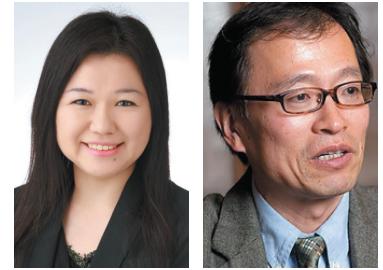


Changes in Japanese People's Worldviews & What Behavioral Economics May Tell Us

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Need for New Crisis Management

Japan is facing new challenges from natural and man-made disasters. Many victims of the 2011 Great East Japan Earthquake and tsunami need support and many stricken areas need reconstruction. The Fukushima nuclear crisis has prompted Japan to rethink its energy policy. Some experts are predicting that an earthquake will directly hit Tokyo in the near future. The aging population poses many problems for the government budget and the financial system through the growing costs of the pension and medical systems. In this age of crises, we need new ideas for crisis management policies. In crisis management, one major problem is how to encourage people to cooperate in preventing and preparing for crises and in helping victims once a disaster happens. This article introduces some insights from behavioral economics.

Challenges from Behavioral Economics

The basic methodology of traditional economics is to consider the behavior of an economic agent (*homo economicus*) who only cares about maximizing his or her satisfaction (utility) and then to study how these agents interact. This assumption of *homo economicus* is useful in simplifying the analysis, but it has many limitations. Behavioral economics relaxes this assumption, so that it can analyze the effects of many policies that are not even considered in traditional economics.

Behavioral economics recognizes that the values (including social norms) and feelings of people can be important in determining their economic behavior. Therefore, we will start by reporting recent findings about how the 2011 Great East Japan Earthquake affected values and subjective feelings with regard to the well-being of Japanese people. We will then discuss policy proposals based on these findings.

Our Approach: Using Panel Survey Data

This is a summary of our research paper (work in progress) entitled "Effects of the Great East Japan Earthquake on Subjective Well-Being" that we are writing jointly with Takuya Ishino, assistant professor at the Faculty of Economics, Keio University, and Toshiya Murai, professor at the Department of Psychiatry, Kyoto University Graduate School of Medicine. Some of our results will be presented by Akiko Kamesaka at the 4th OECD World Forum on Statistics, Knowledge and Policy under the theme "Measuring Well-Being for Development and Policy Making" to be held in New Delhi, India on Oct. 16-19, 2012.

Our analysis was conducted using panel data compiled by a group of people mainly from Keio University. The data consist of repeated observations of the same cross-section of households from all over Japan. The group has been

conducting such surveys annually since 2004, but in 2011 they conducted two extra surveys in June and October, after the Great East Japan Earthquake, in addition to the annual survey conducted early in the year 2011 before the earthquake. Although we had to limit the number of questions asked in the extra surveys, we referred to the answers in the regular panel surveys and tried to link all the relevant data to the replies in the extra surveys, since they had also been conducted on the same households. Our analysis is based on replies from over 4,000 respondents from all over Japan, including their residence information.

Our research paper focuses on the changes in Japanese people's well-being and also on altruistic views and behavior both before and after the earthquake. The questionnaires conducted in June 2011 and October 2011 asked respondents to answer to what extent they believed they were happy by choosing a number between 0 and 100. The June questionnaire also asked the respondents to what extent they thought they were happy in February 2011, and to answer retrospectively also by choosing a number between 0 and 100.

The questionnaires also asked to what extent they gave priority to others, both in June and October, and respondents again replied by choosing a number between 0 and 100. The June questionnaire also asked how they thought they were on this point in February 2011.

What the Japanese Household Surveys Reveal

(1) Changes in people's happiness before & after 3.11

Chart 1 shows changes in Japanese people's happiness (or well-being) before and after the earthquake by region. Here we focused on the differences in the replies of respondents on their happiness in February 2011 (before the earthquake) and in June 2011 (after the earthquake) and show the percentage of respondents who felt their happiness had improved, worsened or remained unchanged since the earthquake. We will discuss the happiness of those in the most affected areas of Japan separately, but it is noteworthy that the chart shows a similar distribution pattern for the areas that were not much affected or less affected even in the Tohoku region.

