

ISSN 0111-1760 (Print)
ISSN 1178-2293 (Online)

University of Otago
Economics Discussion Papers
No. 0808

School of Business
Unlimited Future, Unlimited Possibilities
Te Kura Pakihi

October 2008

**Modelling the Effects of Socio-Economic Characteristics on Survey Trust:
Empirical Evidence from Cameroon**

Alvin Etang[†]

Address for correspondence:

Alvin Etang
Department of Economics
University of Otago
PO Box 56
Dunedin 9054
NEW ZEALAND
E-mail: aetang@business.otago.ac.nz
Telephone: 64 3 479 8654
Fax: 64 3 479 8174

[†] I am grateful to my supervisors: David Fielding and Stephen Knowles, for not only funding this research, but also for their invaluable comments.

Abstract

A large number of studies have used both an economic experiment and surveys to measure trust. There is some evidence in the literature on how behaviour in the experiment is related to socio-economic characteristics (for example, age, gender, income levels, educational attainment, marital status and group memberships). However, the relationship between survey trust and such characteristics has not been explored in the current literature. This paper explores this relationship. Generally, the extent of trust declines as the radius of trust widens, suggesting that social distance is important. The results show some evidence that survey trust is correlated with socio-economic characteristics. However, the correlates of *context-specific* and *non-context specific* trust are different. The number of years lived in the village is the key determinant of non-context specific trust. ROSCA membership is important for non-context specific trust in fellow ROSCA members only. Age and marital status are significantly negatively correlated with non-context specific trust in other village members. Income is what really matters for context-specific trust; however, years lived in the village and whether someone has ever lived in an urban area are also correlated with trust in fellow villagers.

JEL Classification: O12, Z13

Keywords: Survey trust, context-specific, non-context specific, socio-economic characteristics, radius of trust

1. INTRODUCTION

There is a growing consensus among social scientists, particularly economists, that high levels of trust are associated with high levels of economic performance. Arrow (1972) and Fukuyama (1995), for example, argue that trust is a prerequisite for economic performance. The economic function of trust is to reduce the transactions costs associated with formal coordination mechanisms such as contracts, hierarchies and bureaucratic rules (Fukuyama, 1995). Macro studies use survey data on trust from the World Values Survey to analyse, for example, differences in rates of economic growth (La Porta *et al.*, 1997; Knack and Keefer, 1997; Zak and Knack, 2001), differences in environmental quality (Grafton and Knowles, 2004) and differences in levels of financial development (Guiso *et al.*, 2004) across countries. Using survey data on trust at the micro level, recent studies by Van Bastelaer and Leathers (2006) and Cassar *et al.* (2007) show that trust (a proxy for social capital) is significantly positively correlated with loan repayment performance.

A large number of studies have used both an economic experiment (commonly known in the literature as the Trust Game) and surveys to measure trust. There is a literature on how behaviour in the experiment is related to subjects' socio-economic characteristics such as age, gender, income levels, educational attainment, marital status and group memberships. However, the relationship between survey trust and respondents' socio-economic characteristics has not been explored in the current empirical literature. Three arguments may possibly justify why no attempt has been made to analyse the determinants of survey trust. Firstly, it is assumed in the literature that what people do under controlled experimental conditions is more reliable than their expressed attitudes in a survey (Glaeser *et al.*, 2000). In other words, there is an assumption that an

experimental measure of trust is better than a survey-based measure. Hence, if survey data are different it is assumed they are wrong. In this case, there may be no need to bother about further analysis of the survey data. Alternatively, there often seems to be less variation in trust within a survey than in the experimental data; so one may not necessarily expect to find significant effects in the survey results. Finally, if both the experiment and survey do measure the same thing, then it makes sense to assume that the determinants of survey trust would not be different from those of experimental trust.

However, in many studies the level of survey trust diminishes as the radius of trust widens.¹ There is a large extent to which the degree of self-stated trust falls as the radius of trust expands from trust in fellow group members, through trust in fellow villagers and trust in people from neighbouring villages, to trust in strangers. This indicates some variation in the way individuals respond to each of the survey questions. It may also be informative to examine what socio-economic features of an individual cause variation in the level of survey trust as the radius of trust expands. This paper explores this relationship, using measures of trust constructed from a survey conducted in a rural Cameroonian village. The current study contributes to the literature by being the first to analyse the determinants of survey trust. The results show some evidence that survey trust is correlated with socio-economic characteristics. However, the correlates of *context-specific* and *non-context specific* trust are different. The number of years lived

¹ For example, Haddad and Maluccio (2003) found a fall in the levels of trust as the radius of trust expands from trust in extended family, through trust in neighbours and local leaders, to trust in strangers. The term “radius of trust” is used to refer to a circle of people among whom trust operates (Fukuyama, 2000). For example, trust in relatives, friends, neighbours, fellow group members, other community members, people from the same ethnic group, people from the same country and trust in strangers.

