

How Migration Patterns over Life Course Affect People's Quality of Life?

Junyi ZHANG¹ and Yubing XIONG²

¹ Prof., Graduate School for International Development and Cooperation, Hiroshima University
(1-5-1 Kagamiyama, Hi-gashi Hiroshima, 739-8529, Japan)
E-mail: zjy@hiroshima-u.ac.jp

² Doctoral candidate, Graduate School for International Development and Cooperation, Hiroshima University
(1-5-1 Kagamiyama, Hi-gashi Hiroshima, 739-8529, Japan)
E-mail: xiongmaozai1989@163.com

In Japan, especially from 2014, regional revitalization has become a hot political topic, recognizing the various issues caused by the over-concentration of population in megacities (mainly refer to Tokyo, Nagoya and Osaka metropolitan areas). It is becoming more and more important how to encourage people in megacities to move to local cities. Needless to say, migration from one city to another results in various changes in people's lives. This study attempts to answer the following two research questions: (1) what kinds of and how migration patterns over life course affect people's quality of life (both young adults and other population groups), (2) how urban infrastructure development has contributed to the above migration patterns. For this study, we implemented a web-based retrospective life history survey (containing residential, job/education, vehicle ownership and household structure mobilities) with respect to 1,400 households in different types of cities in Japan in 2010. Both aggregation analysis and modeling analysis will be done. Policy implications of analysis results will be discussed, together with a discussion of future research issues.

Key Words : *migration, residential relocation, life history survey, young adults, happiness, life satisfaction, infrastructure*

1. Background

In Japan, a majority of young people have continued to relocate from small cities to the three metropolitan areas (Tokyo, Nagoya and Osaka metropolitan areas) for new job or new residence, where around half of the nation's population is now concentrated. As a result, many small cities are expected to disappear in near future, which are now facing serious population-related issues, e.g., an ever-increasing higher rate of elderly people, difficulties in supporting the elderly's daily mobility, insufficient support to childcare and women's labor participation. If the migration of young adults from rural areas to larger cities would continue unabated, it could jeopardize the regional economic development of Japanese small cities. However, such kind of young labor force relocation/migration issue resulting in the formation/deterioration of depopulated areas is not only a special issue in Japan, it has already been confirmed in other developed nations such as England and Wales (Smith and Sage, 2014),

where it is discovered that the long-distance movements of young adults is a leading constituent of demographic and population changes in society. It has further been observed in other Asian countries such as Nepal (Childs et al., 2014) that communities having thrived for centuries in Nepal's rugged mountain environments are facing rapid population declines caused by the outmigration of youths and this posed a potential long-term threats on agricultural production, the family-based care system for the elderly, socioeconomic inequalities, and human capital. In China, the total number of young adults move from rural to urban has reached 153 million in 2010, and accounting for about 30% of total rural labor. And the accelerated rural depopulating driven by vast and increasing out-migration of young labors has imposed huge obstacles on improving land use efficiency and coordinating urban-rural development in China, such as low efficiency of rural residential land use, and lateral expansion of rural dwellings at the expense of farmland loss, decrease in the ability of rural inner development, and dete-

rioration of rural residential environment (Li et al., 2014; Liu and Liu, 2010).

The over-concentration of population in megacities in Asia is quite popular, which is not a special case of Japan. In this sense, it is not unrealistic to assume that the population issues in Japan may also occur in many Asian developing countries in the future.

2. Research Purposes and Methods

It is not difficult to assume that people usually move from one city to the other for pursuing a better life. However, little is known with respect to whether migration always brings happiness and better life to people. To fill this research gap, the purpose of this study is to answer the following two research questions: (1) what kinds of and how migration patterns over life course affect people's quality of life (both young adults and other population groups), (2) how urban infrastructure development has contributed to the above migration patterns. For this purpose, we implemented a web-based retrospective life history survey (containing residential, job/education, vehicle ownership and household structure mobilities) with respect to 1,400 households in different types of cities in Japan in 2010.

3. Life History Survey and Data

To migration patterns over life course in a more precise way, panel survey is required, which is however time-consuming and also very costly. In this study, we adopted a retrospective life history survey approach by asking respondents to recall their migration history. The survey contents contain four life events over the life course: residential relocation (change), household structure change, employment/education change, and car ownership change. In the survey, before answering detailed information related to each type of change, respondents are first asked to report on the change (relocation) times and the exact timing of relevant events (their age when the event occurred). Based on the answer, a simplified matrix showing these timings is presented in a separate window for ease of reporting detailed information later on. Subsequently, detailed information about each episode in each relocation is reported as follows:

- Residential change (relocation): relocation place, income, residence property, accessibility (here, refers to distance) to varied facilities (including railway; bus; primary, junior and high school; hospital; park; supermarket; city

hall) in each episode.

