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Impact of Micro-credit on Poverty and Inequality: The Case of the Vietnam Bank for Social Policies

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Abstract

While the provision of subsidized loans through the VBSP forms a cornerstone of Vietnam's anti-poverty policy, little is known on the impact of these preferential loans. In this paper, we use fixed-effect regression to estimate the average effect of the program on income and expenditures of participating households, and subsequently assess the impact of the program on poverty and inequality. Our estimates indicate that the VBSP was quite effective. Participation on average seemed to have increased household income and expenditures by about thirty percent of the value of the loan, and an increase in loan size would have a similar effect. Despite that only one third of loans reaches households who are actually poor, our computations indicate that the program decreased the head count of poverty for its participants by almost four percentage points. Similarly, the program decreased the poverty gap index and the poverty-severity index by almost twenty percent. The impact on Vietnam's inequality was significant but small, which is not surprising because of the yet limited outreach of seven percent of the rural population.

Keyword: Micro-credit, poverty, inequality, impact evaluation, fixed-effect model.

JEL classification: I32; I38; H43; H81

1. Introduction

There is wide consensus that micro-credit is an important tool for smoothing consumption and promoting production, thereby improving household welfare. A large number of empirical studies support this argument (*e.g.*, Khandker, 1998, 2003; Khandker and Faruquee, 2003; Parker and Nagarajan, 2001; Robinson, 2001; Zaman, 2001; and a large number of studies presented in the review paper of Morduch and Haley, 2002). However, programs that provide credit for households are not always effective in improving welfare and reducing poverty. For example, Diagne and Zeller (2001) did not find a statistically significant impact of micro-credit programs on household income in Malawi. Similarly, Coleman (1999) found only negligible effects on household welfare of a micro-credit program in Thailand, and Morduch (1998) showed that most of potential effects of micro-credit from the Grameen bank in Bangladesh were on vulnerability reduction instead of poverty reduction.

Vietnam has set poverty reduction as a major goal of development policy. The poverty rate decreased remarkably from 28.9 percent to 19.5 percent during the period 2002-2004 (VHLSS data). However the poverty rate remains rather high in rural areas, at 25 percent in 2004. The government has maintained an extensive public safety net system to support the poor in all dimensionalities of welfare. One of the most important antipoverty programs is the provision of credit for the poor. In 2003, the Vietnam Bank for Social Policies (VBSP) was established to provide the poor with preferential micro-credit. The poor can borrow from the bank at low interest rates without collateral.

The government has spent a huge amounts of finance in the VBSP program. The total outstanding loan for poor households was VND 13,428 trillion in 2005 (Vietnam Bank for Social Policies, 2005).¹ Little is, however, known on the quantitative impact of the program. Most evaluation reports simply describe the implementation and outputs of the program, and questions on the causal impact of the program remain unanswered so far. Such information would be extremely helpful in determining whether the program should be expanded or terminated.

Thus, the main objective of this paper is to examine to which extent the VBSP program has had an impact on household welfare and whether it has played a significant role in reducing poverty and inequality. To measure program impacts, the paper relies on fixed-effect regression using data Vietnam Household Living Standard Surveys in 2002 and 2004. These regressions not only provide information on the average effect of the program on income and expenditures of participating households, but we also use their results to compute the impact of the program on poverty and inequality.

2. Data Sources

The study relies on data from the two VHLSSs, which were conducted by the General Statistics Office of Vietnam (GSO) with technical support from the World Bank (WB) in the years 2002 and 2004. The 2002 and 2004 VHLSSs covered 30000 and 9000 households, respectively. The samples are representative for the national, rural and urban, and regional levels. The 2002 and 2004 VHLSSs set up a panel of 4000 households, which are representative for the whole country, and for the urban and rural population.

¹ 1 USD \approx 15000 thousands VND in January 2005.

For the present study, we will use only data on the rural population only. Poverty in Vietnam is mostly a rural phenomenon, with 95 percent of all poor living in rural areas in 2004, and the VBSP targets its activities mainly to rural areas. The number of households in the rural panel for 2002-2004 is 2776.

The surveys collected information through household and community level questionnaires. Information on households includes basic demography, employment and labor force participation, education, health, income, expenditure, housing, fixed assets and durable goods, participation of households in poverty alleviation programs, and especially information on loans that households had obtained or still owned during the 12 months before the interview. Unfortunately, the latter information was only available for the 2004 survey.

Data on expenditure and income were collected using very detailed questionnaires. Information on small and detailed expenditure and income categories was collected and then aggregated into expenditure and income per capita. Food expenditure includes purchased food and foodstuff and self-produced products of households. Non-food expenditure comprises expenditure on education, healthcare expenditure, expenditure on houses and commodities, and expenditure on power, water supply and garbage. Household income can come from any source. Total income includes income from agricultural and non-agricultural production, salary, wage, pension, scholarship, income from loan interest and house rental, remittance and subsidies. Income from agricultural production comprises crop income, livestock income, aquaculture income, and income from other agriculture-related activities.

Information on commune characteristics was collected from 2960 and 2181 communes in the 2002 and 2004 surveys, respectively. Data on commune characteristics consists of demography and general situation of communes, general economic conditions and aid programs, non-farm employment, agriculture production, local infrastructure and transportation, education, health, and social affairs. Commune data can be linked with household data to assess relationship between characteristics of households and characteristics of communes in which the households are located. In 2004, commune data were collected in rural areas only.

3. The VBSP Program

The VBSP was established in 2003 as an independent public institute for the provision of government lending to the poor and other vulnerable groups. The creation of the VBSP meant a consolidation of government-lending for the poor, and since 2003 outreach and has increased continuously (VBSP, 2005).

The VBSP program is designed as a group-based lending scheme. The argument for the group-based design is that monitoring between credit members would lead to high repayment rates (e.g., Coleman, 1999). This strategy seems to have been successful, as default rates are less than 2 percent (VBSP, 2005). A credit group includes from 5 to 50 members who are located in the same village. There are several criteria that a household should meet to become a member of a credit group: (i) The household has a long-term residence permit at the locality in which the credit-borrowing group is

located; (ii) The household has someone who is able to work; (ii) The household is classified as the poor by local authority;² (iv) The household has demand for credit.³

To apply for credit, a household first sends a formatted letter to their credit group. The credit group will arrange a meeting of all members to consider the relevance of the borrowing. They will determine which household can borrow, and credit amount for corresponding households. The list of credit-borrowing households will be prepared by the credit group and sent to the People Committee in that commune. Once the list is justified by the People Committee, it will be sent to a VBSP branch for loan provision. Basically, the VBSP agrees with the list sent by the People Committee. Households can receive loans at a VBSP branch in their locality or the VBSP staffs bring the loans for households.