in the village is the key determinant of non-context specific trust, while income is the main significant determinant of context-specific trust.²

2. LITERATURE REVIEW

Survey trust has usually been measured by responses to a statement such as “most people can be trusted”. Other survey questions ask whether respondents have ever lent money and items such as CDs. One advantage of the survey is that it reports responses for a wide variety of trust questions, facilitating analysis of an individual’s trust in different groups of people. A survey also enables us to distinguish between context-specific trust and non-context specific trust. While no study has analysed the relationship between survey trust and socio-economic characteristics, many studies have established the effect of such characteristics on experimental trust. Assuming both experimental and survey trust are measuring the same thing, it is useful to dwell briefly on previous studies analyzing the socio-economic determinants of experimental trust as the explanatory variables analysed in this paper are taken from these studies. The discussion focuses on trust studies in developing countries only.

The first group of studies are conducted on university students in developing countries. These include Buchan and Croson (2004), Haile *et al.* (2004), Lazzarini *et al.* (2004), Holm and Danielson (2005), Ashraf *et al.* (2006) and Buchan *et al.* (2006). Lazzarini *et al.* (2004) document that women are significantly less trusting than men in the trust experiment. On the contrary, Haile *et al.* (2004) found that men trust significantly less than women. It has also been established that subjects from high-income families tend

² Corresponding experimental data are analysed in another paper (Etang, Fielding and Knowles, 2007). This paper has found that experimental trust among our subjects is driven by a much wider range of variables. Therefore, survey trust captures a different set of individual characteristics from experimental trust.

to trust less than those from low-income families, when expected trustworthiness is controlled for (Haile *et al.*, 2004). In Holm and Danielson (2005), age is significantly positively correlated with experimental trust in their Swedish sample. Education has been found to have a significant and positive effect on trust (Haile *et al.*, 2004). However, the effect of education vanishes after Haile *et al.* include an extra explanatory variable that describes subjects' beliefs about the amount of money they expect their recipients to send back in the trust experiment (expected trustworthiness).

However, it is unclear to what extent students can be regarded as a representative sample in the Trust Game. There is likely to be relatively little variation in students' socio-economic characteristics such as age, income and educational attainment. Generally, the results indicate that few socio-economic variables affect trusting behaviour in experiments on students. Perhaps this is further evidence that students are not representative of the overall population. To rule out this argument, a few studies have been conducted on non-students in developing countries. Examples of such studies include Barr (2003), Bouma *et al.* (2005), Greig and Bohnet (2005), Karlan (2005), Mosley and Verschoor (2005), Johansson-Stenman *et al.* (2006), Danielson and Holm (2007) and Schechter (2007). Consistent with Lazzarini *et al.* (2004), Greig and Bohnet (2005) and Schechter (2007) found that women are significantly less trusting than men in the Trust Game. However, Schechter found that men and women no longer have significantly different levels of trust when risk aversion is controlled for. Age has been found to be significantly positively correlated with trust (Karlan, 2005; Johansson-Stenman *et al.*, 2006). Other researchers have found that education is significantly positively (Karlan, 2005) and negatively (Bouma *et al.*, 2005; Schechter, 2007)

correlated with levels of trust. Also, Johansson-Stenman *et al.* (2006) found that trust increases with increases in income.

Membership of groups is also another personal characteristic that might affect trust. Karlan (2005) established that whether the pair of players attended the same church was positively correlated with experimental trust. Similarly, Mosley and Verschoor (2005) found that membership of groups within the same village were significantly positively correlated with the amount sent in the Trust Game (a proxy for trust). This paper adds to the literature by analyzing the effects of individual characteristics on survey trust from a sample of villagers in rural Cameroon who vary significantly in terms of social and economic characteristics.

3. METHODOLOGY

3.1 Background on the Village

The survey was administered in a village in the South West Province of Cameroon.³ The village has a population of about 1000 inhabitants. All villagers are from the same ethnic group and speak the same dialect. Most villagers are illiterate and agriculture is the main economic activity, with cocoa and coffee being the main cash crops. Neighbouring villages are about 5km away and the closest town to the village is about 40km away. The village has neither a bank nor a post office, so most villagers depend on informal financial institutions such as rotating savings and credit associations (ROSCAs) for their financial services. A ROSCA is an informal association formed by men or women (or both), who at regular periods contribute a fixed amount of money to a common fund that each of them receives in order. Agreements do not require formal

³ I do not reveal the name of the village or its exact location so as to protect the anonymity of participants. This was one of the conditions of obtaining ethical approval for the field work.

contracts, but are enforced by the group members. More than half of the adult population belong to the 17 ROSCAs operating in the village.

