途上国における貧困削減と制度・市場・政策
比較経済発展論の試み
Poverty Reduction, Institutions, Markets, and Policies in Developing Countries: Toward a Theory of Comparative Economic Development

PRIMCED Newsletter

No. 6 (February 2013)

Contents

Message from the Project Leader

Takashi Kurosaki (Project Leader)

Best wishes for all of you for a very happy 2013. As an important event for our project early this year, an international PRIMCED workshop will be held on March 8 and 9, 2013, at Hitotsubashi University. I am looking forward to seeing you there.

In December 2012, I attended two international conferences held in Delhi, India, and presented PRIMCED research results. The annual conference on economic growth and development was held at the Indian Statistical Institute, New Delhi (ISID conference), December 17–19, 2012, where I presented my paper on the impact of the Delhi Metro (initial opening in December 2002, followed by gradual extensions) on the cycle rickshaw sector in Delhi. The Asian Meeting of Econometric Society (AMES) was held at the Delhi School of Economics, December 20–22, 2012, where I presented another paper of mine, on the recovery process of households hit by unprecedented floods in 2010 in Pakistan. Both of the papers are empirical and cover cases on South Asia, including India. I received many useful comments and suggestions. I am grateful to the participants and organizers of these two conferences.

I have been participating in the ISID conference each year since 2007. I obtained many key ideas for PRIMCED from these six conferences. Although it is an “international” conference with a large number of participants from all over the world, the majority of the participants from outside of India are Indian scholars and Indian Ph.D. students belonging to universities and institutes in America, Europe, and Australia, who use their Christmas holiday to come back home and attend the conference on their way. Many of them gather in small alumni meetings with fellows from the colleges they attended. In 2007, the total number of ISID conference papers was 46, whereas in 2012, it was 131—a 2.8 times increase in 5 years. This expansion is similar to what I observed during the six annual conferences of the Northeast Universities Development Consortium (NEUDC) that I participated

in. The NEUDC conference is held each year at one of the universities located on the East Coast of the United States. The focus of the conference is on economic development. These expansions reflect the rising importance of development economics in the whole area of applied economics, owing to new methodologies such as field experiments.

The AMES conference was held in India for the first time. The conference was indeed large; the number of accepted and invited papers was 296. I believe that those economists in the AMES conference who visited India for the first time were impressed with the rising economy and the emerging number of Indian economists in academia. At the same time, places in Old Delhi or typical tourist spots retain what was once known as the colorful chaos of India. When I was taking my colleague (first-time visitor of India) to such places, the memory of my first visit to Delhi in February 1986 (almost 27 years ago!) came back to my mind. During my December 2012 visit to Delhi, I also met one of my best Indian friends, whom I met for the first time in 1986 in Bombay (now Mumbai). He is a Muslim entrepreneur based in Mumbai, and we enthusiastically discussed his new business plan. Then I realized that it was the first time we met in Delhi. Bombay has been the business center of the Indian economy since the colonial period. This status has remained the same regardless of its official name. Another realization is that he always uses “Bombay” to refer to his city when he speaks in English. India has been my mentor, teaching me that economic development is a process in which numerous changes are taking place simultaneously that cannot be aggregated into a single measure of economic growth rate.

Report on Filed Surveys and Data Compilation

Report, No.9

Humanizing Data Collection

Ryo Kambayashi
(Institute of Economic Research, Hitotsubashi University)

Battle Fairy Yukikaze is the chef d’oeuvre of Chohei Kambayashi, a master of science fiction in Japan. He originally started to publish the story in 1979, and it is now a well-known piece among science fiction fans. Some of the book’s readers may have recognized it more recently, because it was made into animated movies in the 2000s. The title role, Yukikaze, is an artificial intelligence program installed in a fighter “Super Sylph.” The writer describes, in a battlefield, the interaction between human beings and computer technology, and depicts the identity crisis of both, which is a classical theme of science fiction. In the story, the task assigned to Yukikaze is, by any means, to return to the base and report every process and result of combat without participating in it. To achieve the task, the Super Sylph is provided the latest equipment and the best pilot with no thought of the cost.

