Preferences for rural credit systems and their impact on the implementation of credit unions in Georgia

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Abstract

Insufficient access to rural credit institutions, the absence of marketing chains for agricultural products and limited application of advanced farming technology are the main development constraints in the Georgian agricultural sector. To research farmers' demand for rural financial services a representative household survey was conducted early 2008 in the region of Shida Kartli (N=406). The survey included a choice experiment to investigate farmer's preferences for characteristics of particular credit schemes. Results show that segments of the farmer population differ in their preferences for loan attributes. Furthermore, farmers expressed a very high demand for small credits with individual liability, and one third of them have experience with loans. These findings provide useful information for future credit cooperatives. Barriers to implementation are lack of trust among farmers and misconception of cooperatives with the former Soviet kolkhozes. Information campaigns can therefore be a key ingredient for the successful establishment of credit cooperatives.

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Introduction

Despite newly implemented agricultural credit systems in Georgia designed to enhance farmers' access to financial means, the share of agricultural loans remains low. This severely limits the availability of loans (Brown et al. 2000; IFAD 2007; Kortenbusch et al. 2003) suitable for Georgian farmers, thus impeding amongst other factors agricultural development (Baramidze 2007, Kortenbusch et al. 2003; Swinnen 2002). To investigate this problem information is required on the supply of credit schemes, and on farmers' preferences with regard to different rural credit systems. Focusing on the demand side, the overall aim of this study is to assess farmers' preferences for different rural credit systems and to discuss the findings in light of the implementation of credit unions or credit cooperatives that are seen as a viable solution for farmers' credit problems (IFAD 2007, Revishvili et al 2004, Zeller 2003).

We conducted a household survey with smallholders (N=406) in the Georgian region of Shida Kartli in early 2008. The household survey included stated preference methods to elicit farmers' preferences for different rural credit systems. A choice between two general types of credit systems was followed by repeated choices among the credit options that differed in several loan attributes. With regard to the general type of rural credit systems, study results show that nine out of ten farmers prefer individual loans over loans with joint liability. Overall demand for rural credit in the research area appears to be high. In Shida Kartli, rural credits are mainly provided by pawn shops, banks and non-profit NGOs. Credit unions play a marginal role due to the following reasons. Firstly, one country-wide project funded by the International Fund for Agricultural Development (IFAD) to implement credit unions between 1997 and 2005 had failed after a promising start due to management problems (IFAD 2007b). Secondly, many farmers seem to confound credit unions with the former Soviet kolkhozes, although they clearly differ in their organizational structure and management. Credit unions are voluntary associations that are governed by their members who are customers and owners at the same time. One member has one vote. Credit unions are registered under a country's cooperative law (Zeller 2003). The former Soviet kolkhozes were organized differently. Farmers were forced to carry out collective agriculture. They officially owned the means of production, but not the soil. The government controlled the kolkhozes through a kolkhoz management composed of communistic party members.

Despite a negative attitude towards cooperatives among Georgian farmers (Derflinger et al. 2006; IFAD 2007b), credit unions that employ the individual lending scheme could be a viable alternative to loans with short term duration and high interest rates offered by banks or NGOs. The advantage of credit unions lies

in a member-based governance structure which leads to a higher degree of independence of loans provided by other financial institutions. In addition to that, credit unions are reported to be the most suitable financial institution to reach vulnerable groups (IFAD 2007a; Zeller 2003).

With respect to the economic system, Georgia changed after independence from the Soviet Union in 1991 from communistic to market economy. Regarding employment, only 11.2% (DS 2008b:24) of the working-age population receives regular salaries. This situation is forcing a large part of the population into subsistence farming or into informal economic activities. According to official statistics (DS 2008a:44), 55.3% of the working age population works in the agricultural sector. The average farm size is 0.9 ha (Lerman et al. 2003:15, SDS 2005:55). The share of rural population increased considerably from 47.8% in 2004 (DS 2005a:8) to 57% in 2005 (DS 2005b table 9.1) and is characterized by a high proportion of pensioners (Kegel 2003). Emigration of young, working age people and a low reproduction rate caused a constant decrease of the total population from 4.7 million in 1996 to 4.4 million in 2007 (DS 2008:77).

