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The Village Fund Loan: Who Gets It, Keeps It and Loses It?

by Carmen Kislal and Lukas Menkhoff

Abstract

The village funds programme in Thailand is one of the biggest microfinance programmes in the world aiming at improving access to finance and income in rural areas. Earlier studies indicate that the programme is successful in realising its ambitions to some degree. We extend this work by analysing a second wave of a household survey and find that village fund borrowers are consistently characterised by a lower economic status; accordingly village fund loan are an important lifeline to those households. However, we cannot identify any significant substitution between village fund loans and other loans, raising doubts about the long-run impact of the village fund programme.

JEL-Classification: O 16, O 17, G 21

Keywords: rural finance, informal financial institutions, microfinance, Thailand

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1 Introduction

The village funds programme in Thailand is one of the largest microfinance programmes in the world. It aims at improving access to finance and income in rural areas. These are worthwhile objectives for policy as finance is often limited in rural areas and incomes are low. In this sense one may welcome the introduction of a programme that sets up an additional fund of one million Baht, i.e. roughly 28,000 US-Dollar, per village leading to a significant increase of loanable funds. Indeed, the rural population seems to be highly sympathetic about the decision of the 2001 government to start the village fund programme as election results continuously show.

However, at the same time there are several concerns with a programme such as this one. First, one may still remember that myriads of large state-sponsored lending programmes have failed in the past as documented for example in Krahnen and Schmidt (1994). All of them started with high ambitions but in the end the money was too often lost and had disappeared for dubious purposes. Second, and related to the first concern, political economy models suggest that governments may use such kinds of gifts to win political support in the coming elections. Third, there are just practical concerns about how such a huge programme may be successfully implemented given that no experienced bankers would be relied on.

As this programme has been operational for some time now, there are a few analyses available studying the outcomes of the village fund (VF) programme. Two studies indicate that it increases income as intended (Boonperm et al., 2009, Kaboski and Townsend, 2009). Moreover, a study shows that VFs helped to improve access to finance (Menkhoff and Rungruxsirivorn, 2011). However, considering the size and relevance of the VF programme the available evidence is surprisingly thin. It would be most interesting for policy making in Thailand and possibly for decision makers in other countries as well to learn more about the functioning of VFs in order to make informed policy decisions.

We contribute to the issue of access to finance by extending the cross-sectional evidence in Menkhoff and Rungruxsirivorn (2011) by incorporating a time dimension. In effect, we rely on two waves of a large household survey conducted in three provinces of Northeast Thailand in the years 2007 and 2008. It is this time dimension – even though being two consecutive years only – that helps us to understand how changes in the provision with VF credit may be related to household characteristics: which kinds of households get a VF loan, which ones keep it and which ones lose it?

We find that VF borrowers are indeed somewhat different from other households and that these differences are consistent across the two periods. VF borrowers are characterised by a lower economic status and the loss of a VF loan seems to worsen their economic situation. VF borrowers also are more often business owners. Finally, we cannot identify any significant substitution between VF loans and other loans, indicating that the VF loans are rarely used for longer lasting credit-financed projects and that they thus hardly impact permanent behaviour at the household level.

We proceed in this study as follows. Section 2 shortly reports the findings of earlier studies in order to motivate our own research. The data basis is described in Section 3, characterising borrowing households and the rural credit market. In Section 4 we analyse borrowers of the VFs regarding the four types of households who get it, keep it, lose it and do not use it. Section 5 concludes.

2 Expectations on the Thai village fund programme

Expectations and motivations about the VF programme are shaped by debates about microfinance in general and about microfinance in Thailand. We shortly refer to these discussions before we discuss specific research on the Thai VF programme.

In the last decades a lot of research has been conducted on the functionality of microfinance concepts and programmes. An early overview of different lending institutions in rural credit markets is given by Bell (1990). For an empirical impact study of microfinance on poverty reduction, see Khandker (2005). Separating lenders within rural credit markets into informal, formal and semiformal lenders, Pham and Lensink (2007) focus on different lending practices of those types of institutions. Especially policy induced microfinance programmes were subjected to closer scrutiny as they are expensive programmes whose impacts are not easy to assess. Most researchers agree that microfinance institutions can enhance the living conditions of poor people in developing countries. In particular, these institutions can contribute to reducing poverty. They allow farmers to borrow especially in times of bad harvest and give them the opportunity to smooth their consumption even if current production possibilities are scarce. In addition they allow entrepreneurs to set up businesses and permit a diversification of income generation and the establishment of a more sustainable sector that is based on non- agricultural business and innovation (World Bank, 2008). So the overall assessment of many microfinance programmes tends to be positive.

