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REACHING THE POOREST WITH MICROCREDIT AN IMPOSSIBLE ATTEMPT? NEW EVIDENCE FROM NORTHERN VIETNAM

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Abstract

Research regarding rural credit markets often revolves around the perception that poor households lack access to credit, which is believed to have negative consequences for households' welfare. The Vietnamese government supplied preferential credits to rural households through state-owned banks on a broad scale. However, there is evidence from other developing countries that credit constraints persist particularly against the poor despite the expansion of rural finance. Quantitative (N = 260) and qualitative data collection took place between March 2000 and 2001. The quantitative data comprise cross-sectional householdlevel data from two districts in Northern Vietnam. The poverty outreach of formal lenders was analyzed using Principal Component Analysis, while access to formal credit was investigated using binary logit analysis. The poorest households have rarely formal credit. Yet, it is not their extreme overall degree of poverty that determines their access to and participation in the formal credit market. It is rather determined by certain aspects of poverty, e.g. low quality of housing. In general the poorest households simply have less demand for formal credit. Offering new credit products or lines would only slightly improve their credit coverage. As microcredits on offer are already designed pro-poor, it is questionable whether those households can be reached with formal credit at all. The most appropriate tool to incorporate poorer households into the formal financial system would be mobilization of savings to improve their self-insurance capacity.

Keywords

Credit, Vietnam, Access

1 Introduction

Most research regarding rural credit revolves around the perception that the poor in developing countries lack access to credit, which is believed to have negative consequences for various household-level outcomes. An important feature of the rural credit market in Vietnam is that access to formal credit is far easier for some groups than for others.

In Vietnam preferential credits for poverty reduction were delivered to the rural population mainly by state-owned financial intermediaries such as the Vietnam Bank for Agriculture and Rural Development or the Vietnam Bank for the Poor (VBP)¹. Initial signs of success of formal credit outreach were reported by the Vietnamese Living Standard Survey, which stated that the share of the informal sector had been considerably reduced from 78 % (1992/93) of all outstanding credits to 54 % (1997/98) in favor of the formal sector (GSO, 1995; GSO, 2000). However, there is evidence from other developing countries that credit constraints persist despite the expansion of microfinance (e.g. see AMIN et al., 2003). For instance, the provision of so-called income-generating credit, however, leads to a bias in favor of the less poor, because they have better opportunities to use the credit profitably and to prove their creditworthiness. In line of this trend, there is increasing international evidence that the

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¹ In 2003, the VBP was replaced by the Vietnam Bank for Social Policies (VBSP) (WORLD BANK, 2003).

poorest 20 % of the population are effectively excluded from microcredit programs (CONNING, 1999; HULME and MOSLEY, 1996).

The Vietnamese government has succeeded in providing a huge share of the population with formal microcredit. However, despite the immense formal outreach, the distribution of formal credit in Northern Vietnam is very heterogeneous. Thus, the question remains valid: did the Vietnamese government succeed in reaching the poor or the poorest?

2 Data and methodology

2.1 Data collection

The data for this analysis were collected between March 2001 and March 2002 in two districts in Northern Vietnam. The survey comprised 260 households in ten villages. The villages were stratified in accordance with pre-defined selection criteria to ensure a good degree of variance in the sample. These criteria were: 1. location at different altitudes to obtain different stages of market access and ethnic minorities and 2. engagement in different phases of the land allocation process (land allocation completed or not completed, percentage of households with land use certificates). Half of all households in each village were randomly selected.

2.2 Measuring outreach using principal component analysis (PCA)

The poverty assessment tool used in this research relies on the principal component analysis (PCA) as econometric instrument. With this tool the poverty level of the clients of microcredit institutions in relation to their non-clients can be assessed and thus the institution's poverty outreach (ZELLER et al., 2005). PCA aggregates different correlated variables into fewer uncorrelated principal components by linear combinations of the correlated variables. With this technique, most of the information contained in the data is represented in the new indices. Applied to poverty assessment, the PCA determines a subset of indicators that measure the relative poverty level of a household. In the end, a single index for each household is created that reflects the household's poverty status in relation to all other households in the sample (ZELLER et al., 2005). PCA creates a single index which is easy to use in the analysis and is not limited to the monetary aspect as the conventional method of calculating (income) poverty is (HENRY et al., 2003). The adapted list of poverty indicators chosen for the PCA consists of ten single indicators. The poverty component is given by the following equation, which accounts for 35.4 % of the total variance of the original data:

$$\begin{aligned} PC_1 = & 0.587 * \text{expenditure on clothes and footwear/ person} \\ & + 0.674 * \text{total value of assets/person} \\ & + 0.662 * \text{value of electronics and appliances/household} \\ & + 0.662 * \text{value of electronics and appliances/household} \\ & + 0.596 * \text{value of transportation-related assets/household} \\ & - 0.497 * \text{months without enough to eat/year} \\ & + 0.531 * \text{type of roof} \\ & + 0.566 * \text{electricity supply} \\ & + 0.675 * \text{percentage of adults with only primary education} \\ & + 0.592 * \text{percentage of adults with college education} \\ & + 0.542 * \text{percentage of literate adults} \end{aligned}$$