3.2 *The Survey*

The survey was designed in English and then translated into the local dialect. The author and his three research assistants are all fluent in the local dialect and were not known to the villagers prior to the study. A copy of the survey can be found in Appendix 1. The sample was made up of 200 subjects, including 140 ROSCA members (selected from seven ROSCAs) and 60 non-ROSCA members. In all cases, selection was random. The survey asks questions about trust, cooperation, trustworthiness and crime victimization. This paper focuses on the questions designed to analyse the level of trust as the radius of trust broadens. The questions are separated into *context-specific* and *non-context specific* trust. The former specify *how much* trust people are being asked to place in others while the latter do not.

The non-context specific questions ask to what extent people would agree or disagree with the statements that their fellow ROSCA or group members, other villagers, neighbouring villages, and people in general (including strangers) could be trusted.⁴ These are the first three questions and question ten in the questionnaire. The two context-specific questions ask whether people would be willing to lend their bicycle to fellow group members and to other villagers (questions four and five).⁵ Using a five-point scale (*A* to *E*), respondents ranked their levels of trust in different sets of people. A

⁴ Some of the participants did not belong to ROSCAs. However, the question asked about membership of ROSCAs or any other group. Non-members of ROSCAs were asked if they could trust people who were in the same social group (for example, sports club and church groups) as the respondent. Every participant belonged to some sort of group. Hence, people who were not in ROSCAs also answered this question.

⁵ Almost every home in the village owns a bicycle, which is the most common means of transport in the village and neighbouring villages. People attach much value to their bicycles.

indicates strong disagreement and *E* indicates strong agreement with the statement. A separate section of the questionnaire collected information on an individual's social and economic characteristics. These include: age, gender, income, educational attainment, marital status and ROSCA memberships and duration of membership, whether subjects' have ever lived in an urban area and the number of years they have lived in the village.⁶

4. RESULTS

4.1 Descriptive Statistics

Table 1 shows the large extent to which the degree of self-reported trust falls as the radius of trust expands from trust in fellow group members, through trust in fellow villagers and trust in people from neighbouring villages, to trust in people in general. As the radius of trust broadens, there is a rapid fall in the number of respondents who indicate strong agreement that other people can be trusted, while the number indicating strong disagreement increases. Figure 1 illustrates this relationship diagrammatically. It is not surprising to find that people are willing to place more trust in others with whom they interact frequently than those they do not know or interact with. However, economic development requires a high degree of trust in people in general rather than a narrow radius of trust. With a high level of generalized trust, mutually beneficial trades can be extended beyond a particular community.

[Table 1 and Figure 1 here]

⁶ As most respondents were illiterate, the author and one of the research assistants read out the questions one after another; respondents indicated their answers from a range of choices. This might have influenced subjects' responses to the questions. This problem is common in most studies carried out in rural areas of developing countries, where most respondents are not able to read and write (see for example, Barr, 2003; Karlan, 2005; Schechter, 2007). However, the interview approach enables the collection of more information about the respondents, than could otherwise be collected, given that most respondents were illiterate. It also helps to ensure the understanding of each question by the respondents.

4.2 Econometric Analysis

As shown in Table 1, responses are almost binary in some of the questions (that is, people tend to either agree or strongly agree with the statement). A logit regression model was fitted to the binary outcomes (questions asking about trust in fellow ROSCA members, whether the respondent would lend a bicycle to fellow group members and whether they would lend the same item to fellow village members). The dependent variable equals 1 if the respondent indicated strong agreement and zero otherwise. For the other questions (asking about trust in fellow villagers, trust in people from neighbouring villages and generalized trust) a Poisson regression was used.⁷ As an extension of the Poisson model, the Negative binomial regression was used to test for overdispersion of the data. However, the results show no evidence of overdispersion. So the focus is on the Poisson results.

The explanatory variables are individuals' gender, age, marital status, household size, number of children, years lived in the village, income and educational attainment, whether they have ever lived in an urban area, whether they belong to ROSCAs, and if so, for how long have they belonged to these associations. These explanatory variables are taken from previous papers on trust, including Haile *et al.* (2004), Lazzarini *et al.* (2004), Holm and Danielson (2005), Karlan (2005), Mosley and Verschoor (2005), Johansson-Stenman *et al.* (2006) and Schechter (2007), which provide justifications for their inclusion.⁸ Data on household size, the number of children someone has, years lived in the village and the number of years a person has belonged to a ROSCA take

⁷ An appropriate estimation technique would be a multinomial logistic regression model. However, there are not enough observations to run multinomial logit regressions. The Poisson regression model is a suitable alternative to this.

⁸ Previous papers did not include the ROSCA membership dummy (and the duration of membership); however, some of them included membership of some sort of group (including a ROSCA).

only integer values. Information on age (in years) and income were collected in bands, and are measured using the midpoint of the particular band. The other variables are measured as dummy variables, coded as 1 if an individual is male, is divorced, has ever lived in an urban area, belongs to a ROSCA or holds a first school leaving certificate and zero otherwise.⁹ The data are analysed for both the non-context specific and the context-specific trust questions. When the regressions include quadratic and interaction terms as explanatory variables, these terms are insignificant. A joint hypothesis test to determine if the overall regression equation is statistically significant rejects the null that all the regression coefficients are zero. Excluding years lived in the village does not change the results significantly and age remains insignificant. This rules out any argument about multicollinearity between years lived in the village and age.