With respect to Thailand, an early benchmark study by Siamwalla et al. (1990) analyses the Thai rural credit market. Although the interventions of the Thai government into the rural

credit market date back to the beginning of the last century, the establishment of the state owned Bank for Agriculture and Agricultural Cooperatives (BAAC) in 1966 has been the major intervention in the last decades. Aiming at an improved access to finance for rural farmers the BAAC's customers are mainly people in the rural areas. Another intervention in the 1970s has been the requirement that commercial banks had to spread their business into the rural areas of the country. These measures have been undertaken to ease the dependency of rural households on informal lenders.

The introduction of the VFs in each of the Thai villages is another step to improve access to finance in rural Thailand. But despite the effort to establish formal and semi-formal institutions in the rural areas informal lenders still play an important role. The segmented rural credit market, its institutions and their impact on the poor are therefore an interesting target for researchers (for a general discussion, see Hermes and Lensink (2007)).

Coleman (1999) examines the impact of group lending in Thailand using a panel data set with two waves. In a quasi-experimental setting he studies the effect of group lending on the welfare of borrowers. He finds that group lending procedures of so-called village banks (another microfinance concept introduced prior to the VF in Thailand) which are based on the idea of the Grameen bank, are limited in enhancing the living conditions of borrowers. Focusing on the rural small-scale entrepreneurs and especially on women the author does not find any significant impact on physical assets, enhanced spending or even education. But the data Coleman is using reveals a lot of interdependencies and substitution effects among different sources of credit. It seems that some households borrow to pay back other loans and some even borrow to lend out the money at higher interest rates. Therefore it will be interesting to know to which category the current VF loans can be assigned.

In a later study Coleman (2006) evaluates the impact of two microfinance institutions, namely the Rural Friends Association (RFA) and the Foundation for Integrated Agricultural Management (FIAM) who are operating in the Northeast of Thailand. According to Coleman the impact evaluation of policy induced programmes suffers from two biases: first, self-selection of members and non-members and second, programme placement in certain villages based on unobserved characteristics of the villages chosen. Only households which are better able to use credit funds and therefore realise higher returns will self-select into the programmes. These might be placed into villages that are more appropriate for funding due to unobservable characteristics like high entrepreneurial skills and good organisation. Both biases lead to an overestimation of programme impacts. Fortunately, in the case of VFs, the second bias does not occur because the fund is established in all Thai villages making

placement selection impossible. Coleman finds that the wealthier households are more likely to borrow from those programmes and by controlling for the selection biases he discovers larger positive effects of finance on the welfare of programme committee members than on the welfare of “rank-and-file” members.

Schaaf (2010) examines the effect of community groups with microfinance components on the wellbeing of poor village people. Using data from a single village in the Northeast of Thailand her focus lies on the assessment of improvements in living conditions through microfinance institutions. Extending a model of Chen (1997) she uses a multi-dimensional framework to measure people’s wellbeing with the following dimensions: material, cognitive, perceptual and relational dimension. She finds that the VFs together with community banks have the highest number of members compared to other microfinance institutions, though women are not specially targeted. But compared to other community groups like product groups, the VFs concentrate on finance and they are therefore restricted to improve primarily the material dimension of people’s wellbeing.

Kaboski and Townsend (2005) evaluate microfinance programmes using data from Thailand as well (before the VF programme was implemented) and find that microfinance promotes asset growth, helps to smooth consumption, eases occupational mobility and is able to decrease money lender reliance.

In a later study Kaboski and Townsend (2009) analyse the impact of VF credits on rural households. They use a panel data set which captures data on 960 households in 64 villages over a seven year time period. Their most striking findings are that the introduction of VFs enhances consumption, short-term credit, investment in agriculture, income growth and wages in the labour market and for businesses. Asset endowment of households, however, decreased. The authors rely on two theories to explain these patterns. The buffer stock model suggests that formerly credit constrained households increase their consumption if the credit constraints eased due to the availability of VF credits. The second model relies on the assumption that more available credit will lead to more business start-ups. As a consequence higher wages in the labour market can be expected. Indeed the study finds higher wages but no more new businesses.

Furthermore this study finds that the overall credit amount increases if VF loans are available. The authors take this as evidence that VFs do not crowd out other sources of credit. This assumption is amplified by the observation of no lower interest rates indicating still some scarcity of capital in the rural markets. The injection of capital via VFs does not reveal an additional effect as one unit of injected capital does not lead to more than one unit of further

credit. Our study by-and-large confirms this finding, however, by choosing another perspective. We focus on household characteristics distinguishing between households who receive such loans successively and those who only receive a VF loan once.