Households that have no effective credit demand in the formal financial sector are the reference group. These households were first ranked according to their poverty index and then sorted into five groups of equal size. The lowest quintile incorporates the poorest households and the upper quintile embraces the better-off families. When assessing the poverty outreach of microcredit institutes at the household level, only new clients should be included in the analysis in order to rule out any impact that could have occurred due to the financial services

obtained from the lender and that could have led to a change in the poverty status of the client².

2.3 Measuring access: Binary Logit analysis

ZELLER and SHARMA (2000) state that households may have chosen not to borrow even when they had access to credit, while others may have wanted to borrow, but had no access. For these reasons, one cannot equate observed demand with access. Therefore, non-borrowing households were asked for their reasons for not borrowing, e.g. households with no formal credit who had enough capital were counted as not access constrained. Finally, the sample households were classified into households with and without access to formal microcredit. In this regression model the dependent binary variable is one for all households with access to formal credit and zero otherwise. Therefore, the econometric model is a binary Logit regression. Descriptive statistics of the explanatory variables can be studied in Table 1. As the variables have different units of measurement, the independent variables were standardized using z-transformation.

Table 1: Descriptive statistics of the independent variables for the binary logistic regression model on credit access

Variable name	Unit	Expected sign	Minimum	Maximum	Mean	Std. deviation
1. Landuse rights	(yes/no)	+	0	1	0.87	0.33
2. Value of houses	(Mill. VND)	+	0	70	9.33	9.96
3. School years of HH head	(years)	+	0	14	4.93	3.01
4. Receiving agricultural extension service	(yes/no)	+	0	1	0.78	0.42
5. Active HH members	(numbers)	+	0.50	7	2.95	1.28
6. Giving help per year/HH	(days)	+	0	200	39.43	34.11
7. Receiving help per year/HH	(days)	+	0	300	28.05	42.21
8. Interest-free informal credit	(Mill. VND)	+/-	0	18	0.26	1.72
9. Thai/Tay village	(yes/no)	+	0	1	0.66	0.48
10. Market visits only by female HH members	(yes/no)	-	0	1	0.37	0.49
11. Market visits per month	(numbers)	+	0	30	5.87	6.53
12. Poverty index		+	-1.82	3.09	0.00	1.00
13. Supply of day labor	(yes/no)	-	0	1	0.34	0.48
14. Receiving aid from government	(yes/no)	+/-	0	1	0.08	0.26

*Households containing only persons over the retirement age were counted as having 0.5 workforces. VND = Vietnamese Dong; HH = household; N = 151

Source: Own data

'Landuse rights' or 'Houses' are often demanded as collateral by rural lenders in Vietnam.

'School years of household head': Credit application procedures demand a certain degree of formal education. Moreover, it is reasonable to expect that better educated households perform better in their investment activities and are perceived as more creditworthy.

² Most of the credits in this sample are invested in livestock. Initial profits are not expected within the first seven months. Thus, it is safe to consider clients who received a credit within the last seven months as unbiased by poverty impacts of the credit. Therefore, only those households were considered during the analysis, leaving 151 households in the sample.

Households '*Receiving agricultural extension*' may have better access to production knowledge. At the same time, households who do not receive agricultural extension may have fallen through the village information network.

'*Active household members*' evaluates the labor capacity of the household and indicates human capital in the sense of labor force.

'*Giving help*' to and '*Receiving help*' from friends and relatives is seen as an important indicator of high social activity and of being a member of a functioning social network, which will better protect households against income shocks and improve information sharing.

'*Interest-free informal credits*' do not substitute formal credits in Vietnam (DUFHUES and BUCHENRIEDER, 2005). Thus, borrowing from informal sources is not the result of being access constrained in the formal market. In fact it is a good indicator of a functioning informal safety network. However, it is also seen as a mechanism for coping with sudden shocks and it suggests that the household may have a lower repaying capacity.

In the two research regions, the Tay and Thai are the ethnic majority. Villages in the research region are of high ethnic homogeneity. Ethnic Thai or Tay usually dwell in valley positions or at medium-high altitudes with very similar agricultural production systems. Households not belonging to the regional ethnic majority but dwelling in a village mainly populated by them are also assumed to profit from this location. '*Thai/Tay villages*' usually have a better market connection and are thus more easily accessed by bank staff, which also promotes access to credits.