To examine whether the program reached well-defined poor households, we classified households as poor if their per capita expenditure is below the poverty line set up by WB and GSO. The poverty line is equivalent to the expenditure level that allow for nutritional needs and some essential non-food consumption such as clothing and housing.⁴ This classification is more clear and consistent than the classification of commune authorities. We then compared credit use from the VBSP between poor and non-poor households using the data from VHLSS 2004.

The coverage rate of the program was low: only twelve percent of poor households in rural areas borrowed from the VBSP. The average loan size for these households was VND 3175 thousands, which is about 1.5 times the per capita poverty line. Average monthly interest rates were 0.30 percent, which amounts to only 3.66 percent on a yearly basis. This is much lower than commercial rates. Commercial banks, *e.g.*, use a yearly rate of twelve percent for loans of 6-12 months with collateral. The favorable interest rates could make VBSP loans attractive for poor and non-poor alike and thus result in high leakage rates if local authorities do not effectively exclude the non-poor.

Indeed, leakage rates are very high. The coverage rate for the rural non-poor was seven percent and among the borrowing households, poor households accounted for only 33 percent. Moreover, non-poor households on average borrowed VND 3715 thousands, which is higher than the average loan obtained by poor households. Consequently, only thirty percent of outstanding credit was allocated to poor households, the official target group of the program. According to Dufhues, et al. (2002), credit groups and commune heads are reluctant to include poor households in the list of credit applicants, as non-poor are expected to be more reliable in using credit effectively and repaying loans.

4. Methodology

4.1. Impact evaluation indicators

We use two indicators to measure the impact of the VBSP program. The first is the expected impact of program participation on the actual participants, which also known as the Average Treatment Effect

² The procedure to classify a household as poor by local authority is rather complicated. Basically, it depends on the income poverty line - which is set up by Ministry of Labor, Invalid, and Social Affairs - and other specific criteria set up by each commune.

³ The credit needs to be used in production, or consumption necessary for life. Specifically, the credit can be used in the following activities: Production, business, and service, which can generate income in the future; repair house under serious damage; educational cost for primary and secondary school pupil.

⁴ Regional price differences and monthly price changes over the survey period have been taken into account when the poverty lines are calculated.

on the Treated (ATT). Since loan size can vary, looking at participation alone does not tell the whole story of program impact. Our second indicator therefore refers to the expected effect of a small increase in loan size for participants. This is called the Average Partial Affect on the Treated (APET).

To define ATT, denote D^b as a binary variable of participation in the program of a person, *i.e.*, D^b equals 1 if she/he participates in the program and 0 otherwise. Further let Y denote the observed value of the outcome of interest. This variable can receive two potential values corresponding to the values of the participation variable, *i.e.*, $Y = Y_1$ if $D^b = 1$, and $Y = Y_0$ otherwise. ATT can now be formalized as:

$$ATT_{(0,1)} = E(Y_1|D^b = 1) - E(Y_0|D^b = 1). \quad (1)$$

Next, denote D^c as a continuous program variable corresponding to loan size and $Y(D^c)$ as the potential outcome corresponding to the value of variable D^c . The change in program impact due a change in the amount of credit from d to $d + \delta$ is then:

$$E[\Delta(d, \delta)|D^c > 0] = E[Y(D^c = d + \delta) - Y(D^c = d)|D^c > 0]. \quad (2)$$

Dividing the right-hand side of (2) by δ , we obtain the second impact indicator used in this study; the Average Partial Affect on the Treated (APET):

$$APET_{(d,\delta)} = \frac{E[Y(D^c = d + \delta) - Y(D^c = d)|D^c > 0]}{\delta}. \quad (3)$$

If we consider $E[Y(D^c)|D^c > 0]$ as a real function of D^c , and denote this function by $f_{D^c > 0}(D^c)$, the APET is simply the derivative of $f_{D^c > 0}(D^c)$ with respect to D^c .

4.2. Program impact on poverty and inequality

As the ultimate aim of the VBSP program is to reduce the poverty and inequality, we considered not only the traditional impact indicators described above, but also looked directly at the effect of the program on a set of poverty and inequality indicators. We measured poverty by three Foster-Greer-Thorbecke poverty indexes. To measure the inequality, we used three common measures of inequality: the Gini coefficient, Theil's L index of inequality, and Theil's T index of inequality. For all measures, we used per capita expenditures as welfare indicator.

The Foster-Greer-Thorbecke poverty indexes can all be calculated using the following formula (Foster, Greer and Thorbecke, 1984):

$$P_\alpha = \frac{1}{n} \sum_{i=1}^q \left[\frac{z - Y_i}{z} \right]^\alpha, \quad (4)$$

where z is the poverty line, n is the number of people in the sample population, q is the number of poor people, and Y_i is per capita expenditures for person i . α can be interpreted as a measure of inequality aversion. When $\alpha = 0$, we have the headcount index H which measures the proportion of people below

the poverty line. When $\alpha = 1$ and $\alpha = 2$, we have the poverty gap PG , which measures the depth of poverty, and the squared poverty gap P_2 , which measures the severity of poverty, respectively.

The Gini coefficient can be calculated from the individual expenditures in the population as follows:

$$G = \frac{1}{2n(n-1)\mu} \sum_{i=1}^n \sum_{j=1}^n |Y_i - Y_j| \quad . \quad (5)$$

The value of the Gini coefficient varies from 0 when everyone has the same expenditures to 1 when one person has everything. Hence, the closer a Gini coefficient is to one, the more unequal is the distribution.

The Theil L index of inequality is calculated as follows:

$$Theil_L = \frac{1}{n} \sum_{i=1}^n \ln \left(\frac{\bar{Y}}{Y_i} \right), \quad (6)$$

where \bar{Y} is the average per capita expenditure. The Theil L index ranges from 0 to infinity, and the higher is the value of Theil L, the higher is inequality.

The Theil T index of inequality is calculated as:

$$Theil_T = \frac{1}{n} \sum_{i=1}^n \frac{Y_i}{\bar{Y}} \ln \left(\frac{Y_i}{\bar{Y}} \right) \quad (7)$$

The Theil T index ranges from 0 (lowest inequality) to $\ln(N)$ (highest inequality).