The remaining sections of the paper are arranged as follows: 1) Literature review on different aspects of rural credit systems in Georgia; 2) Microfinance in Georgia; 3) The research region Shida Kartli; 4) Methodology and Survey Design; 5) Results and discussion; 6) Conclusion.

Rural credit systems in Georgia

In this section we give an overview on different rural credit systems in Georgia, covering the following aspects: (i) loan institutions and their outreach, (ii) access to loans, (iii) loan uptake, (iv) lending systems, and (v) credit unions.

Loan institutions and their outreach

The Georgian government did not take broad measures to implement credit systems via state owned banks due to the high degree of market liberalization after independence in 1991. The only state owned bank serving the rural credit market was the Agro-Business Bank of Georgia (ABG) that was established in 2000 by the Georgian government in cooperation with the European Commission (Kortenbusch et al.:75). Despite of the high credit demand in rural areas, ABG's success on the rural credit market was very limited due to problems in its corporate governance (Kortenbusch et al. 2003). The bank was eventually sold to a private shareholder in the summer of 2005 and was renamed Standard Bank.

The United Georgian Bank (UGB), VTB Bank since 2006, is one of the few Georgian commercial banks that recently got involved in agricultural lending. As

competition between the increasing numbers of banks in Georgia rises, UGB decided to extend into the rural financial market with special credit offers for farmers. A study by Derflinger et al. (2006) describes the experiences of UGB with agricultural lending. Contrary to the widespread assumption that agricultural micro-lending cannot be profitable due to high risks and costs, UGB experienced the opposite. After only two years the bank considered agricultural micro-lending to be successful, less risky and more profitable than urban micro-loans (Derflinger et al. 2006). This was attributed to the following reasons (Derflinger et al. 2006:5): (1) average loan sizes are smaller, which reduces the loan risk; (2) farmers prefer 'express' loans even though they have to pay higher interest rates and upfront fees; (3) farmers have fewer financing choices, therefore they are more loyal to the bank and readily offer information about themselves and others in the community; (4) loan officers productivity is very high because most farmers in a particular location are engaged in the same kind of agricultural activities enabling loan officers to partly standardize the loan appraisal.

Contrary to other countries such as Bangladesh (Yunus 2008) and Cameroon (Sika et al. 2000) agricultural micro-lending via the group-loan approach was not possible in Georgia. According to Derflinger et al. (2006:9), there are hardly any farmer organizations in Georgia, and credit unions had failed for the reasons mentioned above (IFAD 2007). Therefore, UGB had to employ the individual lending scheme that is very expensive in rural areas because the loan officers have to travel to each individual farmer. The cluster approach simplifies the procedure through the selection of villages with good agricultural potential. The village head was informed beforehand about the loan scheme, and discussions with all relevant groups in the village followed. Alternatively to the cluster approach the bank sends out its credit-mobile (Derflinger et al.:10), a re-equipped mini-bus designed to carry out first interviews on farmer markets with future loan clients. Overall delinquency rate of agricultural loans is very low, and growth rates of 100% (Derflinger et al.:10) are targeted.

Access to loans

Until recently, the rural population in Georgia had little or no access to microfinance services (Hirche et al. 2005; Kortenbusch et al. 2003, Pytkowska et al. 2005), which is as well reflected in the low share of formal credit supply (1.2%) granted to the agricultural sector (NBG 2006:46 ff). Correspondingly, two of the biggest banks in Georgia, ProCredit Bank and United Georgian Bank (VTB Bank since 2006) show low shares with respect to agricultural lending. ProCredit Bank disburses 7-9% (KfW 2004:2 f) of all credits to the agricultural sector, and United Georgian Bank (UGB) disburses 4.1% (Derflinger et al. 2006:6). As mentioned above, UGB aims to increase its share due to the successful new agricultural

lending scheme. This positive development is supported by Revishvili et al. (2004), but they remark that despite the beneficial impact of agricultural lending smallholders are almost not served. To improve access to loans for Georgian smallholders with limited collateral, Revishvili et al. (2004) state that it is crucial to promote the implementation of credit unions in villages that focus on enhancing the living conditions and on improving farm activities.