It was when I heard the Japanese Statistical Bureau gave up conducting their Labor Force Survey in three prefectures hit by the East Japan Earthquake that I remembered the story of Yukikaze. Although I was in Japan, having returned temporally from the OECD in Paris, I could not find any details regarding the reason for the interruption – neither in broadcasts nor on the Internet – as I considered the temporary surrender of the Bureau. Now, almost two years after the disaster, we can confirm the hard situation of those days in the affected area, where almost everybody was forced to evacuate from their homes and where it had been difficult even to search for missing persons. Conducting surveys must have been the last priority. Why did I remember the name of Yukikaze, then?

I was just examining the historical documents on the public employment service (PES) in prewar Japan, which is funded by the PRIMCED project, and looking at the response of the Tokyo Municipal Employment Agencies to the Kanto Earthquake in 1923. It would have been a good case study to test the contribution of

the PES to the recovery in the labor markets from the exogenous disturbance. The documents also informed me that, within one month after the disaster, the Japanese government conducted an ad hoc population census in the affected areas, such as Tokyo and the Yokohama municipals, reporting the allocation of refugees and unemployment rates of each district. Using date from the 1920 and 1930 National Censuses, we can define the exogenous shock to labor markets caused by the earthquake and test the causal effect of the PES on reconciling the disequilibrium of markets.

Putting aside the results of the analysis, what is more interesting for this essay is that, according to the ad hoc population census, in the districts near the Sumida-gawa River such as Honjo, Fukagawa, Asakusa, Nihonbashi, and Kyobashi, the refugees, that is, those who lived in another place before the earthquake, were over 90% of the population. Considering those who had evacuated from Tokyo, the figures imply that the most affected area by earthquake was completely destroyed. Of course, the PES was not exceptional. Within 28 PESs in Tokyo and Yokohama, 18 vanished by fire. Regardless of such tremendous damage, the Japanese government decided to conduct the population census within one month of the disaster, mobilizing waddling PESs in order to estimate the cost and the geographical allocation of the recovery. The report from each PES describes that the ad hoc population census was conducted by asking each person who returned on occasion to pick up a relative's relics from the burned ruins, and that the police officers always accompanied the PES officers to protect them. The Kanto Earthquake may be different from the East Japan Earthquake in that the affected area is relatively concentrated, and the government could construct a base of recovery near the most affected area (and more importantly, there was no nuclear plant in those days). However, the fact that the PES officers forced the population census under the threat of imminent danger was impressive enough to remind me of Yukikaze.

There may be no argument that resource allocation based on data is more important in an urgent situation. The price mechanism is surely useful in an ordinary situation, but immediately after the big earthquake, there was not enough time to hold a price auction. However, for resource allocation, data is essential. How quickly the requests from each place can be gathered and the resources be allocated is one of the most important determinants of recovery. At the same time, using manpower and funding to collect the data means that such resources are being diverted away from directly saving people's lives in the critical moment; this is certainly inhumane behavior!

It is easy to imagine how costly it would be to maintain a Super Sylph platoon. In addition, the story of Yukikaze implies that we need additional authorization to accomplish such an inhumane task; in the case of Yukikaze, it was a military order. I am sure that the Statistical Bureau of Japan, in facing the East Japan Earthquake, did not have sufficient manpower and budget to organize even a single Super Sylph platoon. More importantly, I am afraid they may not have been prepared for the firm but inhumane resolution to keep collecting data even in the ruins.

While my statements are at most my personal speculation, I think that we should not underestimate their implications. In the short term, the broken continuity of statistics may be a concern; in the long run, the quick withdrawal of the Statistical Bureau may suggest to people that the government no longer considers gathering their own statistics as a high priority. We have already known that the response rate of the 2010 National Census showed a decline, and people may have started to indicate their contempt of governmental statistics. I hope it is only my suspicion that the change in people's attitude toward governmental statistics has been based on the idea that the government itself no longer considers statistics important.

Statistics will not exist without the cooperation of the object of the survey. If what underlies statistics is in part "inhumane," we, not only the Bureau of Statistics but also all of the users of statistics, should bear this in mind and continuously stress the public benefit that results from authorizing such "inhumane" surveys.