The impact of the program on poverty index for participants is expressed as follows:

$$\Delta_p = P(D = 1, Y_1) - P(D = 1, Y_0), \quad (8)$$

where the first term in the right-hand side of (8) is the measure of poverty in the presence of the VBSP program. This term is observed and can be estimated directly from the sample data. However, the second term in the right-hand side of (8) is the counterfactual measure of poverty, *i.e.*, poverty indexes of the credit recipients had they not received the credit. This term is not observed directly, and it is estimated.

Regarding inequality, we measure the impact of the program on reduction of inequality of the whole population. If the program increases expenditure for the poor more than for the rich, it will decrease inequality. The impact on an inequality index is expressed:

$$\Delta_I = I(Y) - I(Y_0), \quad (9)$$

where $I(Y)$ is the observed inequality based on the observed outcome, and $I(Y_0)$ is the estimated inequality in the absence of a program.

4.3. Estimation strategy

To measure program impact and estimate the above-mentioned indicators, we assume welfare can be specified as follows:

$$\ln(Y_{it}) = \alpha + X_{it}\beta + D_{it}\gamma + D_{it}X_{it}\theta + \varepsilon_i, \quad (11)$$

where X is a vector of household and regional characteristics for household i at time t . The main problem in estimating the equation is the endogeneity of program participation. Borrowing can be correlated with unobserved characteristics of households, such as motivation for higher income or abilities in business. Failure to control for such factors leads to biased estimates of program impact.

In this study, we use the panel nature of the data to avoid endogeneity bias. A main assumption of the method used is that unobserved variables that are correlated with both outcome and program variables remained unchanged during the period 2002-2004, which is covered by the panel. We feel that it is reasonable to assume that the relevant variables, such as business and production skills or motivation for higher income, were time-invariant during such a short period of time.

To show how the panel nature of the data helps solving the endogeneity problem, suppose the error term can be split into two components: u_i , which is correlated with D but stable over time, and v_{it} , which is uncorrelated with D but is allowed change. Equation (11) then becomes

$$\ln(Y_{it}) = \alpha + X_{it}\beta + D_{it}\gamma + D_{it}X_{it}\theta + u_i + v_{it}, \quad (13a)$$

or alternatively

$$\ln(Y_{it}) = \alpha_i + X_{it}\beta + D_{it}\gamma + D_{it}X_{it}\theta + v_{it}, \quad (13b)$$

Which can be estimated without bias using fixed effect techniques.

In this study, we used both income and expenditure per capita as outcome variables, and both a participation dummy and loan size as program variables. Please note that VBSP was initiated only in 2003, so that program dummy and loan size are necessarily zero for all households in 2002. Other explanatory variables cover household characteristics, such as demography, household assets, housing, education, employment and health statuses, and commune and village characteristics, such as infrastructure and socioeconomic attributes.

For each equation, we used three models with different interactions between the program variable and explanatory variables to examine the sensitivity of impact estimates to interaction terms. In Model 1, there is no interaction between the program and explanatory variables. In Model 2, we introduced interactions between the program variables and human and agricultural wealth variables. In Model 3, interaction terms that are not statistically significant at the 10% level in Model 2 were dropped. The regression results are presented in Tables A.2 and A.3 in the Appendix.

Based on the regression results, we computed ATT and APET. We considered three estimates for both indicators: The average for all participants and separate estimates for poorb and non-poor households.

The estimator of ATT can be expressed as follows:

$$ATT = \hat{E}(Y_{1A} | D^b = 1) - \hat{E}(Y_{0A} | D^b = 1) = \frac{1}{n_p} \sum_{i=1}^{n_p} \left[e^{\hat{\alpha} + X_{iA}\hat{\beta} + D_i\hat{\gamma} + D_iX_{iA}\hat{\theta}} - e^{\alpha + X_{iA}\beta} \right], \quad (15)$$

where n_p is the number of participants in the program. APET equals:

$$APET = E\left(\frac{\partial Y}{\partial D^c}\right) = E\left[e^{\alpha + X_{iA}\beta + D_i\gamma + D_iX_{iA}\theta} (\gamma + X_{iA}\theta)\right] = E[Y_{iA} (\gamma + X_{iA}\theta)]. \quad (16)$$

Thus the estimator is given by:

$$AP\hat{E}T = \frac{1}{n_p} \sum_{i=1}^{n_p} [\hat{Y}_{iA} (\hat{\gamma} + X_{iA} \hat{\theta})], \quad (17)$$

which depends on the level of participation. The standard error of the estimates can be calculated using the Delta method or bootstrap technique.

5. Program impact

5.1. Program impact on household income and expenditure

Table 1 presents estimation results for ATT and APET. All estimates are statistically significant and positive, which indicates that the VBSP resulted in a significant increase in both expenditure and income for poor as well as non-poor participants. The point estimates as well as standard errors are rather similar for the three models, indicating that the estimates are not very sensitive to inclusion of interaction terms between program participation and household characteristics.

Table 1 Estimates of ATT and APET for the VBSP (thousand VND)

	Outcome variable					
	Expenditure per capita			Income per capita		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
ATT	162.3*** [53.2]	186.3*** [54.9]	164.0** [69.9]	248.9** [110.1]	234.6** [121.3]	193.8** [108.7]
APET ^a	0.0417*** [0.0149]	0.0504*** [0.0186]	0.0464*** [0.0171]	0.0526** [0.0293]	0.0960** [0.0390]	0.0904*** [0.0346]

* significant at 10%; ** significant at 5%; *** significant at 1%

Figures in parentheses are standard errors.

Standard errors are corrected for sampling weights and estimated using bootstrap (non-parametric) with 200 replications.

^a Values are computed at actual loan sizes. Results are almost identical when we use average loan size.

The estimates indicate that the VBSP was quite effective in increasing income and expenditures. Using the point estimates, participation on average increased per capita income by 194-249 thousand VND and per capita expenditures by 162-186 thousand VND. At an average household size of five, this amounts to 970-1245 thousand VND and 810-930 thousand VND, respectively, at an average loan size of 3537 thousand VND. That is, the average increase in income at the household level amounts to 27-35 percent of the average value of the loan and the average increase in expenditures to 23-26 percent. The estimates for APET confirm these relatively high numbers. Again considering the point estimates and an average household of five persons, an increase of the loan by 1 VND would result in an increase in income of 0.25-0.48 VND and in expenditures of 0.20 to 0.25 VND. As repayment rates were extremely high, these numbers seem to indicate that households on average used the loans very well and obtained yearly returns of more than thirty percent.

5.2 Program impacts on poverty and inequality

Table 2 presents the estimates of the VBSP impact on poverty of the participants and inequality of the population. It shows that the results from the three models are similar, and that most of the estimates

are statistically significant at the 10 percent level or lower. Only model 2 produces some insignificant estimates, probably due to the limited number of degrees of freedom in this model. We will therefore focus our discussion on the results for the other two models.