Loan uptake

Generally, the rural loan uptake rate developed positively in the last years in several Georgian regions, and is reflected in the increasing share of farmers with credit experience starting with 16.2% in 2003 (Kortenbusch et al. 2003:57), and rising to 30% in 2008 (author's survey results). One third of the farmers in Shida Kartli who took up a loan obtained it from banks. This relatively high share in loans for the rural population shows that banks increased their loan offer for farmers, but the majority of these loans are not special agricultural loans, and they are not adjusted to farmers' needs (personal communication 2008). The new involvement of formal financial institutions in the rural credit sector is contrary to many developing countries such as Cameroon, where 90% of the rural population depend on informal credit sources (Sika et al. 2000:316). In addition to loans from the formal credit sector, Georgian smallholders take up loans from the informal sector consisting primarily of pawn shops. Moneylenders who dominate the informal loan sector in other countries (see Dufhues 2007 for Vietnam) are not very common in Georgia.

Lending systems

Aghion et al. (2000) examined whether individual loans or loans with joint liability are preferred in Eastern Europe. They state that individual lending is the dominant lending type in Eastern Europe. In some cases, individual lending systems contain features of group lending systems like regular repayment schedules, which serve to sort out undisciplined borrowers. Aghion et al. (2000) argue that individual lending in Eastern Europe could be installed without demanding collateral from the clients if mechanisms like direct monitoring, regular repayment schedules and the use of non-refinancing threats were implemented. These new features could help to target low-income clients. Individual 'express' loans without collateral are already disbursed in Shida Kartli by ProCredit Bank, VTB Bank and FINCA (NGO). ProCredit Bank aims to win over new clients with this loan type (personal communication 2008).

In the Georgian city of Batumi, Vigenina et al. (2004) investigated the incentive mechanism of individual micro-lending contracts offered by a bank, and compared its key factors with those of joint-liability loan contracts offered by a

NGO. Vigenina et al. (2004) point out that borrowers chose the individual lending approach if they were able to pledge the collateral and planned to start a business with a dynamic development perspective, and had a demand for relatively high or increasing loan sizes. Borrowers with business plans that had a rather static development perspective and those who needed relatively low loan sizes preferred the joint liability approach. Surprisingly, a number of wealthier borrowers deliberately chose the joint liability approach despite their ability to pledge collateral, and although the interest rate of the individual lender was lower. These borrowers were willing to provide peer support within the group as a kind of insurance against repayment problems (Vigenina et al. 2004). The authors conclude that '[…] a combination of both approaches is necessary if it is aimed to reach all creditworthy borrowers irrespective of their initial wealth status and their ability to provide collateral and irrespective of the expected dynamics of the client's business (Vigenina et al. 2004:175)'.

Credit unions

The following part addresses the development of credit unions (CU) and their dissemination in Georgia. The credit cooperative concept was developed in Germany in the 1840s and 1850s by Friedrich Wilhelm Raiffeisen and Hermann Schulze – Delitzsch (Zeller 2003:19). The idea behind cooperatives was to help the rural population become independent from moneylenders and to increase their welfare through a financial institution owned and controlled by its members (Zeller 2003). One important feature of credit unions is the reinvestment of profits or their distribution amongst members. Credit unions are for-profit organizations with a democratic governance structure that take into account the concerns of weaker members. This is expressed through the one-member, one-vote rule (Zeller 2003). Today the German Raiffeisen cooperatives provide inputs to farmers. In addition, they became wide spread financial institutions (Raiffeisenbanken) having bank status in Germany. Notwithstanding their advantages due to the member-based governance structure, CUs do not prevail in Georgia. This is reflected in the low share of CUs; that is, 1.6 percent of all financial institutions (Kortenbusch et al. 2003:16).

Microfinance in Georgia

The first microfinance activities started in Georgia between 1996 and 2000 (Kortenbusch et al. 2003:15). In these years international humanitarian and economic aid organizations established non-banking microfinance institutions providing loans to the poor population that was not served by commercial banks.