4.2.1 Non-context specific Trust

The results reported in Table 2 indicate that the number of years people have lived in the village is the main determinant of how they answered the non-context specific trust questions. The coefficient on this variable is positive and significant in all specifications, indicating that its effect is robust. The positive sign is consistent with expectations. Increasing the number of years a person has lived in the village by one is associated with an increase in the likelihood that he or she will strongly agree that fellow group members could be trusted. Ten extra years lived in the village is expected to increase the degree of trust in fellow villagers by about 4% and trust in people in general by about 6%, holding all other factors constant. These coefficients are

⁹ A few subjects held higher qualifications than the first school leaving certificate. However, a dummy for first school leaving certificate is used because including people with higher qualifications may lead to the problem of multicollinearity. Since the highest academic institution in the village is the primary school, holding a higher qualification suggests that the individual must have lived in an urban area, which is a separate explanatory variable.

significant at the 10% level. The effect is stronger for trust in people from neighbouring villages, where ten additional years spent in the village is expected to increase trust levels by about 8% (significant at the 1% level). The positive impact on trust in fellow villagers is consistent with expectations that people may become more familiar with other village members as they live longer in the village, which in turn, will most likely increase their levels of trust in people from the same village. This may lead to low transaction costs among villagers.

With regard to trust in fellow ROSCA members, the coefficient on years lived in the village (0.0458) is significant at the 5% level.¹⁰ The relationship is also indicated by the marginal effect of this variable (0.0105), which is significant at the 10% level.¹¹ The marginal effect can be interpreted as follows. Holding all other variables at their fixed (either at mean or modal) values, an extra year spent in the village increases the probability that someone would strongly agree that his or her fellow ROSCA members could be trusted by about 1%, on average. The marginal effects of all significant variables can be interpreted in a similar way.

The other significant determinant of non-context specific survey trust is whether someone belongs to a group (ROSCA). Being a ROSCA member is associated with an increase in the probability that a person will strongly agree with the statement that fellow group members could be trusted. The coefficient (2.0850) is significant at the 1% level. That ROSCA membership increases the likelihood of people to trust their fellow group members is in line with the belief that frequent interactions among members of

¹⁰ For the logit model, the magnitude of the estimated coefficient does not have a meaningful economic interpretation. Rather, marginal effects would give more meaningful interpretations.

¹¹ The marginal effects of all continuous variables are evaluated at their mean values, while those for categorical (dummy) variables are evaluated at their modal values (Long and Freese, 2003). For dummy variables, marginal effect is for discrete change of dummy variable from 0 to 1.

the same group are more likely to increase the probability of trust between them. This result suggests that social distance is important for trust.

However, ROSCA membership becomes statistically insignificant in explaining trust at wider radii. This finding is not surprising as we might not necessarily expect ROSCA members to trust non-members. We would rather expect someone to trust his or her fellow ROSCA members in order for the group to function well, which is confirmed by the results. The lack of trust in people out of the ROSCA circles is contrary to what economic development requires. ROSCA members would likely trade with fellow villagers as well as with non-villagers. Thus, if people who are in ROSCAs do not trust those who are not, then transactions costs are likely to be high when trading with non-ROSCA members (Fukuyama, 1995). This can be economically inefficient for the community.

An econometric issue arises about the interpretation of the significant coefficient on ROSCA membership. Finding a positive and significant coefficient on the ROSCA membership dummy may suggest two alternative hypotheses: either more trusting people are more likely to join ROSCAs in the first place (selection effect) or ROSCA membership makes people more trusting (treatment or “spill-over” effect).¹² This issue has been addressed by including the duration of ROSCA membership as an explanatory variable. This makes it possible to test for whether the effect of ROSCA membership is a treatment or selection effect. A significant coefficient on the duration in a ROSCA variable will suggest that the second hypothesis is correct (treatment effect), otherwise the effect of ROSCA membership might just be selection (that is, first hypothesis is

¹² Frequent interactions may lead people to trust more or being exposed to trusting and trustworthy people makes someone more trusting (spill-over effect).

correct). This variable is not a significant determinant of how people responded to the questions. Thus, the significant coefficient on ROSCA membership suggests that it is more likely that more trusting people are more likely to join ROSCAs, rather than ROSCA membership making people more trusting.¹³

The results also show that, in addition to the number of years lived in the village, age and marital status have significant effects on an individual's trust in fellow villagers. For age, a ten-year increase is expected to reduce the degree of trust in other village members by about 4%. The coefficient is significant at the 5% level. Perhaps the older people become, the more likely they are to have bad experiences that would probably reduce their levels of trust. Age does not significantly affect the other non-context specific trust questions. Respondents who are divorced are significantly less trusting than those who are either single or married, all else held constant. The negative effect is consistent with expectations as divorced people are more likely to have had bad experiences. The fact that only the years lived in the village significantly explains trust in non-villagers indicates that there is very little variation in the survey data for wider radii of trust beyond the village. It is found that gender, household size, the number of children someone has, whether someone has ever lived in an urban area, duration in a ROSCA, income and education are all insignificant in predicting how people answered the non-context specific trust questions.