The VBSP clearly decreased poverty. The observed headcount of poverty for program participants was 39 percent. Without the program, this would have been almost four percentage points higher. Similarly, the program decreased the poverty-gap index by 0.02, which is a reduction of almost twenty percent. The program-induced percentage-reduction in the poverty-severity index was about the same.

The program also decreased inequality, but these effects are extremely small. With the VSBP, Gini, Theil T and Theil L are all significantly lower than without the program, but the decrease is less than one percent of the without program value. It is not surprising that these numbers are low, as they refer to the entire rural population, and the program covered only seven percent of rural households.

Table 2 Impact of the VBSP on poverty and inequality

	Model 1			Model 2		Model 3	
	With VSBP	Without VSBP	VSBP effect	Without VSBP	VSBP effect	Without VSBP	VSBP effect
Poverty							
P0	0.3865*** [0.0335]	0.4265*** [0.0333]	-0.0399** [0.0208]	0.4079*** [0.0395]	-0.0214 [0.0182]	0.4231*** [0.0352]	-0.0366* [0.0242]
P1	0.0919*** [0.0104]	0.1101*** [0.0112]	-0.0182*** [0.0060]	0.1041*** [0.0114]	-0.0122 [0.0085]	0.1093*** [0.0115]	-0.0174** [0.0072]
P2	0.0328*** [0.0051]	0.0406*** [0.0056]	-0.0078*** [0.0026]	0.0372*** [0.0053]	-0.0044* [0.0025]	0.0393*** [0.0054]	-0.0065** [0.0033]
Inequality							
Gini	0.2881*** [0.0052]	0.2894*** [0.0052]	-0.0012*** [0.0004]	0.2890*** [0.0044]	-0.0009* [0.0006]	0.2893*** [0.0047]	-0.0012** [0.0006]
Theil L	0.1365*** [0.0050]	0.1376*** [0.0050]	-0.0012*** [0.0004]	0.1371*** [0.0043]	-0.0007* [0.0004]	0.1375*** [0.0045]	-0.0010* [0.0006]
Theil T	0.1427*** [0.0064]	0.1439*** [0.0065]	-0.0012*** [0.0004]	0.1436*** [0.0053]	-0.0009* [0.0005]	0.1439*** [0.0061]	-0.0012** [0.0005]

* significant at 10%; ** significant at 5%; *** significant at 1%

Figures in parentheses are standard errors.

Standard errors are corrected for sampling weights and estimated using bootstrap (non-parametric) with 200 replications.

Indexes with VSBP are calculated using observed expenditures. Indexes without VSBP are estimates of counterfactual poverty and inequality.

6. Conclusions

The provision of subsidized loans without formal collateral requirement through the VBSP forms a cornerstone of Vietnam's anti-poverty policy. Yet, little is known on the impact of these preferential loans, as most evaluation reports simply describe the implementation and outputs of the program. In this paper, we take a completely different approach and use fixed-effect regression to estimate the average effect of the program on income and expenditures of participating households, and subsequently assess the impact of the program on poverty and inequality.

Our estimates indicate that the VBSP was a quite effective program. Participation on average seemed to have increased household income and expenditures by about thirty percent of the value of the loan, and an increase in loan size would have a similar effect. Despite that only one third of loans reaches households who are actually poor, our computations indicate that the program decreased the head count of poverty for its participants by almost four percentage points. Similarly, the program decreased the poverty gap index and the poverty-severity index by almost twenty percent. The impact on Vietnam's inequality was significant but small, which is not surprising because of the yet limited outreach of seven percent of the rural population.

We consider these results as a lower benchmark of the impact of the VBSP for two reasons. First, we only measure the short-term impacts of the program. A finance-program should lead to capital accumulation and financial deepening, but these effects will take at least ten years to materialize. Second, the VBSP was not a completely new program but was preceded by the Vietnam Bank for the Poor (VBP). This program was supposedly much smaller, but at least some of our sample households will already have had access to subsidized credit in 2002. What we measure is therefore the additional effect of the VBSP program over the VBP and not the entire effect of the VBSP.

