Written Exam at the Department of Economics summer 2019

Advanced Development Economics: Micro Aspects

Re-Final Exam

Date: Aug 2019

(3-hour open/closed book exam)

Answers only in English.

This exam question consists of 2 pages in total.

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- contact an invigilator who will show you how to register and submit a blank exam paper.
- leave the examination.
- contact your GP and submit a medical report to the Faculty of Social Sciences no later than five (5) days from the date of the exam.

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You cheat at an exam, if during the exam, you:

- Make use of exam aids that are not allowed
- Communicate with or otherwise receive help from other people
- Copy other people's texts without making use of quotation marks and source referencing, so that it may appear to be your own text
- Use the ideas or thoughts of others without making use of source referencing, so it may appear to be your own idea or your thoughts
- Or if you otherwise violate the rules that apply to the exam

Question 1: Microfinance

a) Describe the pros and cons of the three main mechanisms used in microfinance.

Follows the lecture on "Credit and Microfinance" and the answer should reflect the descriptions in both Conning and Udry (2007) section 4.2 and Banerjee (2013) section 2. The following aspects should be discussed: (i) group lending, (ii) Dynamic Incentives and (iii) Regular repayments.

Ad (i): This is a case of joint liability and the pros and cons related to this. The potential advantages of credit cooperatives, ROSCAs, savings mutuals and group loans should be explained from the view point of the importance of both delegated and peer monitoring. Banerjee (2013) has a tendency to focus only on the latter, whereas Conning and Udry (2007) has reflections on the former. Peer selection in groups leads to assortative matching (safe types form groups with safe types because this is more profitable and the limited liability payment has to be made less often when you team up with a safe type). Utilizes that borrowers have local information about one another. Peer monitoring in groups mitigates moral hazard problems. Free rider problems should be described as well along the dimensions outlined in both Conning and Udry (2007) and Banerjee (2013). In addition, the good answer should cover discussions using both (a) insurance, (b) incentive arguments.

Ad (ii): Lending is made progressive: loan size increase contingent upon repayment. The link between dynamic incentives and reductions in moral hazard should be described. Increased competition erodes this beneficial effect. Works better in areas with low mobility; note women have lower mobility and less access to credit than men – maybe the reason for why the design initially focused on women (not only empowerment – but mechanism design considerations as well). Willful default will go down with a dynamic incentives scheme, but it may also affect ex-ante risk-taking behavior and repayment behavior conditional on ending up without a loan. As emphasized by Banerjee (2013): "the efficiency of canceling credit whenever the loan is not repaid is questionable, as it leads to poor insurance and loss of productive investment opportunities".

Ad (iii): Transaction design; Payments start almost immediately and continue on a regular—often weekly—basis. Loan collection often takes place in group meetings even when the loan has individual liability? Advantages: Provides interim information on borrower type (problems with adverse selection is reduced). Undisciplined borrowers can be detected early. Save loan officers time. Disadvantage: Households must have another income source (describe whether diversification may be a "bad" in certain developing country setting for growth, but good as insurance). Agricultural cultivation with strong seasonality is not suited for these regular repayments, maybe the reason for why microfinance is increasingly becoming an urban phenomenon.

b) Explain what is understood by delegated monitoring within finance and discuss the issue of delegated monitoring versus local availability of loanable funds in a developing country context.

A delegated monitor is a local financial intermediary acting as a middleman for the actual lender (outside intermediary). The delegated monitor is assumed to have more information about the local borrower segment than the outside intermediary does. A delegated monitor therefore directly reduces the borrower's scope for moral hazard. However, delegated monitors without intermediary capital will be more expensive to motivate than those with capital at risk. Putting capital at risk allows delegates to better commit to monitor, reducing the cost of providing monitoring incentives. This explains why capitalized crop traders, shopkeepers and landlords are likely to emerge as local financial intermediaries. Rural financial intermediation may therefore be limited not due to lack of locally informed agents, but for lack of local intermediary capital. ***Costly state verification*** (ex-post moral hazard) insight (Diamond, 1984): If a delegate controls several loan projects rather than just one (and returns from those different projects are imperfectly correlated), then the monitor can cover losses from one loan project out of the income received from successful monitored loans. Hence, financial intermediaries with more diversified loan portfolios can achieve much higher levels of financial leverage, expand loan access, and lower the cost of borrowing. However, local intermediaries/delegated monitors often face the situation where the correlation across project returns within the village is high, reducing the opportunities for these incentive diversification opportunities. This explains why commercial financial intermediaries and microfinance have in general been much slower to penetrate into rural areas compared to urban areas where diversification is higher. May also explain why new microfinance have been more successful at funding rural non-farm activities than normal crop-cycle lending.

Question 2: Microfinance example - Bangladesh

A dataset based on a household survey in Bangladesh asking households about their use of microfinance and a do-file are included for this exam. The dataset contains information on the household head, farmland, household assets, household expenditures, and village prices of different goods. The do-file loads the applied dataset, helps the student structuring the answers, and sets global variables needed for the empirical models.

a) In 2006, the Nobel Peace Prize was given to the founder of Grameen Bank, which offered microfinance to low-income customers. Since the award, however, the discussion on whether microfinance is preferable is still ongoing. Based on a simple (uncontrolled) model regressing household expenditures on microfinance participation, how are the two variables associated disaggregated by gender? What do we need to assume for the relationship being interpreted as "the effect of microfinance on income"?

Answer: The correct answer would be to say there is no significant relationship between program participation and expenditures. The student may also address that there is a significantly positive relationship between living in a program village and expenditures for females. The correct assumption for the relationship to be causal is that program participation is completely random. The student may further discuss that expenditures are not the same as income, so we would further need to assume that the increased expenditures stem from increased income.

b) Various omitted variables could potentially explain why we find or do not find a relationship between expenditures and program participation. The core control variables are given to you in a global in the do-file. Including only education and the natural logarithm of land, the coefficient estimate for female participation increases substantially. Why does including these two variables change the result so dramatically? Include all the control variables and interpret the results. Does sample weighting change the results, and when is it preferable to use sample weights?

Answer: The coefficient estimates increases because the microfinance program targeted low-income households with less than half of an acre of land. Consequently, not accounting for this selection issue, the relationship between expenditures and participation is biased downwards. The student should address the insignificant relationship between male participation and expenditures and the significantly positive relationship between female participation and expenditures. Further, it would be good if the student addresses at least one of the other control variables. The main explanatory variable, program participation, remains significantly positive for females and insignificant for males when sample weights are applied. We wish to include sample weights when we are interested in a representative sample. This is typically the case, unless we are purely interested in the mechanism at play.

c) Explain how we may test for spillover effects to non-participating households, and do the analysis. Do you find any spillover effects for males or females? Further, discuss other identification strategies that may be used to study the impact of the microfinance program.

Answer: The student should limit the sample to households not participating in the program and analyze the relationship between expenditures and living in a program village. There seem to be a negative effect in male program village, whereas there is no significant effect in female program villages. Other identification strategies the students should know about include propensity score matching and difference-in-difference. While not part of the curriculum, the students may also mention regression discontinuity design.