Boonperm et al. (2009) address in their analysis the effect of VF loans on income, expenditure and the endowment with assets. Using the Thailand Socioeconomic Survey of 2002 and 2004, with an overall sample of 35,000 households in each survey, they assess the extent of VF impact. By applying a propensity score matching method they compare borrowing households with households which have similar characteristics but do not borrow from VFs. They find an effect for VF borrowers of 1.9% more income, 3.3% more expenditures and 5% higher endowment with durable assets compared to the control group. In combination with loans from the governmental Bank for Agriculture and Agricultural Cooperatives (BAAC) the effect on income is even higher. Furthermore the effects seem to be larger for households with lower expenditures indicating a good targeting of poor households. But VF loans are not used by everyone. About 24% of the households in the sample did not want to borrow from VFs because they had no need for credit and another 25% did not want to go in debt. A majority of VF borrowers profited from the access to finance according to their own statements but most of them are not satisfied with the current form of the programme. For example they want the loans to be larger and the duration of the loans to be longer. This has to be expected due to the favourable terms of VF loans and is consistent with our own interview experiences in the field.

Menkhoff and Rungruxsirivorn (2011) examine whether VFs are indeed improving access to finance and if they are working in the intended way, i.e. targeting the relatively poor more than already existing institutions. Using a multinomial logit model to describe what determines borrowing from a certain institution, the authors find that the VFs serve especially those households which are in an intermediate state regarding income and wealth and are more prone to borrow from informal lending institutions. Although it remains unclear whether the VF programme is more efficient than other lending institutions, VF loans are reaching their aim in targeting the poor, reducing credit constraints and therefore improve the access to finance. We extend this work by stretching the analysis over two waves of the household survey.

Thus there are some encouraging findings on the impact of the VF programme. At the same time, however, some scepticism seems to be appropriate as Morduch (1999, p. 1571) warns about new microfinance institutions in general: “Most of those funds are being mobilised and channelled to new, untested institutions, and existing resources are being

reallocated from traditional poverty alleviation programmes to microfinance. With donor funding pouring in, practitioners have limited incentives to step back and question exactly how and where monies will be best spent”.

3 Our data

In this section we shortly describe our data from general to specific. The data is part of a larger household survey study from which we consider here only those households which get a loan. We characterise (a) the survey, (b) the borrowing households, (c) the lending institutions in general and (d) the VF in more detail.

(a) The data emanates from a research project funded by the German Research Foundation analysing vulnerability to poverty of rural households. For this project representative household surveys were conducted from April to June in 2007 and in 2008, respectively, in three provinces in Northeast Thailand (namely Buriram, Nakhon Phanom and Ubon Ratchatani). Households were chosen in a three stage random sampling procedure being representative for the rural population in the three provinces (see Menkhoff and Rungruxsirivorn, 2011).

(b) From the total of almost 2,200 households we consider a subset which fulfils three requirements: first, households must be covered by both waves of the survey, second, households must take at least one new loan during one period, and, third, we do not consider outliers, i.e. values beyond the median plus or minus eight times the standard deviation. Due to these requirements we get a sample of 1,575 households. This sample, covering about 74% of the representative survey sample, is characterised as follows (Table 1).

Household heads are usually male and on average 54 years old. Their education reflects their age, i.e. schooling happened decades ago and according to the compulsory schooling years at that time it is only 4 to 5 years long. Almost two thirds work as farmers and their own land is as small as 2 hectares. Household size is about 4 persons. Household assets are worth above 200 thousand Baht, i.e. roughly 5,600 US-Dollar, and their annual income is above 110 thousand Baht, i.e. roughly 3,100 US-Dollar. Changes between 2007 and 2008 are largely negligible for our purposes. Overall, most of these household members live in modest living conditions as one may expect for the relatively poor Northeast region of Thailand.

(c) Finally we shortly characterise the lending institutions operating in rural Thailand. The rural credit market in Thailand is somewhat segmented with a lot of players granting loans. Whereas some authors follow the classification of formal vs. informal lending institutions our approach divides all lending institutions into seven groups. In order with

tentatively decreasing formality these are (1) commercial banks (CB), (2) the Bank for Agriculture and Agricultural Cooperatives (BAAC), (3) village funds (VF), (4) credit and savings groups and cooperatives (CRED), (5) policy funds (POLICY), (6) private moneylender (ML) and (7) relatives and friends (RELA). This approach is also used by Menkhoff and Rungruxsirivorn (2011) and is applied here too to make the results of this research compatible with their results.

