The First Workshop on Experimental Social Sciences: the Function and Creation of Social Capital.

The 4th International Seminar on Experiments and Surveys in Economics and Related Social Sciences -Economic Incentives and their Impacts on Human Brain and Behaviors-

第１回実験社会科学ワークショップ「社会関係資本の機能と創出」
第４回国際経済理工学セミナー「経済理工学における実験調査の現状と課題」
共催

October 5, 2007, 13:00－16:00 at 707, West 9 building 7th Floor, Tokyo Institute of Technology
2007 年 10 月 5 日（金）13:00－15:40, 東京工業大学, 西９号館７階７０７

13:00 - 13:30
Junyi Shen, Osaka School of International Public Policy, Osaka University
“The Spite Dilemma Revisited: Comparison between Chinese and Japanese”

Abstract: This paper studies Chinese choice behavior in the provision of public goods via the voluntary contribution mechanism. The laboratory experiment conducted in China is designed as same as that in Saijo and Nakamura (1995) i.e. either cooperating (full contribution) or free riding (no contribution) is predicted as the unique Nash equilibrium with a high (larger than one) or low (smaller than one) marginal return of contribution. Comparing the results of Chinese subjects with their Japanese counterparts, we find that choice behavior is significantly different across these two countries with quite similar culture and location. Japanese subjects are more likely to act spitefully, in contrast, Chinese subjects are more likely to perform cooperatively. In addition, concerning the deviations from the Nash equilibriums with different marginal returns, the statistical results indicate that Chinese subjects behave more consistent with the theoretical prediction in the high marginal return case, while Japanese choice behavior seems less different from the theoretical expectation in the low marginal return case.

13:30 - 14:00
Kazumi Shimuzu, Waseda University

“How to resolve the social dilemma?- Role of “normative sentiments” for the altruistic behavior-“

Abstract: Recent studies on social dilemmas suggest that the punishment of noncooperative behavior leads to higher rates of contribution or toward full cooperation. However, the provision of punishment creates a second-order “free-riding” problem: group members free-ride on the costly punishment given by others. Few attempts have so far been made to reveal the precise contents of “punishment”: who punishes whom and why?
Experiment 1: Who punishes whom and why? :
1) Some “punishers” punish not only “free-rider” but also “cooperators”;
2) Punishment against “free-rider” and that against “cooperators” are driven by different “emotions”: the former depends on the interactions between “general trust” and “self-fairness”, whereas the later depends principally on “emotional sympathy”.
Experiment 2: Who provides “altruistic” punishment and in which situation?
1) Group affiliation does not drive altruistic punishment in the absence of expectation of reciprocal benefits;
2) Punishment against “free-riders” is driven by a sentiment of fairness.
More specifically,
2-a) the higher the endorsement of fairness, more severe the punishment
2-b) “fair-minded” participants will punish a “free rider” independent of their group affiliation.

14:00 - 14:30
Motoki Watabe, Waseda University
“Brain Imaging Study on Trust Information Processing”
「他者の信頼性情報に関する脳イメージング研究」

Abstract: This study aims to explore how we handle information of other’s trustworthiness by brain imaging method (fMRI). More specifically, we are interested in brain regions where activate when we are making judgment of other’s trustworthiness. In order to address our interest, we randomly gave two different kinds of information to each participant. One was a strong indicator of other’s trustworthiness; the other was irrelevant information to other’s trustworthiness. By comparing these two conditions, we tried to specify the regions activating uniquely on the information of trustworthiness. First, we needed to specify trust information and

irrelevant information. We listed fifty eight episodes of person's behavior. We should note that all the trust information was negative information that indicates a person is not trustworthy. Eighteen of them were quoted from Kosugi and Yamagishi (1994) and rests of them were originally developed. We then ask eighty undergraduate students how each episode useful to detect a person's trustworthiness. We picked up the 16 most and the 16 worst useful episodes for fMRI experiment. The farmer is "trust information." An example is "Person A cheated at an examination." The latter is "irrelevant information." For example, "Person A wears glasses." Second, in fMRI study, a participant read each of the 32 picked episodes in every two minutes. The episodes were randomly shown by a computer. The participants were 21 undergraduate students. They answered trust scale (Yamagishi 1998) before the experiment and we confirmed their trust levels are around average of Japanese population. To specify the regions of trust information processing, we analyzed brain activation six seconds right after the information was shown. BrainVoyager QX (ver. 1.7.9) was used for the standard GLM analysis. The results show that the following regions were significantly activated: Angular Gyrus, Anterior cingulate, left frontal lobe, right frontal lobe, and putamen. In the past research, these regions are activated when one makes social judgments and complicated tasks. Since trust judgment is social and complicated task, our results are consistent with these findings. Especially, all of the activated regions are overlapped as the study by Delgado et. al.(2005). It should be noted that our study finds these activations only by giving information of an anonymous person without any decision whereas Delgado's study finds them when the subjects actually play trust game. It means that these regions are working not only for decisions and feedback information of partner's past actions but also for information processing before such decisions and feedback information.

14:30 - 14:40: Break

14:40 - 15:10
Motoki Watabe, Waseda University
"Building Trust"
「信頼構築のための社会心理学実験」

Abstract: This research experimentally examines how people can develop trust on potential exchange partners by different types of sanctioning systems. In this paper, I focus on the effects of self-sanctioning (hostage-posting) behavior on trust in dyadic

exchange situation. In a two-person trust game, the first player has fear of exploitation by the second player and the first player is given an option to provide self-sanctioning, which gives punishment for exploitative behavior by oneself. My hypotheses are: 1) the first player's trust level increases when the second player VOLUNRARILY provides self-sanctioning and 2) it does not when the second player IMPOSEDLY provides self-sanctioning. In order to test these hypotheses, I conducted three experiments. The experiment 1 and 2 support these hypotheses, but results show that the effect of trust development by voluntary self-sanctioning is not very strong. In the experiment 3, I conducted an experiment that four persons are assigned as the role of the first player, they play the game with one person as the second player, and they have opportunity for discussion on the second player's behavior. The results show that group discussion amplifies the effects of voluntary self-sanctioning resulting in the first players' trust level significantly increases. Implications and possibility of further research are discussed.

15:10 - 15:40
Takehiko Yamato, Tokyo Institute of Technology
"Secure Implementation Experiments"

Abstract: Strategy-proofness, requiring that truth-telling is a dominant strategy, is a standard concept used in social choice theory. Saijo et al. (2003) argue that this concept has serious drawbacks. In particular, many strategy-proof mechanisms have a continuum of Nash equilibria, including equilibria other than dominant strategy equilibria. For only a subset of strategy-proof mechanisms do the set of Nash equilibria and the set of dominant strategy equilibria coincide. For example, this double coincidence occurs in the Groves mechanism when preferences are single-peaked. We report experiments using two strategy-proof mechanisms. One of them has a large number of Nash equilibria, but the other has a unique Nash equilibrium. We found clear differences in the rate of dominant strategy play between the two.