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Appendix

Table A.1 Fixed-effect regressions of log of per capita expenditure

Explanatory variables	The program variable is the program participation (dummy)			The program variable is the loan size (continuous)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Program variable	0.06098*** [0.02285]	1.32437*** [0.43092]	0.75677*** [0.22137]	0.00002** [0.00001]	0.00028** [0.00012]	0.00020*** [0.00007]
Age of household head	0.02168*** [0.00786]	0.02192*** [0.00796]	0.02075*** [0.00786]	0.02185*** [0.00787]	0.02213*** [0.00796]	0.02107*** [0.00789]
Age of household head squared	-0.00019** [0.00008]	-0.00019** [0.00008]	-0.00018** [0.00008]	-0.00019** [0.00008]	-0.00019** [0.00008]	-0.00018** [0.00008]
Head are ethnic minorities	-0.01957 [0.05890]	-0.01715 [0.06081]	-0.02690 [0.05893]	-0.02079 [0.05888]	-0.01284 [0.06041]	-0.02173 [0.05903]
Head professionals/technicians	0.14168* [0.08045]	0.13851* [0.08065]	0.14201* [0.08069]	0.14140* [0.08068]	0.13789* [0.08104]	0.14037* [0.08104]
Head clerks/service workers	0.07895 [0.07661]	0.08401 [0.07638]	0.08554 [0.07634]	0.08062 [0.07674]	0.08388 [0.07655]	0.08570 [0.07645]
Head agriculture/forestry/fishery	0.05943 [0.07074]	0.05617 [0.07051]	0.05768 [0.07050]	0.06149 [0.07086]	0.05792 [0.07075]	0.05898 [0.07065]
Head skilled workers/machine operators	0.09085 [0.07738]	0.08955 [0.07737]	0.09186 [0.07718]	0.09227 [0.07747]	0.08696 [0.07756]	0.09227 [0.07726]
Head unskilled workers	0.03942 [0.07213]	0.03769 [0.07213]	0.03731 [0.07190]	0.04119 [0.07226]	0.03817 [0.07234]	0.03765 [0.07206]
Head not working	0.06580 [0.07358]	0.05154 [0.07364]	0.05442 [0.07346]	0.06834 [0.07373]	0.05517 [0.07380]	0.05642 [0.07361]
Ratio of members younger than 16	-0.19799*** [0.06619]	-0.19297*** [0.06750]	-0.19796*** [0.06602]	-0.20171*** [0.06592]	-0.19930*** [0.06670]	-0.20210*** [0.06571]
Ratio of members older than 60	-0.24444*** [0.08983]	-0.21728** [0.09250]	-0.22317** [0.09170]	-0.24345*** [0.08978]	-0.22857** [0.09146]	-0.23167** [0.09072]
Household size	-0.14690*** [0.02356]	-0.14475*** [0.02443]	-0.14696*** [0.02354]	-0.14724*** [0.02355]	-0.14554*** [0.02437]	-0.14719*** [0.02354]
Household size squared	0.00565*** [0.00189]	0.00548*** [0.00200]	0.00565*** [0.00190]	0.00568*** [0.00189]	0.00554*** [0.00199]	0.00566*** [0.00190]
Ratio of members with lower secondary school	0.20831*** [0.04504]	0.20195*** [0.04452]	0.20503*** [0.04472]	0.20637*** [0.04493]	0.19539*** [0.04445]	0.20310*** [0.04467]
Ratio of members with upper secondary school	0.47914*** [0.07647]	0.48326*** [0.07732]	0.48135*** [0.07683]	0.47879*** [0.07639]	0.47324*** [0.07702]	0.47623*** [0.07665]
Ratio of members with technical degree	0.52424*** [0.08044]	0.53701*** [0.08178]	0.53781*** [0.08179]	0.52443*** [0.08033]	0.52628*** [0.08133]	0.53201*** [0.08145]
Ratio of members with post secondary school	0.70723*** [0.14948]	0.73279*** [0.15089]	0.73072*** [0.15047]	0.70802*** [0.14942]	0.72319*** [0.15072]	0.72652*** [0.15027]
Ratio of members working in agriculture	-0.10684 [0.08288]	-0.11269 [0.08432]	-0.10886 [0.08380]	-0.10642 [0.08293]	-0.12052 [0.08381]	-0.11674 [0.08314]
Ratio of members working in service	0.03837 [0.09125]	0.03088 [0.09273]	0.03369 [0.09217]	0.03872 [0.09123]	0.02447 [0.09200]	0.02686 [0.09144]
Ratio of members working in industry	0.02498 [0.08877]	0.01208 [0.09040]	0.01449 [0.08991]	0.02635 [0.08883]	0.00836 [0.08977]	0.00907 [0.08934]
Being classified as poor hh. by commune authority	-0.12006*** [0.02224]	-0.11648*** [0.02209]	-0.11589*** [0.02200]	-0.12017*** [0.02230]	-0.11717*** [0.02228]	-0.11618*** [0.02209]
Log of living areas (log of m2)	0.07293***	0.07236***	0.07264***	0.07264***	0.07289***	0.07267***

Explanatory variables	The program variable is the program participation (dummy)			The program variable is the loan size (continuous)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
	[0.01975]	[0.01971]	[0.01968]	[0.01976]	[0.01974]	[0.01962]
Living in semi-permanent house	-0.00636	-0.00655	-0.00609	-0.00649	-0.00821	-0.00697
	[0.02548]	[0.02549]	[0.02535]	[0.02553]	[0.02546]	[0.02535]
Living in temporary house	-0.04723	-0.04837	-0.04820	-0.04763	-0.05052*	-0.04943*
	[0.03011]	[0.03012]	[0.02997]	[0.03015]	[0.03013]	[0.03001]
Have toilet (not flush type)	-0.14103***	-0.13531***	-0.13475***	-0.14152***	-0.13633***	-0.13733***
	[0.02804]	[0.02792]	[0.02780]	[0.02811]	[0.02801]	[0.02786]
Have no toilet	-0.12719***	-0.12258***	-0.12118***	-0.12716***	-0.12223***	-0.12218***
	[0.03259]	[0.03265]	[0.03253]	[0.03261]	[0.03267]	[0.03252]
Use other clean water sources	-0.02512	-0.02638	-0.02565	-0.02455	-0.02231	-0.02343
	[0.03439]	[0.03358]	[0.03385]	[0.03448]	[0.03423]	[0.03429]
Use river or lake water	-0.05044	-0.04896	-0.05015	-0.04978	-0.04574	-0.04858
	[0.03568]	[0.03505]	[0.03518]	[0.03579]	[0.03559]	[0.03557]
Area of annual crop land (m2)	0.00000***	0.00000***	0.00000***	0.00000***	0.00000***	0.00000***
	[0.00000]	[0.00000]	[0.00000]	[0.00000]	[0.00000]	[0.00000]
Area of perennial crop land (m2)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	[0.00000]	[0.00000]	[0.00000]	[0.00000]	[0.00000]	[0.00000]
Area of aquaculture water surface (m2)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	[0.00000]	[0.00000]	[0.00000]	[0.00000]	[0.00000]	[0.00000]
Domestic remittance (thousand VND)	0.00002***	0.00002***	0.00002***	0.00002***	0.00002***	0.00002***
	[0.00000]	[0.00000]	[0.00000]	[0.00000]	[0.00000]	[0.00000]
Foreign remittance (thousand VND)	0.00000**	0.00000**	0.00000**	0.00000**	0.00000**	0.00000**
	[0.00000]	[0.00000]	[0.00000]	[0.00000]	[0.00000]	[0.00000]
Pension (thousand VND)	0.00001***	0.00001***	0.00001***	0.00001***	0.00001***	0.00001***
	[0.00000]	[0.00000]	[0.00000]	[0.00000]	[0.00000]	[0.00000]
Insurance (thousand VND)	0.00027***	0.00026***	0.00027***	0.00027***	0.00027***	0.00027***
	[0.00006]	[0.00006]	[0.00006]	[0.00006]	[0.00006]	[0.00006]
Have non-farm enterprises	0.04443***	0.04455***	0.04448***	0.04454***	0.04563***	0.04469***
	[0.01369]	[0.01375]	[0.01370]	[0.01369]	[0.01377]	[0.01369]
Distance to nearest agr. extension center (km)	0.00278***	0.00277***	0.00277***	0.00276***	0.00280***	0.00276***
	[0.00094]	[0.00095]	[0.00094]	[0.00094]	[0.00095]	[0.00094]
Have national electricity network	0.07613**	0.07596**	0.08073**	0.07821**	0.08027**	0.08210**
	[0.03351]	[0.03313]	[0.03309]	[0.03362]	[0.03327]	[0.03322]
Have car road	-0.03908	-0.03696	-0.04014	-0.03941	-0.03692	-0.04048
	[0.02824]	[0.02818]	[0.02835]	[0.02835]	[0.02797]	[0.02851]
Distance to nearest town (km)	0.00084	0.00091	0.00087	0.00088	0.00094	0.00090
	[0.00125]	[0.00125]	[0.00125]	[0.00125]	[0.00125]	[0.00125]
Distance to nearest daily market (km)	-0.00166	-0.00183	-0.00165	-0.00168	-0.00178	-0.00163
	[0.00135]	[0.00138]	[0.00136]	[0.00135]	[0.00136]	[0.00135]
Distance to nearest periodic market (km)	-0.00215**	-0.00199*	-0.00206*	-0.00216**	-0.00202*	-0.00209*
	[0.00106]	[0.00108]	[0.00107]	[0.00107]	[0.00107]	[0.00107]
Distance to nearest primary school (km)	0.00788	0.00721	0.00781	0.00812	0.00735	0.00794
	[0.00505]	[0.00509]	[0.00506]	[0.00505]	[0.00511]	[0.00507]
Distance to nearest lower secondary school (km)	-0.00250	-0.00263	-0.00265	-0.00247	-0.00255	-0.00253
	[0.00227]	[0.00226]	[0.00226]	[0.00228]	[0.00226]	[0.00227]
Distance to nearest upper secondary school (km)	0.00433***	0.00428***	0.00420***	0.00430***	0.00433***	0.00425***
	[0.00111]	[0.00112]	[0.00112]	[0.00112]	[0.00112]	[0.00112]
Have commune health center	0.04671	0.04641	0.04721	0.04651	0.04598	0.04717
	[0.07756]	[0.07770]	[0.07751]	[0.07750]	[0.07781]	[0.07755]

