institution. If both sectors work together they may get mutual benefit. But marital status have negative effect on women users in credit access, this means that women are married access of credit become decrease because the married women choose income gets from working and save there moneys and use wisely and effectively. Because they affect interest rate and fail of repayment. But we recommended in the future, governments focus rural women’s access to credit giving more advise about credit. Family size also have negative effect on women’s participation of credit source. Distance from nearest to credit source institution have positive effect on women’s participation of credit source.
- We recommended that governments not give attention of distance. It give the attention of how peoples attracted and give informations about credit source effect and purpose, reduce the interest rate of credit. Farm size have negative effect on women’s access to credit. We recommended that women use their farm size wisely and effectively and they may be choose savings than credit and governments give the advise for the
womens use the farm size wisely andeffectively.patronage(apperiate) womens who participate in saving than credit.

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6. APPENDIX (A)

Logistic regression

Number of obs = 100
LR chi2(7) = 72.68
Prob > chi2 = 0.0000
Log likelihood = -32.973645
Pseudo R2 = 0.5243

| ca     | Coef.   | Std. Err. | z    | P>z| [90% Conf. Interval] |
|--------|---------|-----------|------|----|----------------------|
| age    | .0146357| .0185258  | 0.79 | .430| -.0158365 .0451079   |
| marts  | -1.51197| .7496535  | -2.02| .044| -2.74504 -.2788998  |
| edu    | .4163908| .6906982  | 0.60 | .546| -.7191066 1.553088   |
| familysize | -.9966384| .2938279  | -3.39| .001| -1.479942 -.513345   |
| exadvise | 2.23834   | .8265171  | 2.71 | .007| .8788408 3.59784     |
| distance | .075616   | .0438116  | 1.73 | .084| .0035523 1.1476797   |
| farmsize | -.7126376 | .2732782  | -2.61| .009| -1.16214 -.2631349   |
| _cons  | 4.40973  | 1.488586  | 2.96 | .003| 1.961224 6.858236    |

Marginal effects after logit

y = Pr(ca) (predict)
    = .48789799

| variable | dx| Std. Err. | z    | P>z| [90% Conf. Interval] |
|----------|---|-----------|------|----|----------------------|
| age      | .0036568| .00463   | 0.79 | .430| -.005422 .012735    |
| marts*   | -.3540143| .15424  | -2.30| .022| -.656328 -.051701   |
| edu*     | .103789  | .17059   | 0.61 | .543| -.230568 .438146    |
| family~e | -.2490136| .07327  | -3.40| .001| -.392627 -.1054     |
| exadvise*| .5011036 | .14539  | 3.45 | .001| .126138 .786069     |
| distance | .0188929 | .01093  | 1.73 | .084| -.002538 .040324    |
| farmsize | -.178055 | .06826  | -2.61| .009| -.311845 -.044265   |

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