After the year 2000, the banking sector showed interest in microfinance products based on the success of the Microfinance Bank of Georgia (MBG), ProCredit Bank since 2003 which became one of the largest banks (Kortenbusch et al. 2003). Four microfinance systems can be distinguished: 1) NGOs delivering micro credit; 2) Specialized microfinance banks; 3) Downscaling programs in commercial banks; 4) Membership-based financial institutions, such as credit unions (CU) (Kortenbusch et al. 2003:68). Table 1 shows the micro credit supply in Georgia by NGOs, credit unions (CUs) and the banking sector.

Table 1 Micro credit supply by different finance institutions

	Outstanding loan portfolio as of September 30, 2003	
Institution	USD	Percent
NGOs	10,750,000	35.2
Credit Unions	500,000	1.6
Banking sector	19,250,000	63.2
Total	30,500,000	100.0

Source: Kortenbusch & Cervoneascii. 2003, p. 16

The agricultural sector contributed 11.2% (DS 2008a:141) to the gross domestic product in 2007. Despite its importance for over the half of the Georgian Population, agriculture has not been in the focus of financial institutions until recently. It is severely undersupplied with credits especially in the primary production (crops, livestock). In Shida Kartli, the credit situation improved since then. At the time of the survey (2007-2008), several banks and NGOs were offering loans to the rural population. However, these loans are often not adapted to farmer's needs, because the majority of loans are characterized by short loan durations and high interest rates.

The research region Shida Kartli

Shida Kartli is one out of 10 regions (including the breakaway regions Abkhazia and South Ossetia) in Georgia, and lies in the middle-eastern part of the country. It is subdivided into four districts. The region's capital is Gori, a city of 49.500 inhabitants (DS 2008a:36, data from census 2002), located 70 km from Georgia's capital, Tbilisi. Main ethnicities in Shida Kartli are Georgians, Ossetians, Azerbaijani, Armenian, Russian, Greeks and Jews. 74% (SDS 2005:33) of rural

households use land for agricultural purposes of which they own 98% (SDS 2005:36). They obtained their plots from the government after distribution of the state owned land in the 1990s. Apples, grapes, wheat, and maize are the main crops in Shida Kartli. Out of these crops, farmers produce mainly wine and flour of which flour is marketed. With respect to livestock, rural households own very small numbers of cattle, pigs, sheep, and horses, of which they produce smoked meat, sour milk and cheese (SDS 2005) for home consumption and for the market. Concerning the type of agriculture, 84% (Heron et al. 2001:46) of all Georgian farmers depend on subsistence farming and consume 73% (Heron et al. 2001:46) of the agricultural products by themselves. Overall educational level is high. Survey results show that in Shida Kartli 28% of smallholder farmers enjoyed university education, 28% have a specialized technical secondary education, and 42% have a general secondary education (author's survey results). The high level of education in rural areas may be explained by the former Soviet Union's education system, which reached out even to remote settlements.

Methodology and Survey Design

To analyze the rural credit demand in Shida Kartli, a questionnaire was designed. One section contains a choice exercise to quantify respondents' relative preferences for certain credit characteristics. This will allow the calculation of the influence of credit characteristics on the probability to take up a certain loan. The choice exercise was designed as a stated choice experiment (e.g., Louviere et al. 2001), which was developed in transport and marketing and found increasing popularity for the purpose of environmental valuation in recent years (e.g., Bateman et al. 2002, Pearce et al. 2002). Conjoint analysis, a related technique, has been applied by Dufhues (2007) in Vietnam to assess the factors that impede or support access of rural households in Northern Vietnam to the formal financial systems.

Prior to the choice task, we asked respondents whether they would prefer to take up a loan with joint liability or a loan with individual liability. Following the choice between two loan types each respondent received four different choice cards depending on whether they preferred joint liability to individual loans. The choice cards for both loan types show the same attributes: 1) loan amount, 2) monthly interest rate, 3) collateral, 4) installment periods, 5) commission, and 6) loan duration. These attributes were chosen because they describe the most relevant loan characteristics that a farmer would face in real loan uptake situations at a financial institution. The use of a hypothetical choice situation allows for an ex-ante assessment of demand for products that are not yet available on the market

or are not yet available to a target population of consumers. With regard to our choice experiment two attributes, interest rate and commission, reflect the expected cost of the credit. Each attribute has four levels except for collateral, which shows only two levels in both loan types. The variation (levels) of attributes was based on information on real loan characteristics of loans granted by a Georgian NGO and a Georgian bank. Table 2 summarizes information on attributes and on attribute levels for both of loans with joint liability and loans with individual liability.