Explanatory variables	The program variable is the program participation (dummy)			The program variable is the loan size (continuous)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Have health polyclinic	0.02360 [0.03057]	0.02475 [0.03093]	0.02570 [0.03067]	0.02425 [0.03052]	0.02549 [0.03102]	0.02666 [0.03066]
Interaction terms						
Program variable * Head professionals/technicians		0.16674 [0.10724]	0.18776** [0.08738]		0.00003 [0.00003]	0.00003* [0.00002]
Program variable * Head clerks/service workers		-1.31855*** [0.25552]	-1.18733*** [0.17828]		-0.00031*** [0.00007]	-0.00028*** [0.00005]
Program variable * Head agriculture/forestry/fishery		0.00474 [0.09621]			0.00000 [0.00002]	
Program variable * Head skilled workers/machine operators		0.06722 [0.13015]			0.00003 [0.00003]	
Program variable * Head unskilled workers		-0.06555 [0.10220]			-0.00002 [0.00002]	
Program variable * Head not working		0.19654 [0.13974]	0.22721*** [0.08131]		0.00005 [0.00004]	0.00007*** [0.00002]
Program variable * Age of household head		-0.01423 [0.01264]			0.00000 [0.00000]	
Program variable * Age of household head squared		0.00015 [0.00013]			0.00000 [0.00000]	
Program variable * Head are ethnic minorities		-0.03191 [0.05913]			-0.00001 [0.00001]	
Program variable * Ratio of members younger than 16		-0.09373 [0.13057]			-0.00002 [0.00003]	
Program variable * Ratio of members who older than 60		-0.68024*** [0.22669]	-0.48121*** [0.18373]		-0.00015** [0.00007]	-0.00012** [0.00006]
Program variable * Household size		-0.02492 [0.04606]			0.00000 [0.00001]	
Program variable * Household size squared		0.00141 [0.00348]			0.00000 [0.00000]	
Program variable * Ratio of members with lower secondary school		0.04878 [0.10777]			0.00002 [0.00003]	
Program variable * Ratio of members with upper secondary school		-0.13384 [0.19530]			-0.00003 [0.00005]	
Program variable * Ratio of members with technical degree		-0.30102* [0.17934]	-0.25271 [0.16776]		-0.00007* [0.00004]	-0.00005 [0.00004]
Program variable * Ratio of members with post secondary school		-1.45143*** [0.30240]	-1.33132*** [0.30830]		-0.00042*** [0.00010]	-0.00043*** [0.00009]
Program variable * Ratio of members working in agriculture		-0.86083*** [0.25988]	-0.70847*** [0.21419]		-0.00023*** [0.00008]	-0.00019*** [0.00007]
Program variable * Ratio of members working in service		-0.71866*** [0.25790]	-0.60240*** [0.22643]		-0.00020** [0.00008]	-0.00017*** [0.00006]
Program variable * Ratio of members working in industry		-0.67697*** [0.24718]	-0.55774** [0.21674]		-0.00018** [0.00008]	-0.00014** [0.00007]
Program variable * Area of annual		0.00001			0.00000	

Explanatory variables	The program variable is the program participation (dummy)			The program variable is the loan size (continuous)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
crop land (m2)						
		[0.00001]			[0.00000]	
Program variable * Area of perennial crop land (m2)		0.00000			0.00000	
		[0.00000]			[0.00000]	
Program variable * Area of aquaculture water surface (m2)		-0.00017***	-0.00016**		-0.00000***	-0.00000***
		[0.00006]	[0.00007]		[0.00000]	[0.00000]
Constant	7.57604***	7.56315***	7.59437***	7.57219***	7.56301***	7.59521***
	[0.25512]	[0.25748]	[0.25440]	[0.25561]	[0.25752]	[0.25494]
Observations	5552	5552	5552	5552	5552	5552

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table A.2 Fixed-effect regressions of log of per capita income