Report, No.10

Randomized Experiments on Preventive Health Care among Pregnant Women and Infants in Nigeria

Yoshito Takasaki
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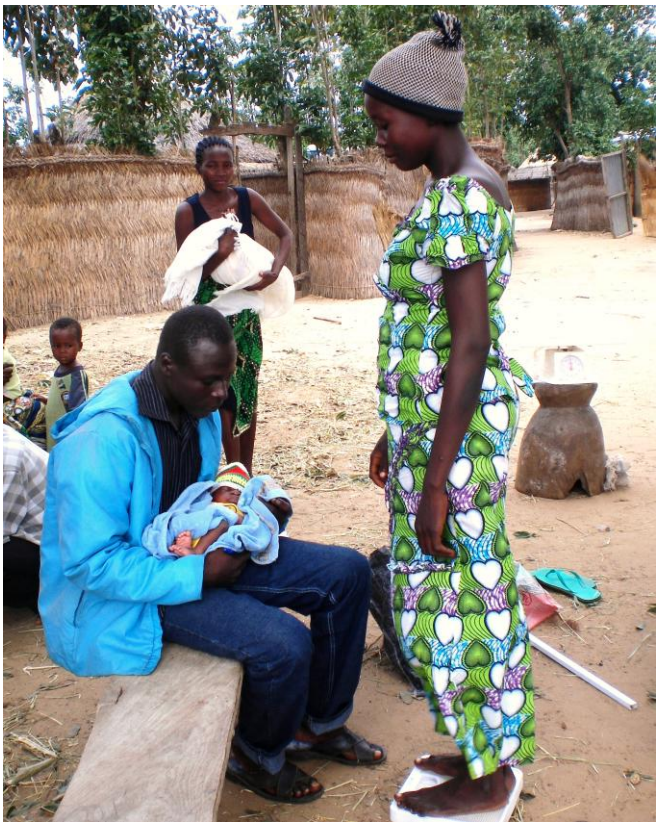
Introduction

Underinvestment in preventive health care among the poor can cause tremendous health problems. Whereas supply-side improvements – better health care services – are crucial, demand-side problems are also a major bottleneck: the poor underuse available preventive health care even if it is free and is known to be effective. To promote preventive health care among the poor, a better understanding of their health behavior is crucial, and significant progress has been shown in recent economic studies using field experiments. With Ryoko Sato at the University of Michigan, I have been conducting randomized experiments on preventive health care for pregnant women and infants in rural villages in Adamawa State in northeastern Nigeria. Nigeria's infant mortality rate is among the worst in the world; in particular, Adamawa, one of the poorest states in the country, is known for its very bad health conditions. This article provides an overview of our research on antenatal care conducted in 2009–2011 (funded by the JSPS KAKENHI, "Antenatal care and health in rural Africa: randomized program evaluation"), its preliminary findings, and future research topics and then offers a brief introduction to another research on women's vaccination we are currently conducting under PRIMCED.

Antenatal care take-up

Antenatal care is critically important for reducing maternal and infant mortality and morbidity risks. As more than one take-up with a suggested interval (at least four times according to the World Health Organization (WHO) guidelines) is required for full benefits of antenatal care (e.g., two does and injections are needed for preventative antimalarial medication and tetanus toxoid vaccination, respectively), early and repeated take-ups are crucial. However, uptake is considerably low and slow among African mothers. In our experiment, we examine how cash transfers conditional on take-up within a month (400 naira, or equivalently about US$4, which is close to the daily wage in the study area) –and the provision of basic information about antenatal care can alter women's behaviors. We expect that the conditional cash transfer (CCT) (in our design) promotes early take-up and information effects, if any, are sustainable, thus helping promote repeated take-ups. In particular, we randomly assigned 100 villages to one of the following: (1) information intervention, (2) CCT, (3) both interventions, and, (4) control (no intervention). Although information interventions can have spillover effects, randomization at the village-level rather than the individual-/household-level greatly reduces potential spillover, thus allowing us to identify direct information effects. We conducted a baseline survey over more than 900 pregnant women in June 2009, followed by three follow-up surveys, one, three, and eleven months after the baseline.