One surprising result was that there were more people – seven times as many – who replied that their happiness improved after 3.11 than those who said it worsened. The results suggest that more Japanese citizens had begun to realize they were enjoying a good life and were still well off even after the earthquake, even though they did not think in this way before the disaster. However, we must also bear in mind that there may well be some sample bias in the replies we obtained from the most affected areas – Iwate, Miyagi and Fukushima. We believe that many of those who were severely affected by the earthquake were not able to answer the surveys because of their situations. Therefore, we think the true level of well-being in the most affected areas should have been lower than shown in our chart.

(2) Changes in people's altruism before & after 3.11

We also tried to analyze whether or not Japanese people's worldviews had changed since 3.11. Among all the questions on this topic in the questionnaires, we drew most attention to one about people's views on altruism before and after the earthquake. According to a Japanese Statistics Bureau report on expenditure by Japanese households, the most affected expenditure in March 2011 was donations, which had increased by over 850% compared with March 2010 in both nominal and real terms, whereas the increase in expenditure on mineral water was only (though still large) 149% in nominal terms and 161% in real terms.

Chart 2 gives an indication of Japanese people's altruism both before and after the earthquake. Here again, we focused on the differences in the replies of respondents in February 2011 and June 2011. This chart shows the percentage of respondents who think they began to give either more or less priority to others after the earthquake. One striking result is that it seems many more Japanese people have become more altruistic since the earthquake, even in the most affected areas. We should note that there was a higher percentage of people who said they had become less altruistic in Miyagi than in other parts of Japan, but since it was the area that was most seriously affected by the earthquake and/or tsunami, we think that there were a certain number of people who were not in a condition to help others very easily, if at all.

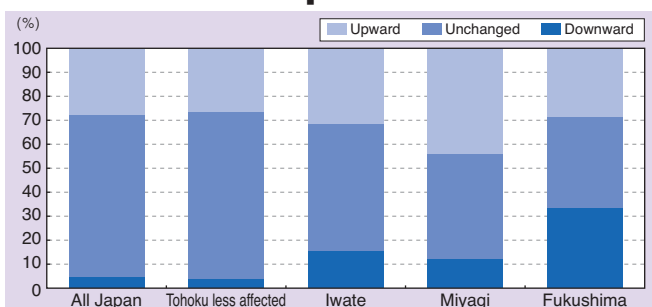
The results shown in Charts 1 & 2 are quite striking, since an earlier research paper by Miles Kimball at the University of Michigan and others reported that the average US citizen felt "unhappy" after Hurricane Katrina, and that this unhappiness continued for two or three weeks for people living in the South Central region. Our results suggest the opposite – that Japanese people's well-being has improved since the earthquake. The analysis on Hurricane Katrina concluded that in the rest of the US happiness returned to normal levels in a few weeks, but we found that Japanese people's well-being and also their altruism continued to be affected even several months after the tragedy. In one sense, the Great East Japan Earthquake may have had a greater impact on the happiness and outlook of the average Japanese than Hurricane Katrina had on the average American.

(3) Will these changes be permanent?

Chart 3 shows the changes in the level of Japanese people's happiness after the earthquake compared with February 2011. Here we see that the happiness of people in the southern part of Japan (Shikoku and Kyushu/Okinawa) improved by more than the average for Japanese people three months after the earthquake (as of June 2011) and remained higher than the average even seven months after the earthquake (as of October 2011).

CHART 1

Japanese people's well-being before & after the earthquake



Source: Ishino, Kamesaka, Murai and Ogaki (2012)

As we have mentioned, we should be very careful in interpreting the results obtained from the most affected areas, since there may be a kind of selection bias, but we found some improvement in the well-being of the respondents in most affected areas in Tohoku after June 2011.

Chart 4 shows the changes in Japanese people's altruism after the earthquake compared with February 2011 in points or scores. Here we found that Japanese people began to give more priority to others after the earthquake, and this tendency was observed commonly in all the areas in Japan. It seems that it remained higher even seven months after the earthquake (as of October 2011).