Commercial banks (CB) are normal commercial banks including some government institutions, such as the Government Savings Bank. The Bank for Agriculture and Agricultural Cooperatives (BAAC) is a state-owned bank that was founded in the 1960s to support the rural population and to especially provide financial access to farmers. The village funds (VF) are policy induced funds that are organised at the village level. They exist in every of the 77,000 Thai villages and operate since 2001. Credit and savings groups and cooperatives (CRED) are mainly community based and include a variety of slightly different institutions, e.g. rice banks. Policy funds (POLICY) include all policy loans that have been given for the purpose to alleviate poverty and to support the poor. Moneylenders (ML) are private moneylenders and pawnshops who are often the only source of credit and therefore charge usually a high interest rate. The most informal source of credit are relatives and friends (RELA) who are lending money very informal and often short-hand without charging interest in many cases.

Table 2 provides an overview about the importance of these seven lending “institutions” with respect to volume and number of loans in 2007 and 2008. Please note that we do not cover all outstanding loans but only *newly granted loans* which are outstanding. In this respect, the BAAC is the largest institution regarding volume of loans, while the VF is the largest regarding the number of loans. More than 44% of all new loans granted in our sample stem from the VF but due to their smaller size of about 16,000 Baht each, they sum up to a market share in volume of about 24%. Still, this makes the VF the second largest lending institution behind the BAAC, following this criterion (i.e. share of new loans by volume).

Any changes between 2007 and 2008 are small with two notable exceptions, i.e. the decreasing number of loans granted by CBs and MLs. As we observe only two periods and the absolute numbers are small, we are not sure whether these decreases reflect systematic changes. If so, the origins of these changes are unclear. Possibly, they are a consequence of the financial crisis in that more market oriented institutions (vs. state governed institutions) react on the crisis by a more rigid lending policy.

(d) Based on the idea of microfinance institutions – as they have been established all over the world – the Thai government started the VF programme in 2001. In a very short time self-governed vehicles, the so-called VFs, were introduced in every of the 77,000 Thai villages. Each fund was equipped with 1 mill. THB of initial capital. The overall costs of 77 bn. THB or 1.8 bn. US-Dollar, which is 1.5% of the Thai GDP in the same year, makes the VF programme one of the largest in the world (Kaboski and Townsend, 2009).

VFs are run by the village members themselves who have to found a VF committee and have to open a bank account at the BAAC or another state bank or savings cooperation by which the money transfer is provided. The borrowers have to open an account at the same credit institution to receive the loan. Only members of the VF can apply for a loan and to solve moral hazard and adverse selection problems they have to provide personal guarantors given by other members of the fund.

4 Borrowers of the village fund

Our research is focused on the borrowers of the VF and whether and how they change over time. We analyse these issues in three sections: In Section 4.1 we differentiate all borrowers into four groups, depending on whether they borrowed from the VF in either 2007 or 2008, both years or never. This describes the outreach of the VF. Section 4.2 examines characteristics of these groups allowing comparisons across groups and tentatively over time. Section 4.3 describes in detail all new loans granted in 2007 and 2008 for the four groups of interest which allows a first impression in which direction the loss or gain regarding a VF loan may have influenced the household behaviour. This also indicates possible substitution effects between the VF and alternative sources of credit.

4.1 Characteristics of four groups of borrowers

We split our sample in four categories of households according to their borrowing from the VF. We distinguish borrowing from the VF in two periods, i.e. the 12 months up to the respective survey waves in 2007 and 2008: (1) The first group of borrowing households only borrowed from VFs in the first year but not in the second year. (2) The second group borrowed from the VF only in the second year, (3) the third group borrowed from the VF in each year and (4) the fourth group never borrowed from the VF.

Table 3 shortly gives some characteristics of these four groups. Interestingly the largest group is by far group 3, i.e. those households who received a loan from the VF in 2007 and in 2008. Of the total of 1,575 households in our sample, the “permanent” VF borrowers make up

about 40%. The second largest group is group 4, i.e. households which never borrowed from the VF. Interesting for our purpose are also those households which either lost or newly got a VF loan, i.e. groups 1 and 2, respectively.

Analysing the descriptive statistics documented in Table 3, group 4 seems to be better off in economic terms compared to the three other groups: in both survey waves, as these households have slightly longer education, higher income, more assets and more land at their disposal. This is consistent with the finding in Menkhoff and Rungruxsirivorn (2011), covering the 2007 wave only, that the VF reaches households with slightly lower socio-economic status. It also indicates that the VF works differently from the microfinance institutions analysed by Coleman (2006).