[Table 2 here]

¹³ Another econometric issue is that the ROSCA membership dummy could be endogenous, if there is some unobservable factor that might be causing both ROSCA membership and trust. However, we cannot find a valid instrument to perform an exogeneity test. An alternative way of dealing with the issue of endogeneity is to analyse data for the ROSCA only sample to test if the results vary significantly from those for the full sample. However, there is not enough variation in survey responses for ROSCA members, making it not feasible to deal with the endogeneity issue. So, it is possible that the point estimates on the ROSCA membership dummy suffer from some endogeneity bias.

4.2.2 Context-specific Trust

Table 3 contains the results for context-specific trust. Income appears to be the only significant determinant of responses to either of the context-specific trust questions: whether someone would lend their bicycle to fellow ROSCA members and whether they would lend the same item to another village member. There is no significant difference in the coefficients as the radius of trust widens from ROSCAs to the entire village. In both models, the coefficients are positive and significant at the 1% level. Increasing someone's income by one unit is associated with an increase in the probability that they would strongly agree that they could lend to fellow group members by approximately 26%, on average, holding all other variables at their fixed (either at mean or modal) values. This result is not surprising. The income effect reflects variation in the marginal utility of the object lent.¹⁴

However, in addition to income, years lived in the village and whether people have ever lived in an urban area also predict whether someone would lend a bicycle to a fellow villager. The coefficients on both variables (and their marginal effects) are significant and negative, suggesting that the probability that people would strongly agree that they would lend to other village members falls if they have spent more time in the village and if they have ever lived in an urban area. It is possible that those who have spent some time out of the village will be less familiar with other village members, which could cause them to trust less. Finding that the number of years an individual has spent in the village is negatively correlated with context-specific trust in fellow villagers is a

¹⁴ Perhaps in the event that the loaned bicycle gets broken, a rich person is more likely to be able to afford the cost of getting it fixed or replaced. In this regard, poor people will be less likely to trust since they cannot afford to get their bicycle repaired or replaced if damaged by the borrower.

surprising result. There is no explanation for this. We would rather expect a positive coefficient on years lived in the village, as the non-context specific trust results show. Perhaps non-context specific trust differs from context-specific trust (which is not really revealing).

The results indicate that ROSCA membership and the duration of membership are statistically insignificant, suggesting that belonging to a ROSCA does not matter for context-specific trust. Also, age, marital status, household size, number of children, duration in a ROSCA and education do not account for any significant part of the variation in trust levels, in both specifications. The same results were found for non-context specific trust, except for the fact that age and the divorce dummy have significant negative effects on non-context specific trust in fellow villagers.

[Table 3 here]

5. CONCLUSION

This paper aimed to analyse individual socio-economic characteristics that drive the variation in the levels of survey trust as the radius of trust expands. Generally, the extent of trust declines as the radius of trust widens, suggesting that social distance is important. The results show some evidence that survey trust is correlated with some socio-economic characteristics. However, the correlates of non-context specific and context-specific trust are different. Thus, researchers should be cautious of this when designing a survey. For non-context specific trust, the number of years someone has lived in the village is the only personal characteristic that significantly determines trust across the radius of trust, and its effect is positive. In only one case (trust in fellow group members) is ROSCA membership significantly correlated with survey trust,

suggesting that social distance is important. The duration of ROSCA membership is insignificant. Therefore, it is more likely that more trusting people are more likely to join ROSCAs rather than ROSCA membership making people more trusting.

Age and marital status significantly determine non-context specific trust in other village members only, but do not account for any significant part of the variation in the levels of trust as the radius of trust extends beyond the village. It is found that income is the main significant determinant of context-specific trust. Richer people are more likely to trust others with their personal belongings such as bicycles. Besides income, years lived in the village and whether people have ever lived in an urban area also explain their trust in other village members. Education, gender, household size, duration in a ROSCA, and the number of children subjects have do not explain trust, regardless of whether trust is context-specific or non-context specific.

The main findings of this paper are summarized as follows. Firstly, descriptive analysis indicates that the level of trust declines as the radius of trust expands, suggesting that social distance is important. Secondly, increases in the number of years lived in the village are significantly associated with increases in the levels of non-context specific trust, which in turn are thought to be associated with low transaction costs. Thirdly, the key determinant of context-specific trust is income; and the magnitude of its impact is significantly positively correlated with the levels of trust. Lastly, the results clearly indicate that it is really important to disaggregate trust into non-context specific trust and context-specific trust when analyzing the socio-economic determinants of survey trust. This is the first attempt to analyse the relationship between survey trust and socio-

economic characteristics. Therefore, more evidence is needed before any definitive conclusions can be established.