Chart 5 shows the percentage of people who made donations regarding the Great East Japan Earthquake. The blue bar shows the percentage of people who donated by June 2011, and the red bar shows the percentage of people who donated after June 2011 and by October 2011. We understand that some of the respondents were in circumstances that made it difficult for them to make a donation, but it seems the percentage of people who did donate remained high even after June 2011.

(4) What does our econometric analysis tell us?

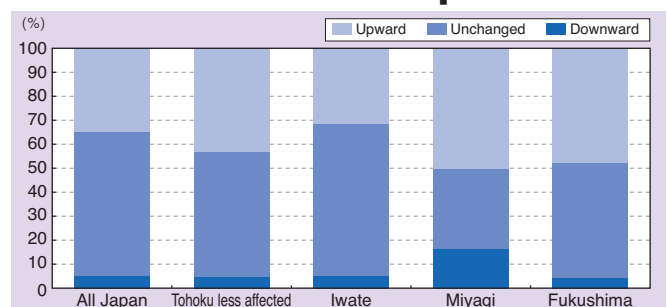
In our research, we conducted a multi-nominal probit analysis of Japanese people's well-being and of their altruism by dividing our data into three categories: happiness improved, unchanged, or worsened, and altruism changed upward, unchanged, or changed downward compared with February 2011 for replies collected in June 2011 or October 2011. We found that the happiness of those who made donations relating to the earthquake improved in June 2011, and the effect of improvement remained statistically significant in the data collected in October 2011. Also, we found that altruism increased for those who had made donations by June 2011, and the effect of donating remained statistically significant in the replies we obtained in October 2011. One possible interpretation of these results is that donating improves people's sense of well-being, and those who had or began to have an altruistic attitude and made donations after the earthquake began to feel happier than before.

What Can Leaders Do?

The change towards more altruistic attitudes following the earthquake is encouraging, because Japan needs to move away from extreme individualism if cooperation in crisis management is to be its first priority. However, it should be noted that these changes may be short-lived if no or little effort is made by the leaders of Japan. We define a leader to be someone who influences others and include politicians, government officials, teachers, and entertainers. If we agree that cooperation in crisis management is the first priority for Japan today,

CHART 2

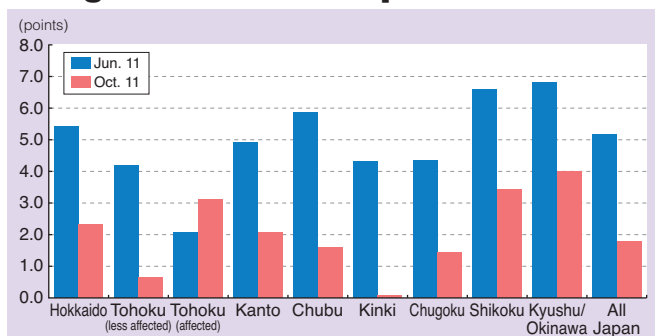
Japanese people's altruism before & after the earthquake



Source: Ishino, Kamesaka, Murai and Ogaki (2012)

CHART 3

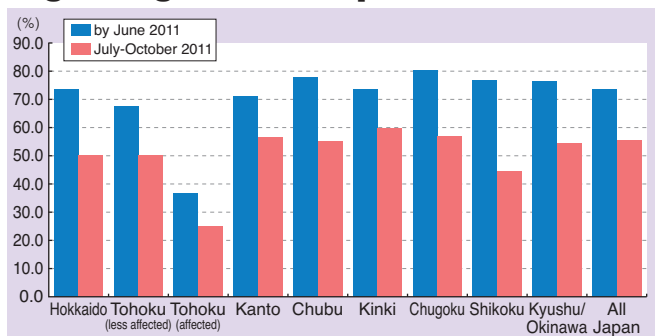
Changes in Japanese people's well-being after the earthquake



Source: Ishino, Kamesaka, Murai and Ogaki (2012)