Regarding changes between the two waves, it seems interesting that despite some increase in income, other wealth indicators, i.e. assets and the area of owned land go down. In this latter respect, it is in particular group 1 which has to face a problematic situation as the loss of the VF loan coincides in 2008 with the worst economic status of the four groups and the most significant losses regarding assets and land. One may speculate that the somewhat higher income in 2008 may be caused by sales of assets. For group 2 income increases in the second wave where the VF loans have been received, but the loans seem to stabilise the economic conditions rather than leading to an overall improvement of the economic conditions. Group 3 relies on VF loans in both waves. Obviously those households are economically better off than one-time recipients and worse off than group 4-households. Furthermore their economic situation can be described as less fluctuating over time than the situation of households of all other groups. There are at least two explanations for this: First, these households do not really want to improve their economic situation or, second, they are simply not able to change it. Taking a closer look we see that their situation gets worse in 2008. Therefore the second explanation may be more adequate. According to this interpretation, VF loans help stabilizing the situation at a medium level but households are not able to improve their situation further.

4.2 Characteristics of village fund borrowers

Table 4 shows what kinds of households do in general receive VF loans using a multivariate panel probit model. Indeed, VF borrowers and non-VF-borrowers are systematically different. Starting with the household-related characteristics VF borrowers are likely to be large households (both in terms of number of adults and number of children) with a young household head who is less educated. Another interesting finding is the occupation of

VF borrowers. We know from Table 3 that VF borrowers are frequently “business owners” which does not necessarily imply a comfortable economic situation. Having any of the occupations listed in Table 4 leads to a lower probability of having a VF loan. This has to be interpreted in relation to the omitted base category which is business owner. Being a business owner therefore increases the probability of receiving a VF loan.

Turning the focus to the economic status variables, they do not give a clear pattern. Whereas income is negatively related to VF loans, asset endowment and the area of owned land is not. Thus none of these variables is significant what makes any conclusions at this point problematic.

Another interesting finding is the size of the villages the borrowers are coming from. Every VF got the same amount of initial capital, i.e. 1 Mio. Baht, regardless of village size. As a result loan applicants from small villages are more likely to be successful with their application. This pattern is confirmed by Table 4 because an increasing village size leads to a lower probability of receiving a VF loan.

In order to sharpen our analysis further, we compare characteristics of VF borrowers (belonging to groups 1 to 3) in relation to group 4-households which never borrowed from the VF. We choose a multinomial logit as our estimation approach because we do not want to impose any structure on groups 1 to 3. This analysis is conducted by taking the average of the observed values of both waves for each variable and for each household. This approach allows solving the time dimension problem of the data structure, however, we lose information about changes over time. To control for individual effects we use cluster robust standard errors at the household level. Results can be seen in [Table 5](#) where relative-risk ratios are presented.

A relative-risk ratio of 0.579 for the dummy variable ‘farmer’ for group 1-households shows the relative probability of belonging to group 1 relative to the reference category (group 4) if the dummy changes from 0 to 1. In other words: The probability that a household will fall into group 1 is about 58% if the probability of belonging to the reference category is 100%.

The household size measured as number of adults is still important, even if being significant for group 3 only. Having a young household head increases the probability of being in group 3 but not in group 2. Group 2- and group 3-households are more likely less educated but this is not true for group 1. Higher income households are less likely assigned to groups 1, 2 and 3, although this effect is only significant for group 1-households. For all groups being a farmer decreases the probability of being a VF borrower but only for group 1

this is statistically significant. Living in a small village increases the probability of being a VF borrower which is consistent with Table 4.

VF borrowers of group 1 or group 2 are either occasional borrowers by choice or they are able to receive VF loans only once in a while. To address this issue we take a closer look at the differences between the groups. Table 3 suggests that group 1 has lower income than group 3 but group 2 has higher income than group 3 after receiving the VF loan. In terms of education, income and assets, group 3 seems to be in a middle category between group 1 and group 2. The better educated group 1 may receive VF loans only because of their relatively high education compared to group 2-households which indicates lower risk (Beck and Demirgüç-Kunt, 2008). Group 2, which is richer in terms of assets, can pledge more collateral and can be considered as more creditworthy than group 1-households. Even though the VFs usually do not require tangible collateral it may still be an indicator for less risk. Either way the loss or the receipt of a VF loan causes changes in the economic situation of both groups as can be seen in Table 3: Losing a VF loan downgrades the economic situation (see group 1) and receiving a VF loan improves the economic situation (see group 2). For those households who permanently rely on VF loans, namely group 3, the loans seem to have no observable impact on income and assets over the considered two-year period.