Table 2 Attributes and levels of two loan types

Attribute	Loan with group liability	Loan with individual liability
Loan size (Lari)	1000	8000
4 levels	2000	16000
	3000	24000
	4000	32000
Monthly interest	1	0.5
rate (percent)	2	1
4 levels	3	1.5
	4	2
Collateral	Group liability/ group size:	
2 levels	2–4 members	Movable assets
	5–8 members	Real estate
Installments	0.5	1
(months)	1	1.5
4 levels	1.5	2
	2	2.5
Commission	0.5	0.5
(percent)	1	1
4 levels	1.5	1.5
	2	2
Loan duration	4	12
(months)	6	18
4 levels	8	24
	10	30

Source: Table created by author. 1 US$ = 1.40 Lari (21 July 2008, National Bank of Georgia).

The experimental design, an orthogonal design, was created in SPSS. For this purpose each attribute level was given a code number from 1 to 4, and a block variable with four levels was used to create four option blocks with the aim of generating 32 choice cards. As the choice cards have to show two choice possibilities A and B, a second set of 32 cards had to be established. To do this the attribute codes were firstly recoded in SPSS with the Mix & Match method into different code numbers, and then orthocodes (Hensher et al. 2005:132) were generated for all 64 alternatives. The experimental design allows for the estimation of all attribute main effects and is based on percentage values for the attributes interests and commission, which represent the credit cost. To make the choice cards more comprehensible for respondents, percentages were transformed into monetary terms (Georgian Lari) that appeared on the choice cards used in the interviews. The results of the choice experiment may be useful for institutions to tailor rural credits and other financial products to the demand of the surveyed population.

Following the choice task respondents received several supporting questions on the choice experiment. The questions involved a subjective assessment of certainty regarding choices, and an importance rating of credit attributes. These questions help us to better understand how people made their choices, how they perceived the choice task and to assess the reliability and validity of model estimates.

In another section of the questionnaire, we asked about general credit demand and past credit experience. These questions provide useful information on the level of credit demand in the research region, and how past credit experience and demand are related. Because Kortenbusch et al. (2003) analyzed credit uptake for, amongst others, the region of Shida Kartli in 2003, changes to 2008 can be assessed.

The final section comprises questions with respect to socio-economic and household characteristics. These should give a general, representative impression on the researched population in Shida Kartli and serve to analyze their possible influence on credit demand, choice of credit system and preference of loan attributes.

We used SPSS, LIMDEP and Latent Class Gold Choice for the data analysis. SPSS was used to analyze the socio-economic data, and LIMDEP and Latent Class Gold Choice to analyze the choice experiments.

We employed a three-stage random sampling approach. First, two districts out of four in Shida Kartli were randomly chosen. A complete list of villages and population figures of the two districts was then used to randomly choose 16 villages for the survey of 406 rural households having agricultural areas of approximately 1 ha. The population figure of each of the 16 villages was weighted in percent with respect to the total number of interviews (406). The number of

interviews to conduct in each village was calculated based on each percentage. Households were randomly chosen within the villages using a random walk procedure with intervals between target households determined by total number of inhabitants/number of interviews in a village. The first number of a banknote number on a randomly drawn Lari banknote served as a starting point.

Results and discussion

Regarding loan uptake, one-third of respondents took up a loan (30%) and over two-thirds of them did not have any credit experience (70%). Out of those without credit experience, one-third stated that they did not need a loan (33%). Despite this, the implementation of a rural credit system was rated to be very important or important by a great majority of farmers (77%). Over half of the respondents said that they would very or pretty likely (55%) take up a loan that would be tailored to their needs. These findings show that overall credit demand is very high.