'*Only female household members go to the market*': Who goes to the market is regarded as an important factor for gaining access to certain social networks and for gathering essential credit information. Yet, when women go to the market, the household as a whole may be excluded from important information. It may also point to a vulnerable household, as the male household head could be dead, have left the family, or be physically or mentally incapable of going to the market.

'*Market visits per month*' of household members is assumed to be an indicator of high social activity. Frequent market visits may also increase the chance of receiving essential credit information. Furthermore, it indicates a good infrastructure connection.

'*Poverty index*': Anecdotal evidence suggests that even credits that are targeted at the poor seem to be bypassing the poorest groups. Thus, poorer households are assumed to have less access to formal credits.

'*Supply of day labor*': Poor agricultural- and day-laborers are assumed to have a low social standing. Nevertheless, this may also be an indicator for lack of agricultural land and thus of physical collateral.

Only very poor households are '*Receiving governmental aid*'. It is thus assumed that these households have less access to formal credit.

3 Outreach of and access to formal rural lenders in Vietnam

Depth of outreach: When looking at clients of the formal microcredit sector, it is clear that that the poor and particularly the poorest households are under-represented (Table 2). On the one hand, bank staff and local authorities fear that the poorest will fail to pay back. On the other hand, many of the poorest households may simply not demand the credit products on offer. The most realistic scenario is probably a mixture of low creditworthiness and low demand, a scenario also supported by research in other developing countries. For instance, NAVAJAS et al. (2000) state that in Bolivia the poorest households are less likely to be assessed as creditworthy and/or to demand credit as offered.

Table 2: Poverty outreach of formal lender

	← increasingly poor/increasingly rich →				
	Group 1	Group 2	Group 3	Group 4	Group 5
No clients, reference group (N = 111)*	20 %	20 %	20 %	20 %	21 %
Effective access (N = 40)*	0 %	13 %	28 %	40 %	20 %

*Because of rounding, the figures may not add up to 100 %.

Source: Own data

Access-constrained households: Two households were excluded during the analysis due to missing values. From 14 potentially influential parameters, seven variables have had a significant influence (see Table 3 for details). The model predicted 83.2 % of all observations correctly. In the group of access-constrained households, the percentage of correctly predicted cases was satisfyingly, at 70 %; it was good, at 88.1 %, in the group of households with access to the formal microcredit market. The overall fit of the model is very satisfactory, with a Nagelkerke R^2 of 0.626. The correlation tables showed no multicollinearity problems.

A high-value home has the highest influence on the likelihood of obtaining access to formal microcredit. Housing is probably used as a visible indicator of the general wealth of the household and can easily be assessed by local officials or credit officers. Furthermore, houses can be used as formal collateral.

The variable with the second highest influence is ‘frequency of market visits’. The high influence in this case may be explained by the lack of information about credit application procedures and availability in the village. Farmers use market days also for exchanging information and keeping relations and networks alive. Good relations with commune officials or the credit officer are essential for receiving credit (DUFHUES et al., 2002). These contacts are most likely to be established and maintained on market days³. In households where only women go to the market, the chance of being access-constrained is higher than in other households. On the one hand, the male household head may be mentally or physically unable to go to the market and the absence of the male household head can be easily observed by local authorities or bank staff and may indicate a problem inside the household, which may lower its creditworthiness. On the other hand, women probably have less access to formal and informal information networks than men. Receiving agricultural extension influences positive the access to credit. But considering the low level of agricultural production and investments, this is likely more related to the fact of receiving important credit information at the right time.

While the in the household available workforce does not has a significant influence on the probability of gaining access to credit, the supply of day labor is significant and has the expected negative sign. Particularly, households of low social standing are often excluded from information networks and thus lack important information.

It is very surprising that the variable ‘school years of household-head’ and collateral in form of land use rights is not significant. In the 1990s, one of the most important access constraints to formal rural credit in Vietnam was the lack of physical collateral in form of land use certificates. This result may indicate that the formal credit application process is not in itself a market entry barrier anymore. Group-credits issued by the VBP have probably eradicated this access constraint. Within the group-credit scheme, no collateral is required officially and only

³ One could also argue that the positive influence of frequencies of market visits per month is mostly related to a good infrastructure and thus, lower transaction costs of the household and the bank. But DUFHUES and BUCHENRIEDER (2005) showed that a shorter distance to the next branch had no positive influence on access to microcredit. Furthermore, the variable ‘Thai/Tay village’, which also contains some infrastructure features is not significant.

the credit-group leader who submits the credit proposal needs a certain degree of literacy (DUFHUES et al., 2002). Moreover, investments are usually not very innovative and revolve mostly around conventional enterprises in animal production. Thus, a high amount of human capital does not seem necessary to carry out those investments. Furthermore, the ongoing dissemination of land use rights in recent years has brought an increasing number of households into possession of assets that are useable as collateral, and this has broadened the possible outreach dramatically⁴.