4.3 Changes in new loans

As a last step in our analysis we document the number and volume of new loans in both periods. Accordingly, we can see whether the loss or gain of a VF loan, in group 1 and 2, respectively, leads to noticeably different behaviour.

Interestingly, group 1 indicates, that households losing a VF loan, i.e. after a VF loan in 2007 with a one-year duration no new VF loan in 2008, do not seem to apply for (and receive) new loans from other lenders (see [Table 6](#)). In fact, neither the number nor the volume of loans from the six other sources increases much in 2008 compared to 2007. Consequently, the VF loan is a limited event for these households – the VF loan is available for a certain limited period only. This is consistent with the hypothesis that the borrowing purpose is also limited and has been fulfilled with the termination of the loan. Another interpretation may be that VF loans are seen as a kind of windfall profits which come and go but do not affect behaviour much.

The surprisingly unrelated role of VF loans can also be seen for group 2. Even though the newly gained VF loans are important for these households, they do not change their behaviour regarding other lenders much: the number of loans from other lenders than the VF

and the volume that households receive from these loans are hardly affected by the many newly received VF loans. This is a different finding compared to Coleman (1999) who observes a lot of substitution between loans.

The overall stability in households' borrowing behaviour is also shown by the results for groups 3 and 4 in Table 6 where number and volume of loans remain quite stable across the two periods. Thus it appears that the VF loans do not crowd out other lending programmes but are rather seen as a supplementary lending source, presumably due to its attractive conditions.

5 Conclusions

This article examines the role of VFs in the rural credit market of Thailand. In order to better understand the role of VFs we form four groups of borrowers, i.e. (1) borrowers which lose their VF loan in the second period, (2) borrowers which get a new VF loan in the second period, (3) those which have a VF loan in both periods and (4) those which never had a VF loan.

Based on the two wave panel on borrowing of North eastern households, we contribute three findings to the literature on VFs in Thailand: first, despite the wide-spread use of VF loans there is some structure across households as VF borrowers seem to have a worse economic status than non-borrowers which is underlined by the fact that households losing a VF loan report lower wealth compared to other households. Second, the regression approach indicates that VF borrowers are not only characterised by a lower economic status but also by having more adults in their household and being more often business owners. In combination with a lower economic status and less own land and being less often a farmer, this cautiously indicates underemployment of the workforce. Third, the examination of new loans across the two periods indicates that VF loans do not seem to have a permanent impact on borrowing behaviour at the household level. Otherwise, one would expect that VF loans either partially substitutes other loans or that they are partially substituted by other loans – we cannot observe any such behaviour.

Obviously, this leaves us with new questions regarding the targeting of lending and the behaviour of borrowers. In subsequent work we plan to analyse households in more detail in order to find out which circumstances may lead to a worsening of the economic situation after losing the VF loan. Moreover, we would like to learn about a possible impact of VF loans on small-scale businesses. Finally, we plan to extend the loans considered in order to come close

to a full loan portfolio which may provide new insights into loan substitution. In any case, the VF deserves deeper investigation.

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Table 1: Borrower characteristics

Household characteristics	2007			2008		
	mean	std. deviation	observations	mean	std. deviation	observations
Age of household head	53.9	(12.932)	1570	54.7	(13.043)	1569
Proportion of female- headed household	25.1%	(0.434)	1570	25.2%	(0.434)	1569
Number of adults per household	2.7	(1.179)	1570	2.7	(1.216)	1569
Number of children per household	1.3	(1.090)	1570	1.4	(1.083)	1569
Household occupation (%)						
Farm household	64.1%	(0.478)	1570	62.5%	(0.484)	1569
Informal worker	9.7%	(0.297)	1570	11.7%	(0.322)	1569
Formal worker	7.2%	(0.259)	1570	7.0%	(0.256)	1569
Business owner	7.8%	(0.269)	1570	7.6%	(0.266)	1569
Inactive	11.1%	(0.315)	1570	10.8%	(0.311)	1569
Years of education	4.6	(2.684)	1396	4.6	(2.810)	1402
Income (1000 THB)	112	(134)	1546	122	(155)	1568
Assets (1000 THB)	219	(317)	1570	202	(395)	1569
Area of owned land (hectare)	2.1	(3.184)	1570	1.9	(3.022)	1568

Table 2: Share of different lending institutions on overall volume and credit contracts