One central research question concerned the kind of rural credit system farmers prefer in the region of Shida Kartli. In our sample farmers strongly preferred loans with individual liability (87%) to loans with joint liability (8%) (see Aghion et al. 2000; Vigenina et al. 2004), and a small group did not want any rural credit system (5%). As only a small part of respondents chose loans with joint liability, we did not explore this further. The single main reason for the choice of individual loans was distrust amongst villagers. This outcome corresponds to the findings of Baramidze (2007), who states that farmers do not trust each other and are not familiar with the advantages of cooperative institutions.

Another question concerned actual past and stated future loan investment of respondents – both with and without credit experience. Based on our survey, smallholders in Shida Kartli firstly prefer to invest loans into agriculture and secondly into their houses, followed by consumption purposes. With respect to agriculture, they would use loans for buying farm machinery, fertilizer and pesticides; land, good seed material, forage for cattle; and to invest into bee-keeping. A third important field of investment is trade and transportation. Many farmers chose a twofold investment strategy: agriculture and a second income source. This indicates that agriculture alone is not perceived to be sufficient to generate income due to the small plots and the lack of (export) markets. To invest into two different income generating domains could be a viable step towards the development of the rural areas in Shida Kartli. As described above, credit unions are not widespread in Georgia. According to Baramidze (2007:1), the following five aspects are barriers to the development of cooperatives in rural areas of Georgia: 1) peasants and small-scale farmers are unfamiliar with the benefits of

cooperation; 2) farmers are not well informed about the principles of community resource management; 3) there is no concrete plan for the development of small farm cooperative markets in rural communities; 4) villagers distrust each other too much to cooperate; 5) a lack of financing exists for agricultural development.

Analysis of the choice experiments (CE) with Latent Class Gold Choice Analysis (see Reunanen et al. 1999) shows that overall respondents prefer, as expected, lower interest rates, lower commissions and longer loan durations. The preferred installment is two months. With respect to collateral, respondents favor real estates to secure their loans. Regarding loan size, the surveyed population prefers the minimum loan of 8000 Lari that was denoted on the choice cards. Interestingly, only few respondents chose the option 'none of these' (none of both loans shown on the choice card), indicating that they received greater utility from one of the offered loan options than remaining without a loan.

Latent class analysis offers a more differentiated picture of preferences with respect to loan conditions. Model results suggest that respondents could be grouped into four classes that differ in the preferences regarding the characteristics of individual loans. The four classes with different preference structures are described in detail below.

Class 1 (size = 47% of those respondents that preferred individual loans): small loans, relatively low aversion against higher interest rates

Members of class 1 prefer lower interest rates, but this effect is far less influential on choices than in segments 3 and 4. Loan durations of 30 months (maximum length indicated on the choice cards) yield the highest utility and didn't have as much influence on choices as in groups 3 and 4. The most preferred loan size lies between 8000 and 16000 Lari. Furthermore, members of class 1 favor putting high values (real estate) as collateral so as to obtain a suitable loan in return. We have no firm explanation for this. However, farmers could not be well endowed with movable assets, or movable assets could be perceived as a liquid reserve that can easily be turned into cash in case of emergency. Similar to class 2, members of class 1 use loans mainly for investments in agriculture.

Class 2 (size = 23 %): long loan duration, relatively low aversion against higher interest rates

Similar to class 1, members of class 2 accept higher interest rates (or, in other words, have lower aversion against higher rates) than segments 3 and 4. Additionally, members of class 2 are willing to pay a commission of 1.5 % of the loan size in order to take up a loan. Concerning installments, members of class 2 prefer a period of two months. Furthermore, loan duration is the main important factor for this group. The preference for long loan durations as revealed by this

group can be traced back to several reasons. One reason lies in past Soviet times. In particular, older respondents were used to agricultural loans with repayment periods up to 10 years. The other reason is that the research region is well-known for its apple production. There is a time lag of a couple of years between planting the trees and harvesting the first apples.

Class 3 (size = 20 %): lower interest rates, movable assets
Like class 4, class 3 model results show a strong negative effect to an increase in interest rates. Furthermore, respondents of both groups did not have a positive attitude towards loans. This may be rooted in previous bad experience: many respondents in class 3 stated that they were denied a loan when they applied for one previously. Similar to class 4, members of class 3 use loans predominantly for the renovation of houses, which shows that their housing conditions are on a very low level. With regard to collateral, members of class 3 rely on movable assets. The preferred installment is 1.5 months.