CHART 5

Percentage of people who donated regarding the earthquake



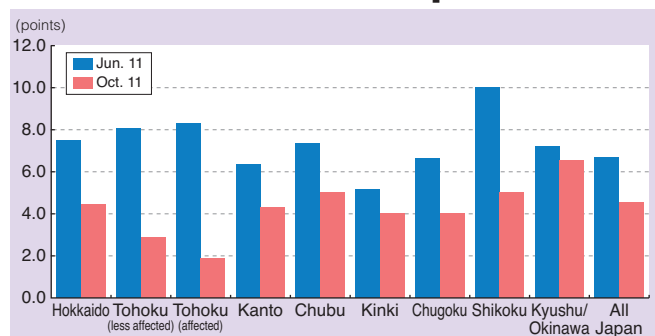
Source: Ishino, Kamesaka, Murai and Ogaki (2012)

behavioral economics suggests various policy tools that can be used by the leaders. The basic idea behind the suggestion comes from libertarian paternalism, which was proposed by Richard Thaler and Cass Sunstein of the University of Chicago. Libertarians view freedom as the supreme value and often advocate markets as the solution to many problems. People with a paternalistic view believe elites with superior knowledge should guide the masses and often advocate Keynesian policies. Libertarian paternalism integrates these seemingly contradictory views by advocating policies that allow people to choose freely while guiding them in directions that policy makers judge to be desirable. They recognize that it is impossible for policy makers to be completely neutral because starting points affect people's decisions. One example they give is about organ donations. In the US, most states use an explicit consent rule, which means that people have to take some concrete steps to demonstrate that they want to be donors. Many countries in Europe have adopted a presumed consent rule in which all citizens are presumed to be consenting donors and have to take some steps to register their unwillingness to donate. These two different starting points are known to affect people's willingness to be donors.

One important policy tool is communication, especially what is being communicated and how. Social norms and values are greatly affected by what leaders say. If many leaders continue to talk about avoiding recessions and promoting economic growth as Japan's first priorities, then most Japanese people will continue to think in these terms. It is indeed nice to avoid recessions and promote economic growth. However, if they are made the top priorities, then social norms and values are likely to move back toward extreme individualism. From the viewpoint of encouraging cooperation, it is

CHART 4

Changes in Japanese people's altruism after the earthquake



Source: Ishino, Kamesaka, Murai and Ogaki (2012)

more important to help the unemployed than avoid recessions. More than 30,000 people commit suicide every year in Japan and many of them seem to do so because of economic problems. We could focus more on using our resources and efforts to relieve the pain of people who are in acute economic distress, given that Japan's national income level today is very high compared with both historical and international standards. Given also that the "catching-up" effects that created Japan's miraculous economic growth are over, it seems more important to make efforts to protect future generations from possible financial disasters than to continue to focus on economic growth. As for how leaders should communicate, behavioral economics emphasizes the framing effect, which refers to the effect of how information on decision making is presented. Japanese political leaders could pay more attention to the framing effect by seeking advice from communication experts.

Another important policy tool is to encourage Japanese people to have a sense of community. Because we live in a world of diverse values, it seems impossible for all or even most Japanese to share the same values. So the sense of community depends on having a common purpose. After the earthquake, most Japanese people had the common purpose of helping the victims. If most Japanese people can agree that crisis management is a common purpose of the first priority today, then there are many policies that can be used for this purpose. Donations enhance the sense of community. Professor Kazumasa Oguro of Hitotsubashi University has been proposing the creation of a public donation market with regulations to require charities to disclose information and encouraging competition among charities. Because many people are so busy, it is also important to make receiving tax benefits from donations easy by simplifying rules and procedures. Encouraging donations for people in other countries from Japanese organizations can also encourage a sound sense of community in Japan. Because donating is not a strength of traditional Japanese culture, it may be useful to create clubs to help the needy in Japan and other countries and collect membership fees rather than donations. Encouraging leaders to make more donations, and collecting and publishing data on how these donations are being made, could also be useful in changing social norms in this area.

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