Explanatory variables	The program variable is the program participation (dummy)			The program variable is the loan size (continuous)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Program variable	0.07431** [0.03581]	2.45185*** [0.60832]	1.17379*** [0.29680]	0.00002* [0.00001]	0.00054*** [0.00018]	0.00030*** [0.00007]
Age of household head	0.01918** [0.00829]	0.02009** [0.00845]	0.01923** [0.00837]	0.01947** [0.00830]	0.02043** [0.00839]	0.02069** [0.00840]
Age of household head squared	-0.00016* [0.00008]	-0.00016* [0.00008]	-0.00015* [0.00008]	-0.00016** [0.00008]	-0.00016** [0.00008]	-0.00016** [0.00008]
Head are ethnic minorities	-0.09113 [0.07095]	-0.08777 [0.07209]	-0.09604 [0.07207]	-0.09076 [0.07088]	-0.08788 [0.07222]	-0.08771 [0.07052]
Head professionals/technicians	0.29754*** [0.10449]	0.28744*** [0.10341]	0.28797*** [0.10361]	0.29659*** [0.10447]	0.28984*** [0.10350]	0.29195*** [0.10370]
Head clerks/service workers	0.23965** [0.09475]	0.24655*** [0.09508]	0.24050** [0.09480]	0.24154** [0.09469]	0.24704*** [0.09508]	0.24587*** [0.09506]
Head agriculture/forestry/fishery	0.14955 [0.09087]	0.14630 [0.08968]	0.14540 [0.08929]	0.15215* [0.09076]	0.14730 [0.08957]	0.14461 [0.08964]
Head skilled workers/machine operators	0.22770** [0.09484]	0.22736** [0.09398]	0.22109** [0.09363]	0.22905** [0.09475]	0.22615** [0.09393]	0.22509** [0.09385]
Head unskilled workers	0.15010* [0.08956]	0.15345* [0.08854]	0.14205 [0.08824]	0.15237* [0.08950]	0.15335* [0.08844]	0.15103* [0.08846]
Head not working	0.08344 [0.09492]	0.05981 [0.09461]	0.05661 [0.09435]	0.08642 [0.09477]	0.06632 [0.09432]	0.06166 [0.09441]
Ratio of members younger than 16	-0.27932*** [0.07834]	-0.26438*** [0.07889]	-0.27169*** [0.07758]	-0.28416*** [0.07812]	-0.27129*** [0.07932]	-0.27802*** [0.07778]
Ratio of members who older than 60	-0.21147** [0.09781]	-0.17610* [0.09875]	-0.16808* [0.09909]	-0.21080** [0.09770]	-0.18994* [0.09817]	-0.20279** [0.09765]
Household size	-0.16869*** [0.02803]	-0.16545*** [0.02869]	-0.16413*** [0.02797]	-0.16898*** [0.02800]	-0.16550*** [0.02868]	-0.16746*** [0.02790]
Household size squared	0.00652*** [0.00219]	0.00629*** [0.00229]	0.00614*** [0.00221]	0.00655*** [0.00218]	0.00629*** [0.00227]	0.00644*** [0.00219]
Ratio of members with lower secondary school	0.15969*** [0.05226]	0.16117*** [0.05206]	0.16199*** [0.05123]	0.15795*** [0.05207]	0.15341*** [0.05213]	0.15570*** [0.05119]
Ratio of members with upper secondary school	0.22796*** [0.08695]	0.24054*** [0.08615]	0.23736*** [0.08622]	0.22774*** [0.08679]	0.23016*** [0.08616]	0.23219*** [0.08564]
Ratio of members with technical degree	0.39347*** [0.09429]	0.41701*** [0.09487]	0.41505*** [0.09471]	0.39486*** [0.09416]	0.40117*** [0.09388]	0.39013*** [0.09401]
Ratio of members with post secondary school	0.41815*** [0.15506]	0.42933*** [0.15698]	0.42328*** [0.15507]	0.41934*** [0.15504]	0.41721*** [0.15669]	0.41088*** [0.15498]
Ratio of members working in agriculture	0.04124 [0.07306]	0.03208 [0.07310]	0.03113 [0.07275]	0.04175 [0.07308]	0.01988 [0.07296]	0.02055 [0.07289]
Ratio of members working in service	0.32926*** [0.07870]	0.32749*** [0.07885]	0.33070*** [0.07865]	0.33027*** [0.07870]	0.31512*** [0.07873]	0.31419*** [0.07866]
Ratio of members working in industry	0.40542*** [0.07545]	0.39401*** [0.07534]	0.39387*** [0.07507]	0.40795*** [0.07538]	0.38578*** [0.07552]	0.38421*** [0.07551]
Being classified as poor hh. by commune authority	-0.14859*** [0.03059]	-0.14456*** [0.02777]	-0.14374*** [0.02820]	-0.14864*** [0.03075]	-0.14621*** [0.02894]	-0.14285*** [0.02889]
Log of living areas (log of m2)	0.08359*** [0.02466]	0.07983*** [0.02438]	0.08111*** [0.02445]	0.08331*** [0.02469]	0.08105*** [0.02439]	0.08113*** [0.02444]
Living in semi-permanent house	-0.03087 [0.03232]	-0.03337 [0.03221]	-0.03202 [0.03209]	-0.03067 [0.03232]	-0.03510 [0.03226]	-0.03341 [0.03220]