Follow-up survey in a village

Although over 80% of expectant mothers in the control group took at least one form of antenatal care throughout the current pregnancy, their take-up rate at the time of baseline was below 60%, indicating slow take-up (64% of women were in the first trimester (first to third month) or second trimester (fourth to sixth month) then). Let us call the treatment effect on take-up within a month after the baseline "early take-up effect," and that on take-ups both within a month and more than a month after the baseline (i.e., at least two take-ups) "repeated take-up effect." In the whole sample, the early take-up effects of CCT and the combined treatment are both about 15%; that is, compared to the control group, regardless of combined information intervention, CCT can augment the early take-up rate by about 15%. Although CCT's early take-up effect is over 20% among those in their first/second trimester at the baseline, its effect vanishes in the third trimester (seventh month or later); at the same time, CCT's repeated take-up effects are nonsignificant for both groups. Hence, CCT has early take-up effects, as expected, unless intervention is too late; information has neither sustainable nor temporary effects.

Interpreting these seemingly pessimistic results requires caution because the results ignore the potentially heterogeneous effects of information and CCT (except for the heterogeneity associated with pregnancy stage). In the control group, pregnant woman's literacy and experience of antenatal care take-up in their past pregnancy, if any, are shown to strongly influence their current behaviors. First, compared to illiterate women, the literate (38% of women) are more likely to take antenatal care and take it early. In contrast, once women's literacy is controlled for, their education (about a half of the women have received no education) does not alter take-up; uptake is also neutral to husband's literacy/education. Second, although there is no significant difference in take-up between first-time and non-first-time pregnant women, among the latter, compared to those with no past take-up experience, those with past take-up experience are more likely to take antenatal care and take it early. That is, once women experience antenatal care, they tend to take it again and early in their subsequent pregnancies (i.e., repeaters).

These results imply the possibility of heterogeneous treatment effects by literacy and experience. Indeed, significant differences exist among expectant mothers in the first/second baseline trimesters, as follows. First, regardless of their past experience, information has an early take-up effect only among literate women; their repeated take-up effect is statistically weak (nonsignificant). Thus, the effectiveness of information intervention depends on women's cognitive ability. Second, in addition to early take-up, CCT alone has a repeated take-up effect only among illiterate or uneducated women. This suggests that whether or not women's early visit leads to their follow-up visit as a result of the recognition of the benefits of antenatal care through the former visit depends on how much they can acquire new information (uneducated women have more limited prior knowledge about antenatal care compared with educated women). Third, regardless of women's literacy/education, the combined treatment has early, but not repeated, take-up effect. Thus, combining two treatments not only has no synergy effect (no complementarity), but also can have negative synergy. In particular, on one hand, ill-processed information by the illiterate weakens CCT's repeated take-up effect; on the other hand, CCT with the conditionality of a one-month window crowds out the information effect among the literate, because the former is more salient than the latter in their perceptions (answers to questions about perceptions about interventions are consistent with these patterns). Fourth, regardless of the information combined, CCT effects are significant only among women with past take-up experience; this is especially so among those who have not yet taken antenatal care in the current pregnancy at the time of the baseline survey. This suggests that past experience that was mainly constrained by supply-side factors (e.g., access to health facilities) alters CCT effects in a persistent way.

These findings lead to the following policy implications for better promoting antenatal care. First, intervention at the early stage of pregnancy is crucial. Second, targeting the intervention toward illiterate women is effective. Next, depending on women's literacy/education, information and CCT need to be employed separately. Last, policy makers need to pay explicit attention to the possibility of negative synergy

between interventions, depending on how they are perceived by women.

Distinct policies are recommended for three types of pregnant women, as follows.

1. Women who have taken antenatal care in a past pregnancy: CCT is effective to promote repeated take-ups; this is especially so for those who have not yet taken antenatal care at the time of intervention.
2. Non-first-time pregnant women who have never taken antenatal care: They tend to be persistent no-takers, and supply-side interventions are needed.
3. First-time pregnant women: Along with improvement in literacy, well-perceived information interventions to promote repeated take-ups are needed; at the same time, effective information interventions for the illiterate are called for. Preventing first timers from becoming no-takers and leading them to future repeaters should be a primary policy goal.

Effects of antenatal care

We plan to explore two broad questions about the effects of antenatal care. First, does antenatal care positively affect delivery (e.g., place of delivery, delivery trouble, occurrence of stillbirth) and postnatal health behaviors (e.g., breast feeding, postnatal care, immunization) for and outcomes (e.g., height, weight, morbidity) of infants? How are such effects different among specific antenatal care services? How persistent are the effects? Answering these questions can lead to useful policy implications for preventive health care policies for poor mothers. Second, does experiencing preventive maternal health care alter decision making by husband and wife in a broad way (e.g., family planning, preventive/curative health, intrahousehold resource allocation)? How are such indirect effects differentiated by factors determining intrahousehold bargaining (e.g., religion, marital institution, education, occupation, land/asset holdings)? How persistent are the effects? Can subjective well-being (especially women's) be enhanced? Answering these questions not only can capture potentially broad effects of preventive health care for poor women but may also help dissect the mechanisms of intrahousehold decision making among the poor.