Class 4 (size = 10 %): bigger loans
Members of class 4 have the strongest preference for low interest rates. With regard to collateral, class 4 relies on real estate. The preferred installment is 2.5 months. In contrast to all other groups, this segment has a positive preference for a loan size of 24000 Lari. This means that members of class 4 are willing to take up the biggest loans compared to all groups. Big loan sizes indicate that farmers are in need of large amounts of money to realize planned investments – possibly because they almost start from nothing.

Conclusion

The Georgian agricultural sector is currently not able to realize its potential due to manifold reasons. Farmers depend on subsistence agriculture and do not dispose over sufficient monetary income. Our empirical study supports these facts revealing that the population in Shida Kartli predominantly prefers small loan sizes (8000 Lari) and long loan durations. Small loans indicate the low value of respondents' assets to secure a loan: small plots, houses in very bad conditions, and the absence of high value movable assets. Long loan durations are a sign of respondents' very low monetary income, which impedes faster loan repayment. With regard to collateral, half of the sampled population prefers to put real estate as collateral – the higher value type of two collateral types displayed on the choice cards. Willingness to secure a loan with the highest collateral available may be a sign of high credit demand and of low value of the other possible collateral types.

Two-thirds of respondents would like to invest in agricultural production, whereas one-third prefers investments into the renovation of their houses. High preference of investments in agriculture shows that this sector is in immediate need of development.

To improve the agricultural development in Georgia, rural credit, savings and insurance systems, farm machinery, inputs like fertilizer and pesticides, seed material, agricultural extension, veterinary services, new marketing chains, and new markets to address the problem of the Russian trade embargo are needed. In this paper we focus on rural credit systems and the possibilities of implementation of credit unions (CU) in the central-eastern region Shida Kartli. The survey results clearly show that farmers prefer the individual lending system and that they distrust others. Due to the lack of trust and other reasons, they are reluctant to any cooperative system. Nevertheless CU and input cooperatives could be a possible solution (Zeller 2003) because farmers as owners and customers of the CU manage their financial institution. In addition, input cooperatives could provide farmers with more inexpensive inputs. This system could be expanded to include additional services like selling cooperatives and savings possibilities. How to convince farmers of the benefits of cooperatives remains an open question. To this end, we suggest image and information campaigns (e.g., advertisements, village training courses on cooperatives) as a key ingredient for a successful establishment of credit cooperatives.

References

Aghion, B.A.d., and J. Morduch (2000). "Microfinance Beyond Group Lending". *Economics of Transition*, 8: 401–420.

Baramidze, S. (2007). *Barriers to Cooperative Ventures in Rural Georgia: Feisty Farmers*. Caucasus Research Resource Centers, Resource Connections – E-Bulletin.

Bateman, I., R.T. Carson, B. Day, W.M. Hanemann, N. Hanley, T. Hett, A. Jones, G. Loomes, S. Mourato, E. Ozdemiroglu, D.W. Pearce, R. Sugden, J. Swanson (2002). *Economic Valuation with Stated Preferences Techniques – A Manual.* Cheltenham: Edward Elgar Publishing Limited.

Brown, C., W. Coles, L. Heron, R. Sprout, and M. Winter (2000). *Georgia Market Reform and Agriculture Assessment*. United States Agency for International Development.

Derflinger, K., O. Ivaniychuk, and H. Grossmann (2006). *Myth and Reality of Agricultural Micro-Lending – Experiences from a Commercial Bank in Georgia*. Frankfurt: The Microfinance Gateway.

DS (2005a). *Georgian Agriculture 2004 – Statistical Abstract*. Tbilisi: Department for Statistics under Ministry for Economic Development of Georgia.

DS (2005b). *Agricultural Census*. Tbilisi: Department for Statistics under Ministry for Economic Development of Georgia.

DS (2008a). *Statistical Yearbook 2007*. Tbilisi: Department for Statistics under Ministry for Economic Development of Georgia.

DS (2008b). *Quarterly Bulletin 2008 I*. Tbilisi: Department for Statistics under Ministry for Economic Development of Georgia.

