

# Essays on Social Network, Competition, and Microfinance<sup>1</sup>

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# Abstract

Since the birth of the human beings, we human beings have not conquered worldwide poverty yet. More than 1 billion people live with the expense of one dollar per day while a small number of the people in the global village succeed in escaping from the poverty.

A large number of benevolent people and organizations invest their money, time and power to reduce the poverty in the third world, but the success has been still limited. Although enormous amount of money flew into African countries, they are still poor as if there had been no inflow of money. The task of economic analysis for economic development and poverty reduction is, therefore, to unravel what kinds of policy sets can change the situation.

In this dissertation, we focus on social networks, competition and microfinance. Chapter 2 is allotted for the analysis on social networks. Information on job vacancies, business chances, opportunity for trainings and various activities flows through social networks. Those who have connection with politicians or government bureaucrat may be treated better in many situations. Those with more social connections can deal with income shocks more easily than those with less social connections. In some cases of job hunting, the important thing is not who you are but who you know. In developing countries where job opportunity is rather limited, most good jobs are available only for those who have connections. On the other hand, availability of low wage income jobs for less educated people is also determined by social connections since employers would not place emphasis on educational levels but put a high priority on the trustworthiness of the applicants, which can only be established by referrals from common acquaintances (See Nakanishi (1991)). Chapter 2 deals with such cases where applicants with connections can ask their friends or relatives working in firms with vacancies for referrals. We show that an extension of networks may decrease applicants' payoffs while a diversification of the networks can raise referred applicants' payoffs.

In Chapter 3, our focus is turned to competition. Competition can be classified into competition based on absolute performance evaluation and one based on relative performance evaluation. In economic theory literature, the latter is called contests. We can find many examples of such contests: for example, recruitment, promotion, admission to universities, student grading, Olympic and sports tournament. World Bank's influential book *The East Asian Miracle* points out that East Asian countries use contests to induce export companies' efforts. Before evaluating the effectiveness of these contests, it is important to clarify in which situations contests work better than traditional individual contracts and

how these two schemes differ. In Chapter 3, we show that it is optimal for the principal to deliberately make the signals noisier according to the degree of heterogeneity. This is contrary to the traditional individual contract theory based on absolute performance evaluation, where using most accurate signals is optimal for the principal. We also argue how the contest types influence the optimal accuracy of noisy signals.<sup>1</sup>

The last chapter is on field experiments on microfinance. After the success of the Grameen Bank in Bangladesh, The boom in microfinance happened all over the world. Joint liability, one of key innovation of the Grameen bank, became synonymous with microfinance. As of the end of 2005, it is estimated that 100 million people had been served microcredit service. As the year of 2005 is proclaimed by the General Assembly of the United Nations as the International Year of Microcredit, many conferences and working groups for microfinance were held in 2005. Recently, however, some microfinance institutions have discarded the joint liability and shifted toward individual lending. An article of *The Economist* (2005) pointed out the following two points as the reasons: (1) the members who expanded their businesses faster and require more capital felt constrained in what they could borrow, while those whose businesses grew more slowly found themselves guaranteeing big debts for other people, and (2) as group members developed personal credit histories through their loan payments, the need for collective guarantees disappeared. In this chapter, we challenge the validity of the argument that joint liability contracts are better incentive schemes to discourage borrowers from defaulting strategically and achieve higher repayment rates than individual lending contracts. We implemented eleven different types of repayment games with dynamic incentives in Hochiminh city, Vietnam. Our results show that joint liability contracts caused serious free-riding problems, inducing strategic default and lowering repayment rates. When group members observed each others' investment returns, then participants were more likely to choose strategic default. Even after introducing cross-reporting system or punishment among borrowers, the default rates and the ratio of participants who chose strategic default under joint liability were still higher than those under individual lending. Joint liability contracts themselves do not seem to provide good incentives for the borrowers to repay their loans. Moreover, joint liability schemes failed in inducing mutual insurance among borrowers. Those who had been helped or repaid a little in the previous round were more likely to default strategically and repay a little again in the current round and those who paid large amounts were always the same individuals.

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