Of course, it is very difficult to identify impacts of antenatal care, the uptake of which is based on individual decisions. This is primarily because uptake decisions are affected by factors determining various outcomes of interest, such as health conditions of expectant mothers and unborn babies and available health services. We can resolve this identification problem by using randomized interventions as instrumental variables for antenatal care take-up. As we collected additional follow-up data at 16, 23, and 30 months after the baseline, we can examine effects on health behaviors/outcomes and intrahousehold decisions over two-year postnatal periods. In particular, rich data about gender allow us to examine the links between preventive health behaviors and their effects and gender.

Women's vaccination

Our study on antenatal care take-up suggests that to promote preventive health care for pregnant women and infants, improving women's perceptions about information interventions is key. In our on-going project in Adamawa State, we are conducting randomized experiments on tetanus toxoid vaccination for women of pregnancy age. Tetanus, one of the most common causes of infant mortality in developing countries, can be prevented through vaccinations for infants and expectant mothers (for the prevention of neonatal tetanus). Tetanus toxoid vaccination rates, however, are low in many Sub-Saharan African countries. Our primary goal is to understand how women's low uptake is related to their perceptions about disease and vaccination, such as "fear" of disease symptoms and vaccinations, so as to develop well-perceived information interventions. We hope that we can report useful findings in the near future.

Concluding remarks

Promoting preventive health care for pregnant women and infants in Sub-Saharan Africa is one of the most important issues to decrease infant mortality and morbidity (with potentially persistent adverse effects). In addition to supply-side improvements, demand-side interventions to alter women's health behaviors are

greatly needed, and economists can make significant contributions to health policies; in particular, they can facilitate better understanding of the mechanisms underlying women's health behaviors through randomized field experiments, which could lead to effective policy designs. I hope that increasing such research will contribute to improvements in maternal and infant health among the poor.

Event Announcement

The international research workshop among PRIMCED researchers and guest speakers will be held. The information about this workshop will be forthcoming on the PRIMCED website （http://www.ier.hit-u.ac.jp/primced/index.html）.

Data： March 8 and 9, 2013
Venue： Conference Room, 7th Floor, Mercury Tower, Hitotsubashi University (East Campus)
Organizer： Takashi Kurosaki (kurosaki@ier.hit-u.ac.jp)
Speakers: Scott Rozelle (Stanford University), Chiaki Moriguchi (Hitotsubashi University), Keijiro Otsuka (National Graduate Institute for Policy Studies), Tetsuji Okazaki (The University of Tokyo), Kyoji Fukao (Hitotsubashi University), Myung Soo Cha (Yeungnam University), Marjorie Pajaron (Stanford University), Krislert Samphantharak (University of California, San Diego), Ethan Ligon (University of California, Berkeley), Yoshito Takasaki (University of Tsukuba), Albert Park (The Hong Kong University of Science and Technology), Takashi Kurosaki (Hitotsubashi University) [order of the presentation]

PRIMCED Discussion Paper Series（2012.9～2013.1）

No. 29 (October 2012) Yutaka Arimoto, Takeshi Fujie, and Tetsuji Senda, "Farmers' debt in 1930's Japan."(in Japanese)

No. 30 (November 2012) Tetsuji Okazaki, "Productivity Change and Mine Dynamics: The Coal Industry in Japan during World War II."

No. 31 (November 2012) Yoko Sakai, Jonna P. Estudillo, Nobuhiko Fuwa, Yuki Higuchi, and Yasuyuki Sawada, "Do Natural Disasters Affect the Poor Disproportionately? The Case of Typhoon Milenyo in the Rural Philippines."

No. 32 (December 2012) Jonathan Morduch, Shamika Ravi, and Jonathan Bauchet, "Failure vs. Displacement: Why An Innovative Anti-Poverty Program Showed No Net Impact."

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