REFERENCES

- Arrow K. 1972. Gifts and Exchanges. *Philosophy and Public Affairs* **1**(4): 343-362.
- Ashraf N, Bohnet I, Piankov N. 2006. Decomposing Trust and Trustworthiness. *Experimental Economics* **9**: 193-208.
- Barr A. 2003. Trust and Expected Trustworthiness: Experimental Evidence from Zimbabwe. *Economic Journal* **113**: 614-630.
- Bouma J, van Soest D, Bulte E. 2005. Trust, Trustworthiness and Cooperation: Social Capital and Community Resource Management. Department of Economics and CentER, Tilburg University, mimeo. Retrieved on April 10, 2008 from www.ucl.ac.uk/bioecon/8th_paper/BoumaVanSoestBulteSocialCapital.PDF.
- Buchan N, Croson R. 2004. The Boundaries of Trust: Own and Others' Action in the US and China. *Journal of Economic Behavior and Organization* **55**: 485-504.
- Buchan N, Johnson E, Croson R. 2006. Let's Get Personal: An International Examination of the Influence of Communication, Culture and Social Distance on Other Regarding Preferences. *Journal of Economic Behavior and Organization* **60**: 373-398.
- Cassar A, Crowley L, Wydick B. 2007. The Effect of Social Capital on Group Loan Repayment: Evidence from Field Experiments. *Economic Journal* **117**: F85-F106.
- Danielson A, Holm H. 2007. Do you Trust your Brethren? Eliciting Trust Attitudes and Trust Behavior in a Tanzanian congregation. *Journal of Economic Behavior and Organization* **62**: 255-271.
- Etang A, Fielding D, Knowles S. 2007. Survey Trust, Experimental Trust and ROSCA Membership in Rural Cameroon. *University of Otago Economics Discussion Paper No. 0713*.
- Fukuyama F. 1995. Social Capital and the Global Economy: A Redrawn Map of the World. *Foreign Affairs* **74**(5): 89-103.
- Fukuyama F. 2000. Social Capital and Civil Society. IMF Working Paper No. 00/74, Washington DC.
- Glaeser L, Laibson L, Scheinkman A, Soutter L. 2000. Measuring Trust. *Quarterly Journal of Economics* **11**(3): 811-846.
- Grafton R, Knowles S. 2004. Social Capital and National Environmental Performance: A Cross-Sectional Analysis. *Journal of Environment and Development* **13**(4): 336-370.
- Greig F, Bohnet I. 2005. Is there a Reciprocal-Exchange Economy? Evidence from a Slum in Nairobi, Kenya. Kennedy School of Government, mimeo. Retrieved on April 10, 2008 from www.ciraqc.ca/ee/ESA2005/papers/Greig.pdf.

- Guiso L, Sapienza P, Zingales L. 2004. The Role of Social Capital in Financial Development. *American Economic Review* **94**(3): 526-556.
- Haddad L, Maluccio J. 2003. Trust, Membership in Groups, and Household Welfare: Evidence from KwaZulu-Natal, South Africa. *Economic Development and Cultural Change* **51**(3): 573-601.
- Haile D, Sadrieh K, Verbon H. 2004. Trust in a Segmented South African Society: An Experimental Investigation. Paper presented at WIDER Development Conference, June, 2004. Retrieved on April 10, 2008 from www.wider.unu.edu/conference/conference-2004-1/conference2004-1.htm.
- Holm H, Danielson A. 2005. Tropic Trust versus Nordic Trust: Experimental Evidence from Tanzania and Sweden. *Economic Journal* **115**(503): 505-532.
- Johansson-Stenman O, Mahmud M, Martinsson P. 2006. Trust, Trust Games and Stated Trust: Evidence from Rural Bangladesh. Department of Economics, University of Göteborg, Working Paper No. 166. Retrieved on April 10, 2008 from www.handels.gu.se/epc/archive/00004159/01/gunwpe0166.pdf.
- Karlan D. 2005. Using Experimental Economics to Measure Social Capital and Predict Financial Decisions. *American Economic Review* **95**(5): 1688-1699.
- Knack S, Keefer P. 1997. Does Social Capital have an Economic Payoff? A Cross-Country Investigation. *Quarterly Journal of Economics* **112**(4): 1251-1288.
- La Porta R, Lopez-De-Silanes F, Shleifer A, Vishny RW. 1997. Trust in Large Organizations. *American Economic Review* **87**(2): 333-338.
- Lazzarini S, Madalozzo R, Artes R, Siquerira J. 2004. Measuring Trust: An Experiment in Brazil. Ibmec Working Paper WPE 2004-1.
- Long, J. and Freese, J. (2003) "Regression Models for Categorical Dependent Variables Using Stata - Revised Edition", *Stata Press Publication*, Stata Corporation, College Station, Texas.
- Mosley P, Verschoor A. 2005. The Development of Trust and Social Capital in Rural Uganda: An Experimental Approach. University of Sheffield, mimeo. Retrieved on April 10, 2008 from www.swan.ac.uk/economics/res2004/program/papers/MosleyVerschoor.pdf.
- Schechter L. 2007. Traditional Trust Measurement and the Risk Confound: An Experiment in Rural Paraguay. *Journal of Economic Behavior and Organization* **62**(2): 272-292.
- Van Bastelaer T, Leathers H. 2006. Trust in Lending: Social Capital and Joint Liability Seed Loans in southern Zambia. *World Development* **34**(10): 1790-1792.
- Zack P, Knack S. 2001. Trust and Growth. *Economic Journal* **111**(470): 295-321.