Explanatory variables	The program variable is the program participation (dummy)			The program variable is the loan size (continuous)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Living in temporary house	-0.07861** [0.03898]	-0.07928** [0.03878]	-0.07769** [0.03858]	-0.07895** [0.03900]	-0.08055** [0.03891]	-0.07795** [0.03872]
Have toilet (not flush type)	-0.12995*** [0.03664]	-0.12114*** [0.03553]	-0.12225*** [0.03537]	-0.13073*** [0.03679]	-0.12378*** [0.03582]	-0.12488*** [0.03562]
Have no toilet	-0.12610*** [0.04352]	-0.11733*** [0.04297]	-0.12016*** [0.04278]	-0.12626*** [0.04359]	-0.11937*** [0.04299]	-0.11877*** [0.04277]
Use other clean water sources	0.00423 [0.04616]	-0.00122 [0.04614]	0.00027 [0.04613]	0.00503 [0.04623]	0.00538 [0.04600]	0.00360 [0.04588]
Use river or lake water	-0.02957 [0.04935]	-0.03020 [0.04923]	-0.03161 [0.04909]	-0.02863 [0.04945]	-0.02409 [0.04903]	-0.02706 [0.04902]
Area of annual crop land (m2)	0.00001*** [0.00000]	0.00001*** [0.00000]	0.00001*** [0.00000]	0.00001*** [0.00000]	0.00001*** [0.00000]	0.00001*** [0.00000]
Area of perennial crop land (m2)	0.00000 [0.00000]	0.00001** [0.00000]	0.00001** [0.00000]	0.00000 [0.00000]	0.00001** [0.00000]	0.00001** [0.00000]
Area of aquaculture water surface (m2)	0.00001** [0.00001]	0.00001** [0.00001]	0.00001** [0.00001]	0.00001** [0.00001]	0.00001** [0.00001]	0.00001* [0.00001]
Domestic remittance (thousand VND)	0.00003*** [0.00000]	0.00003*** [0.00000]	0.00003*** [0.00000]	0.00003*** [0.00000]	0.00003*** [0.00000]	0.00003*** [0.00000]
Foreign remittance (thousand VND)	0.00001*** [0.00000]	0.00001*** [0.00000]	0.00001*** [0.00000]	0.00001*** [0.00000]	0.00001*** [0.00000]	0.00001*** [0.00000]
Pension (thousand VND)	0.00003*** [0.00001]	0.00003*** [0.00001]	0.00003*** [0.00001]	0.00003*** [0.00001]	0.00003*** [0.00001]	0.00003*** [0.00001]
Insurance (thousand VND)	0.00025*** [0.00007]	0.00024*** [0.00007]	0.00024*** [0.00007]	0.00024*** [0.00007]	0.00024*** [0.00007]	0.00025*** [0.00007]
Have non-farm enterprises	0.05954*** [0.01789]	0.05766*** [0.01805]	0.05792*** [0.01794]	0.06016*** [0.01788]	0.05833*** [0.01806]	0.05774*** [0.01795]
Distance to nearest agr. extension center (km)	0.00475*** [0.00132]	0.00479*** [0.00132]	0.00477*** [0.00131]	0.00475*** [0.00132]	0.00480*** [0.00132]	0.00482*** [0.00132]
Have national electricity network	0.02438 [0.04461]	0.00698 [0.03823]	0.00808 [0.03787]	0.02727 [0.04464]	0.01068 [0.03854]	0.01050 [0.03897]
Have car road	-0.02312 [0.04159]	-0.01354 [0.03856]	-0.01318 [0.03853]	-0.02353 [0.04174]	-0.01295 [0.03865]	-0.01431 [0.03921]
Distance to nearest town (km)	-0.00012 [0.00125]	-0.00016 [0.00123]	-0.00017 [0.00123]	-0.00008 [0.00125]	-0.00011 [0.00123]	-0.00014 [0.00124]
Distance to nearest daily market (km)	0.00049 [0.00167]	0.00031 [0.00170]	0.00043 [0.00168]	0.00048 [0.00166]	0.00032 [0.00170]	0.00039 [0.00169]
Distance to nearest periodic market (km)	-0.00296* [0.00163]	-0.00271* [0.00163]	-0.00280* [0.00162]	-0.00298* [0.00163]	-0.00279* [0.00164]	-0.00288* [0.00162]
Distance to nearest primary school (km)	0.01906*** [0.00728]	0.01613** [0.00701]	0.01666** [0.00698]	0.01944*** [0.00728]	0.01646** [0.00703]	0.01629** [0.00700]
Distance to nearest lower secondary school (km)	-0.00654** [0.00311]	-0.00695** [0.00304]	-0.00696** [0.00304]	-0.00654** [0.00312]	-0.00696** [0.00307]	-0.00700** [0.00306]
Distance to nearest upper secondary school (km)	0.00334* [0.00174]	0.00338* [0.00174]	0.00329* [0.00173]	0.00332* [0.00174]	0.00344** [0.00174]	0.00336* [0.00173]
Have commune health center	0.09559 [0.07316]	0.09408 [0.07379]	0.09605 [0.07319]	0.09544 [0.07320]	0.09317 [0.07372]	0.09476 [0.07354]
Have health polyclinic	-0.04956 [0.04232]	-0.05311 [0.04231]	-0.05068 [0.04226]	-0.04849 [0.04231]	-0.05307 [0.04230]	-0.05418 [0.04200]

Explanatory variables	The program variable is the program participation (dummy)			The program variable is the loan size (continuous)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Interaction terms						
Program variable * Head professionals/technicians		-0.29975 [0.18649]			-0.00010*** [0.00003]	-0.00006** [0.00003]
Program variable * Head clerks/service workers		-1.79742*** [0.30600]	-1.54274*** [0.22335]		-0.00041*** [0.00009]	-0.00030*** [0.00004]
Program variable * Head agriculture/forestry/fishery		-0.16266 [0.16035]			-0.00005* [0.00003]	
Program variable * Head skilled workers/machine operators		-0.11434 [0.18040]			-0.00003 [0.00004]	
Program variable * Head unskilled workers		-0.38986** [0.17390]			-0.00011*** [0.00004]	-0.00006** [0.00003]
Program variable * Head not working		0.29896 [0.26219]	0.49309*** [0.16923]		0.00007 [0.00006]	0.00012** [0.00005]
Program variable * Age of household head		-0.02526 [0.01826]			0.00000 [0.00000]	-0.00000** [0.00000]
Program variable * Age of household head squared		0.00020 [0.00018]			0.00000 [0.00000]	
Program variable * Head are ethnic minorities		-0.05931 [0.07340]			-0.00001 [0.00002]	
Program variable * Ratio of members younger than 16		-0.25442 [0.20821]			-0.00005 [0.00005]	
Program variable * Ratio of members who older than 60		-0.76179*** [0.27844]	-0.71357*** [0.26534]		-0.00014 [0.00010]	
Program variable * Household size		-0.02014 [0.06627]			-0.00001 [0.00002]	
Program variable * Household size squared		0.00063 [0.00479]			0.00000 [0.00000]	
Program variable * Ratio of members with lower secondary school		-0.11874 [0.14728]			-0.00003 [0.00004]	
Program variable * Ratio of members with upper secondary school		-0.25370 [0.29293]			-0.00006 [0.00007]	
Program variable * Ratio of members with technical degree		-0.42720** [0.21498]	-0.36157* [0.19808]		-0.00009* [0.00005]	
Program variable * Ratio of members with post secondary school		-0.34452 [0.42536]			-0.00003 [0.00013]	
Program variable * Ratio of members working in agriculture		-1.29154*** [0.37573]	-1.11316*** [0.29227]		-0.00031** [0.00012]	-0.00022*** [0.00005]
Program variable * Ratio of members working in service		-1.29148*** [0.32912]	-1.18496*** [0.29867]		-0.00029*** [0.00011]	-0.00020*** [0.00004]
Program variable * Ratio of members working in industry		-1.10852*** [0.29921]	-1.02269*** [0.25222]		-0.00025** [0.00011]	-0.00016*** [0.00004]
Program variable * Area of annual crop land (m2)		0.00001** [0.00001]	0.00001* [0.00000]		0.00000 [0.00000]	0.00000* [0.00000]

Explanatory variables	The program variable is the program participation (dummy)			The program variable is the loan size (continuous)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Program variable * Area of perennial crop land (m2)		-0.00002*** [0.00000]	-0.00002*** [0.00000]		-0.00000*** [0.00000]	-0.00000*** [0.00000]
Program variable * Area of aquaculture water surface (m2)		-0.00014 [0.00014]			0.00000 [0.00000]	
Constant	7.57632*** [0.28488]	7.55564*** [0.28782]	7.57954*** [0.28615]	7.56750*** [0.28573]	7.55446*** [0.28724]	7.55781*** [0.28787]
Observations	5552	5552	5552	5552	5552	5552

Robust standard errors in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%