Dufhues, T. (2007). *Accessing Rural Finance – The Rural Financial Market in Northern Vietnam*. Doctoral Dissertation. Hohenheim: University of Hohenheim.

Hensher, D., J.M. Rose, and W.H. Greene (2005). *Applied Choice Analysis – A Primer*. Cambridge: Cambridge University Press.

Heron, L., R. Lee, and M. Winter (2001). *Georgia Agricultural/ Agribusiness Assessment*. United States Agency for International Development in Georgia.

Hirche, S., and M. Kortenbusch (2005). "Georgien: Kleinkredite in der ländlichen Entwicklung." *Entwicklung und ländlicher Raum*, 04/2005: 19–22.

IFAD (2007a). *Republic of Georgia: Agricultural Development Project*. Rome: International Fund for Agricultural Development.

IFAD (2007b). Setting Up a Rural Credit System in Post-Soviet Georgia: A Rocky Road to Follow. Rome: International Fund for Agricultural Development.

Kegel, H. (2003)."The Significance of Subsistence Farming in Georgia as an Economic and Social Buffer" in Abele, S. and Frohberg, K. (eds) *Subsistence Agriculture in Central and Eastern Europe: How to Break the Vicious Cycle?* Halle: Institut für Agrarentwicklung in Mittel- und Osteuropa (IAMO), pp. 147-160.

KfW (2004). Georgian Microcredit Bank/ ProCredit Bank, Schlussprüfung. Frankfurt: Kreditanstalt für Wiederaufbau.

Kortenbusch, M., and A. Cervoneascii (2003). *Georgia Microfinance Feasibility Study*. Tbilisi: Business & Finance Consulting GmbH.

Lerman, Z., Y. Kislev, A. Kriss, and D. Biton (2003). "Agricultural Output and Productivity in the Former Soviet Republics". *Economic Development and Cultural Change,* 51: 999–1018.

Louviere, J.J., D.A. Hensher, and J.D. Swait (2001). *Stated Choice Methods – Analysis and Application*. Cambridge: Cambridge University Press.

NBG (2006). *Bulletin of Monetary and Banking Statistics No. 4* (94) June-December 2006. Tbilisi: National Bank of Georgia.

Pearce, D., and E. Özdemiroglu (2002). *Economic Valuation with Stated Preference Techniques – Summary Guide*. London: Department for Transport, Local Government and the Regions.

Pytkowska, J., and Z. Gelenidze (2005). *2003 Georgia Benchmarking Report*. Georgia Microfinance Centre for CEE/ NIS, Georgia Microfinance Stabilization and Enhancement, and Microfinance Information Exchange.

Reunanen, E., and R. Suikkanen (1999). *Latent Class Analysis: Wandering in Latent Space*. Konstanz: Universität Konstanz, Diskussionsbeiträge der Projektgruppe Friedensforschung Vol. 44.

Revishvili, Z., and H.W. Kinnucan (2004). "Agricultural Problems in Georgia and Strategic Policy Responses." *Studies on the Agricultural and Food Sector in Central and Eastern Europe*, 25: 52–64.

SDS (2005). Households of Georgia 2003–2004, Economic and Statistical Collection. Tbilisi: State Department for Statistics of Georgia.

Sika, J.-M., and B. Strasser (2000). "Tontines in Kamerun – Verknüpfung traditioneller und semi-formeller Finanzierungssysteme." *Entwicklung und Zusammenarbeit*, 11: 316–318.

Swinnen, J.F.M. (2002). "Transition and Integration in Europe: Implications for Agricultural and Food Markets, Policy, and Trade Agreements." *World Economy*, 25: 481–501.

Vigenina, D. and A.S. Kritikos (2004). "The Individual MicroLending Contract: Is It A Better Design Than Joint-Liability? Evidence from Georgia." *Economic Systems*, 28: 155–176.

Yunus, M. (2008). What is Microcredit? Grameen Bank - Banking for the Poor. http://www.grameeninfo.org/index.php?option=com_content&task=view&id=28&Itemid=108

Zeller, M. (2003). *Models of Rural Finance Institutions. Paving the Way Forward for Rural Finance*. Washington D.C.: BASIS – Broadening Access and Strengthening Input Market Systems.