	CB	BAAC	VF	CRED	POLICY	ML	RELA
2007							
average loan size (1000 THB)	92	51	16	39	14	44	30
volume of credit (1000 THB)	3,900	25,900	15,800	10,800	1,500	5,900	4,200
average volume per hh (1000 THB)	98	57	18	45	14	48	34
share on volume	5.7%	38.1%	23.2%	15.9%	2.2%	8.7%	6.2%
number of loan contracts	42	512	974	275	107	134	140
share on loan contracts	1.9%	23.4%	44.6%	12.6%	4.9%	6.1%	6.5%
number of borrowing households	40	457	879	240	106	122	124
2008							
average loan size (1000 THB)	71	50	16	42	9	58	27
volume of credit (1000 THB)	1,600	26,700	15,600	12,000	900	3,500	4,100
average volume per hh (1000 THB)	76	57	18	47	10	64	33
share on volume	2.5%	41.4%	24.2%	18.6%	1.4%	5.5%	6.4%
number of loan contracts	23	536	964	285	100	60	149
share on loan contracts	1.1%	25.3%	45.5%	13.5%	4.7%	2.8%	7.0%
number of borrowing households	21	471	862	253	95	55	124

Table 3: Borrower characteristics for lending groups and the weighted average over all groups

Household characteristics	group 1	group 2	group 3	group 4	average
2007					
Age of household head	54.30 (13.050)	56.02 (13.475)	52.58 (12.733)	54.72 (12.742)	53.94 (12.932)
Proportion of female- headed household	29.3% (0.456)	29.3% (0.456)	23.9% (0.427)	23.2% (0.422)	25.1% (0.434)
Household size	4.20 (1.769)	4.06 (1.859)	4.09 (1.684)	4.02 (1.620)	4.08 (1.698)
Household occupation (%)					
Farm household	58.6% (0.494)	62.0% (0.487)	65.6% (0.475)	65.2% (0.477)	64.1% (0.480)
Informal worker	11.3% (0.317)	9.3% (0.291)	8.2% (0.2749)	11.3% (0.317)	9.4% (0.297)
Formal worker	5.9% (0.235)	8.8% (0.284)	6.2% (0.242)	8.4% (0.278)	7.2% (0.259)
Business owner	12.2% (0.3276)	5.9% (0.235)	10.0% (0.300)	4.0% (0.198)	7.8% (0.269)
Years of education	4.48 (2.892)	4.41 (2.841)	4.61 (2.487)	4.61 (2.783)	4.57 (2.684)
Income (1000 THB)	100 (118)	109 (108)	115 (152)	115 (126)	112 (134)
Assets (1000 THB)	204 (293)	208 (300)	216 (283)	236 (374)	219 (317)
Area of owned land (hectare)	1.74 (2.653)	1.92 (2.791)	2.10 (2.913)	2.25 (3.844)	2.07 (3.184)
2008					
Age of household head	55.04 (12.89)	56.84 (13.283)	53.44 (12.780)	55.32 (13.188)	54.71 (13.043)
Proportion of female- headed household	29.3% (0.456)	28.3% (0.452)	24.5% (0.430)	22.9% (0.420)	25.2% (0.434)
Household size	4.05 (1.762)	4.15 (1.829)	4.15 (1.742)	4.02 (1.649)	4.1 (1.730)
Household occupation (%)					
Farm household	55.0% (0.499)	58.0% (0.495)	64.5% (0.479)	64.7% (0.478)	62.3% (0.484)
Informal worker	14.4% (0.352)	14.1% (0.349)	9.3% (0.290)	12.7% (0.333)	11.7% (0.322)
Formal worker	6.3% (0.244)	8.8% (0.284)	6.2% (0.242)	7.6% (0.265)	7.0% (0.255)
Business owner	12.2% (0.328)	5.4% (0.226)	8.5% (0.279)	5.7% (0.232)	7.6% (0.266)
Years of education	4.71 (3.310)	4.43 (3.080)	4.54 (2.537)	4.59 (2.820)	4.56 (2.811)
Income (1000 THB)	112 (128)	130 (181)	116 (136)	130 (176)	122 (155)
Assets (1000 THB)	161 (227)	200 (389)	193 (342)	233 (506)	202 (395)
Area of owned land (hectare)	1.45 (2.379)	1.70 (2.794)	1.93 (2.662)	1.96 (3.725)	1.85 (3.022)

Standard errors in parentheses

Note: group 1 are households who received VF loans only in the first wave, group 2 are households who received VF loans only in the second wave, group 3 received VF loans in both waves and group 4 never borrowed from VF but from other institutions