Table 1: Distribution of survey responses

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Total
<i>Non-context specific trust</i>						
trust in fellow group members	0	1	3	36	160	200
trust in fellow villagers	2	17	0	73	108	200
trust in neighbouring villages	10	32	3	90	65	200
trust in people in general	32	39	8	92	29	200
<i>Context-specific trust</i>						
lend to fellow group members	0	2	0	50	148	200
lend to fellow villagers	0	0	1	90	109	200

Table 2: Determinants of non-context specific trust

	(1) Trust in fellow group or ROSCA members <i>Logit</i>	(2) Trust in fellow villagers <i>Poisson</i>	(3) Trust in people from neighbouring villages <i>Poisson</i>	(4) Trust in people in general <i>Poisson</i>
ROSCA member	2.0850*** (2.64)	-0.0001 (-0.00)	-0.0021 (-0.03)	-0.0514 (-0.44)
Duration in a ROSCA	0.1248 (1.28)	0.0025 (0.45)	-0.0018 (-0.23)	0.0133 (1.25)
Male	-0.1284 (-0.29)	0.0415 (1.34)	0.0299 (0.69)	-0.0476 (-0.78)
Age	-0.0100 (-0.45)	-0.0046** (-2.12)	-0.0037 (-1.58)	-0.0052 (-1.52)
Divorced	0.0475 (0.05)	-0.1759* (-1.93)	-0.1826 (-1.58)	-0.2152 (-1.33)
Household size	-0.0576 (-0.52)	0.0024 (0.25)	-0.0022 (-0.21)	0.0100 (0.64)
Number of children	0.1296 (0.87)	0.0062 (0.62)	-0.0030 (-0.24)	0.0106 (0.58)
Years lived in the village	0.0458** (2.35)	0.0038* (1.88)	0.0077*** (3.25)	0.0061* (1.84)
Lived in an urban area	-0.4136 (-0.63)	-0.0066 (-0.16)	0.0280 (0.46)	0.0223 (0.26)
ln(income)	0.6944 (0.92)	0.1054 (1.62)	0.1141 (1.36)	0.0421 (0.36)
Education	0.3654 (0.79)	-0.0001 (-0.00)	-0.0260 (-0.58)	-0.0058 (-0.09)
Intercept	-5.1490 (-1.20)	0.8850 (2.36)	0.6379 (1.33)	0.8575 (1.25)
Log likelihood	-73.2549	-352.0173	-354.1941	-356.4412
R ²	0.268	0.133	0.137	0.058

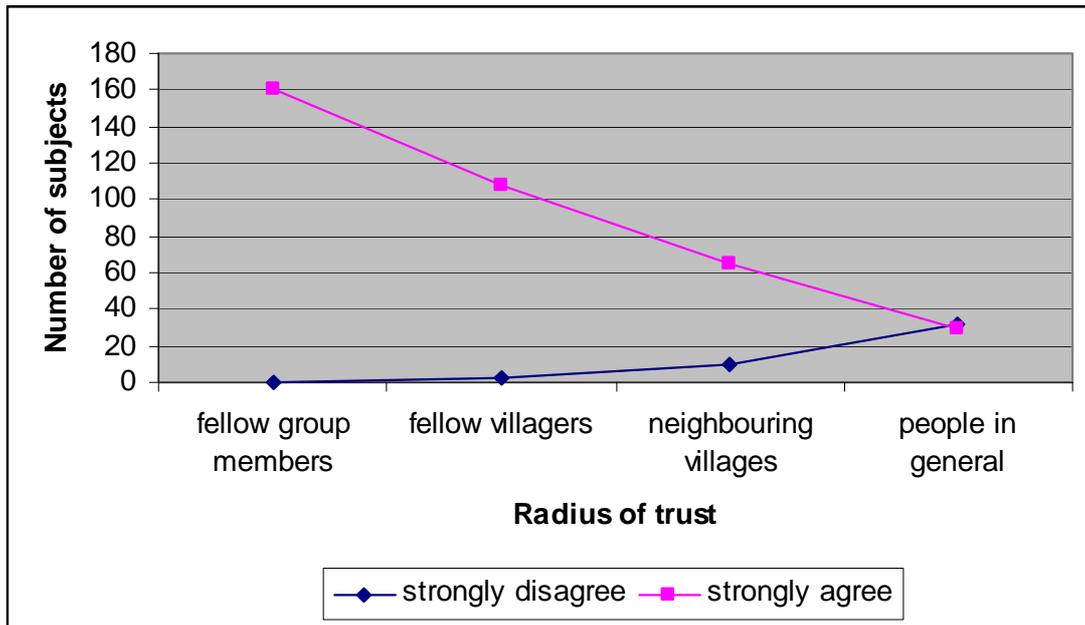
Notes: *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively. Heteroskedasticity-robust t ratios are in parentheses.