Table 3: Parameters influencing households' access to formal credit - binary Logit estimation

	Unit	Standard error	Significance	Exp(B) odds ratio
1. Land use rights	(yes = 1; no = 0)	0.235	0.312	1.268
2. Value of houses	(VND)	1.004	0.013	12.192
3. School years of HH head	(years)	0.399	0.729	0.871
4. Receiving agricultural extension	(yes = 1; no = 0)	0.276	0.052	1.709
5. Active household members	(numbers)	0.279	0.987	0.995
6. Giving help	(days/year/HH)	0.365	0.455	1.313
7. Receiving help	(days/year/HH)	0.230	0.009	0.547
8. Interest-free informal credit	(VND)	0.497	0.015	0.298
9. Thai/Tay village	(yes = 1; no = 0)	0.370	0.159	1.685
10. Market visits only by females	(yes = 1; no = 0)	0.300	0.001	0.370
11. Market visits per month	(numbers)	0.901	0.035	6.708
12. Poverty index	(index)	0.533	0.767	1.171
13. Day labor	(yes = 1; no = 0)	0.284	0.056	0.581
14. Receiving aid form government	(yes = 1; no = 0)	0.237	0.395	0.818
Chi-square	83.944			
Nagelkerke R Square	0.626			
Observations in model	149			

Variables over a significance level of 0.1 are considered to be not significant. HH = households; VND = Vietnamese Dong

Source: Own data

The assumption that a functioning and active social network supports access to formal credit is not supported. The variable ‘given help to others’ is not significant. The numbers of days of informal help and the amount of interest-free informal credits that a household receives are significant, but they are working in the opposite direction. They lower the chance of gaining access to formal microcredit. An active informal social safety network has apparently no positive influence on the likelihood of obtaining access to formal credit. But high use of the safety network is obviously a strong indicator of an income shock that negatively influences the repaying capacity of the household. The incidence of shocks either raises the chance of being assessed by local authorities as not creditworthy or adds to the self-exclusion tendency of households.

A very surprising result is that the poverty variable does not have a significant influence on the chance of a household being access-constrained. The outreach statistics in this section indicate that particularly the poorest households tend to be rarely clients of formal lenders. This leads to the assumption that the poorest households may potentially be able to obtain

⁴ In this sample, 89% of the households have a formal land use right.

access to formal credit, but they do not demand it as their investment possibilities are very limited, their debt-taking capacity is low and their risk-aversion is high⁵. The variable 'receiving aid from the government' is also not significant and points to the same direction. However, anecdotal evidence suggests that it is not always the people with the greatest need who receive the help, but those who also have good contacts with village authorities.

4 Conclusions and policy recommendations

The outreach analysis in this paper has shown that the poorest households in rural Vietnam are rarely clients of formal microcredit institutions. However, the Logit analysis revealed that overall poverty (as captured by the poverty index) does not significantly influence access to formal credit. Thus, the poorest households use formal microcredit less often but are not significantly more often access-constrained. This means that the poorest households simply have much less demand for the formal microcredit products on offer, which are already designed pro-poor. Thus, improving microcredit products or offering new credit lines would only slightly improve the credit coverage of poorer households. A more promising approach would be to introduce a specialized pro-poor extension service to widen the scope of their investment ideas and opportunities, combined with an improved market access. One factor that very positively influenced access to formal credit was the connection to the market. A good market connection serves credit outreach in a twofold manner: (1) households have better access to credit-relevant information; and (2) through better market access they may find new investment opportunities. However, the most appropriate tool to incorporate poorer households into the formal financial system would be the mobilization of microsavings. As stated by several scholars (e.g. ZELLER and SHARMA, 2000), all people can save, even the poorest of the poor, and therefore deposit services have deeper outreach than credit. Moreover, DUFHUES et al. (2004) revealed an enormous and unmet demand for formal saving products among the rural Vietnamese.

Trying to reach the poorest households with new credit lines, as it is done in Vietnam through the establishment of the VBSP, represents an attempt to broaden access in general. Thus, poorer households are not likely to be reached by the products of the VBSP, which do not differ much to the credit products of the former VBP. However, this will likely increase the access of non-creditworthy households to credit, but not increase the number of poor clients.

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⁵ The results were crosschecked through various measures, e.g. through the inclusion of dummy variables to give a higher weight to the poorest households. But the poverty variable turned out to be not significant.

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