Table 4: Panel probit model predicting VF loans

independent variables	vf loan
household characteristics	
number of children	0.0867* (0.0497)
number of adults	0.101** (0.0440)
female household head	-0.0712 (0.131)
age of household head	-0.0237*** (0.00517)
income per household	-2.71e-07 (2.16e-07)
education	-0.0389* (0.0202)
assets	5.37e-08 (8.79e-08)
area of landholding	0.00816 (0.0167)
occupation dummies	
farmer	-0.325* (0.173)
informal	-0.483** (0.207)
formal	-0.476* (0.253)
inactive	-0.244 (0.2237)
village size	-0.00253*** (0.000558)
Constant	1.309*** (0.370)
Observations	3767
Number of households	1953

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5: Multinomial logit predicting being in different groups

independent variables	hhtype 1	hhtype 2	hhtype 3
household characteristics			
number of children	1.023 (0.0863)	0.919 (0.0845)	0.986 (0.0628)
number of adults	1.125 (0.0994)	1.145 (0.111)	1.133* (0.0757)
female household head	1.292 (0.267)	1.227 (0.272)	1.196 (0.195)
age of household head	0.995 (0.00794)	1.004 (0.00874)	0.982*** (0.00594)
ln income per household	0.741** (0.0972)	0.970 (0.121)	0.853 (0.0826)
education	1.004 (0.0371)	0.984 (0.0401)	0.980 (0.0247)
ln assets	1.104 (0.118)	1.060 (0.115)	1.105 (0.0894)
area of landholding	0.949 (0.0387)	0.945 (0.0415)	0.987 (0.0207)
dummy variables			
farmer	0.579** (0.125)	0.779 (0.181)	0.823 (0.134)
small village	1.672*** (0.308)	1.552** (0.295)	1.480*** (0.207)
Constant	5.003 (7.315)	0.211 (0.315)	5.322 (5.882)
Observations	1389	1389	1389

The table shows relative risk ratios, clustered standard errors are in parentheses

Logarithmic transformations of income and asset variables are used.

*** p<0.01, ** p<0.05, * p<0.1

Note:

hhtype1: households who only received VF loans in first wave

hhtype2: households who only received VF loans in second wave

hhtype3: households who received VF loans in both waves

The regression is run on average values of first and second wave

Table 6: New loans (loans per household in 1000 THB and shares on overall loan volume)

Household category	2007			2008		
	number of borrowing households	volume per household	share on overall loan volume	number of borrowing households	volume per household	share on overall loan volume
Group 1						
CB	6	148	9.2%	2	20	0.9%
BAAC	58	55	33.3%	56	62	76.2%
VF	222	17	40.0%			
CRED	28	41	11.9%	17	31	11.8%
POLICY	17	5	0.9%	10	5	1.1%
ML	11	24	2.7%	8	35	6.2%
RELA	15	12	1.9%	11	16	3.8%
Total	357	43.1	100.0%	104	28.2	100.0%
Group 2						
CB	5	88	8.8%	6	77	5.6%
BAAC	36	78	55.8%	51	55	34.0%
VF				205	17	41.1%
CRED	23	25	11.5%	30	30	11.0%
POLICY	7	18	2.5%	9	5	0.6%
ML	14	55	15.4%	8	38	3.6%
RELA	8	38	6.0%	11	30	4.0%
Total	93	50.3	100.0%	320	36.0	100.0%
Group 3						
CB	10	80	2.3%	5	39	0.6%
BAAC	199	54	31.6%	194	57	34.9%
VF	657	18	35.1%	657	19	38.7%
CRED	120	41	14.5%	130	32	13.0%
POLICY	48	18	2.6%	45	7	1.0%
ML	41	65	7.9%	13	143	5.8%
RELA	43	46	5.9%	45	43	6.0%
Total	1118	46.0	100.0%	1089	48.6	100.0%
Group 4						
CB	19	92	8.9%	8	118	4.7%
BAAC	164	56	47.3%	170	55	46.8%
VF						
CRED	69	60	21.4%	76	85	32.3%
POLICY	34	12	2.0%	31	17	2.6%
ML	56	40	11.4%	26	39	5.1%
RELA	58	30	8.8%	57	29	8.4%
Total	400	48.3	100.0%	368	57.2	100.0%

Note: group 1 are households who received VF loans only in the first wave, group 2 are households who received VF loans only in the second wave, group 3 received VF loans in both waves and group 4 never borrowed from VF but from other lending institutions