Table 3: Determinants of context-specific trust

	(1) would lend a bicycle to fellow group members	(2) would lend a bicycle to fellow villagers
ROSCA member	-0.1310 (-0.21)	-0.5897 (-0.99)
Duration in a ROSCA	0.0807 (1.31)	0.0710 (1.26)
Male	-0.2409 (-0.68)	-0.4677 (-1.47)
Age	0.0171 (0.89)	0.0172 (1.07)
Divorced	-0.1834 (-0.25)	-0.4004 (-0.63)
Household size	0.0131 (0.14)	0.0723 (0.91)
Number of children	-0.0590 (-0.51)	-0.0464 (-0.49)
Years lived in the village	0.0038 (0.27)	-0.0314** (-2.11)
Lived in an urban area	-0.4356 (-0.92)	-0.7602* (-1.87)
ln(income)	1.8173*** (2.71)	1.8995*** (3.21)
Education	0.0461 (0.12)	0.2339 (0.74)
Intercept	-10.0103 (-2.75)	-10.1888 (-3.06)
Log likelihood	-106.9749	-128.4786
R ²	0.090	0.089

Notes: *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively. Heteroskedasticity-robust t ratios are in parentheses.

Figure 1: Number of strong agreements and disagreements vs. radius of trust



APPENDIX 1: The Survey Form

This set of questions is designed to provide some information on trust, cooperation and decision making in this village. Any information you provide will be held as strictly confidential and used for study purposes only.

Please circle the most appropriate response A, B, C, D or E, for questions 1 to 10.

A = Disagree Strongly

B = Disagree

C = Neither Agree nor Disagree

D = Agree

E = Agree Strongly

How much would you agree or disagree with the following statements about this village?

1. People who live in this village can be trusted. A B C D E
2. Most people who live in your neighbouring villages can be trusted. A B C D E
3. Generally speaking, most people can be trusted. A B C D E
4. You would be willing to lend your bicycle or hoe to someone else in this village. A B C D E
5. You would be willing to lend your bicycle or hoe to someone in the same ROSCA as you (or to someone close to you – for non-members of ROSCAs) A B C D E
6. If your neighbours need your help during cocoa or coffee harvest seasons, you would be willing to help them. A B C D E
7. Assuming that you help other people harvest their crops, they would help you harvest your crops when you need help. A B C D E
8. Suppose your bucket got broken and you need to fetch water before the next market day. Your neighbour would be willing to lend you theirs. A B C D E
9. You would expect to get your wallet/purse returned (with nothing missing) if you lost it in the street in town Z.* A B C D E
10. People in the same ROSCA (group) as you can be trusted. A B C D E
11. Have you been a victim of crime in the past five years?
Yes No (If yes, how many times? Where? What happened?)

* The town was named in the survey, but is not named here so as to protect the anonymity of the village. The town is the nearest large town to the village, and is about 40km away.

Demographics

1. Gender: Male Female
2. Age: 16-20 21-30 31-40 41-50 51-60 61-70
71 +
3. Marital Status: Single Married Divorced
Widow/Widower
4. Occupation: Farming Business Other
5. With whom do you live with?
 Alone Partner Children Partner and Children
 Friends Extended family Household size.....
6. How many children do you have?
7. How long have you lived in this village? years
8. Have you ever lived in an urban area? Yes No
9. Do you belong to a ROSCA? Yes No
10. If yes, for how long have you been a member? years
11. Annual income of household from occupation (last year's income).
 - a) < CFA 300,000
 - b) CFA 300,000 - CFA 500,000
 - c) CFA 500,000 - CFA 750,000
 - d) CFA 750,000 - CFA 1,000,000
 - e) CFA 1,000,000 - CFA 1,500,000
 - f) > CFA 1,500,000
12. Academic qualifications:
 - a) None
 - b) First School Leaving Certificate (F.S.L.C.)
 - c) GCE O-Level (or equivalent)
 - d) GCE A-Level (or equivalent)
 - e) Degree