- Household structure change: household size, information for each household member in each episode (including age, gender, relation with householder).
- Employment/education change: job category, commute time to job/school, accessibility to job/school, travel mode in each episode.
- Car ownership change: car number, main user, car efficiency, purpose, and use frequency in each episode.

In addition to the above information, respondents were asked to report on how confident (10-point scale) they felt about the answer to some major question items with continuous values (e.g., accessibility to facilities). Such confidence information can be used to reflect the reliability related to the reported information as well as the quality of the retrospective survey. The data show that the average confidence level is around 7–9 across different cohorts (a 10-point scale is set in which 0 means not confident at all and 10 means fully confident), suggesting an acceptable quality of the survey data. Details of this collected data refer to Zhang et al. (2014), who further discussed the reliability of data. It is confirmed that the selected sample has a wide distribution by age, gender, household annual income, household size, residential location, and occupation. Considering the huge population across the whole Japan, the sample size in this study (1,400 respondents) is not sufficiently large to derive general findings that are applicable to the whole population. However, looking at the residential relocation literature, no study has been done to collect life history data with such a large sample size and in such a comprehensive way. In this sense, the survey itself is an extremely valuable practice to explore migration patterns of different population groups.

With the above contents, we implemented an Internet-based life history survey by recruiting residents in major cities in Japan in November 2010, with the assistance of a major Web survey company in Japan (having more than 1.4 million registered panels at the time of survey). As a result, 1,400 questionnaires were collected by contacting 6,940 registered panels, in which age, gender, and residential distribution across the whole population in Japan are guaranteed. The response rate was 20.2%.

(1) Migration patterns

Here, migration refers to that within Japan and is captured in the form of residential relocation. There are various ways to classify the cities. In this study, for simplifying the analysis of migration patterns,

cities are classified into three types: large-sized city, medium-sized city, and small-sized city, defined by the current population. Concretely, Tokyo, Yokohama, Osaka, and Nagoya (4 regions) are treated as the large-sized city, each of which has a population of more than 2.0 million inhabitants. Sapporo, Sendai, Saitama, Kawasaki, Kyoto, Kobe, Hiroshima, and Fukuoka cities are grouped into the medium-sized city, each of them has a population over 1.0 million. And the remaining cities (in this case study, 170 cities included in the survey) are classified into the small-sized city. Migration patterns are defined based on residential relocations across the above three types of cities over life course.

(2) Quality of Life (QOL)

In the survey, people's QOL is measured in the forms of happiness and life satisfaction as a whole life, respectively. In the happiness literature, whole-of-life happiness has been widely adopted, and it is usually measured based on a question like, "Taken all together, how happy would you say you are?" (e.g., Easterlin, 2001; Veenhoven, 2012). In this study, we measured whole-of-life happiness based on a 10-point scale (0: very unhappy, ..., 10: very happy). It can be understood that happiness captures people's feelings about their life. On the other hand, unhappy people may be satisfied with their life while happy people may not always feel satisfactory with their life. In other words, there are unhappy rich and happy poor, in reality. This is because life satisfaction captures people's satisfaction with what they have (assets and opportunities, etc.). In contrast, happiness indicates people's affects when experiencing what they have. For example, Zhang et al. (2011) revealed based on data from more than 1500 residents from various cities in Japan in 2010 that there are 23% of respondents who answered either "happy but dissatisfied with life" or "unhappy but satisfied with life". In this sense, there are some overlaps of the two concepts, but essentially, they are different. Therefore, in this study we adopt both of them to capture people's QOL.

4. Analysis and Expected Outcomes

In regional revitalization policies, how to encourage young adults to move to local cities is a core element. According to Statistics Bureau of Japan (<http://www.stat.go.jp/english/data/nenkan/1431-02.htm>), the Japanese government defines young adults as those aged 15-34 years old. As a comparison, elderly people and other age groups are also targeted in this study.

Both aggregation analysis and modeling analysis will be done. As for aggregation analysis, migration patterns between happy and unhappy people, between satisfied and dissatisfied people will be first clarified. Then, the association with urban infrastructure development over years will be statistically tested. Concerning modeling analysis, a bivariate ordered probit model will be estimated by treating happiness and life satisfaction as a whole life as two dependent variables and introducing migration patterns interacted with urban infrastructure development indicators as explanatory variables as well as various other life events.

It is expected that various policy implications could be derived from analysis results. Details will be reported at the conference, together with a discussion of future research issues.

ACKNOWLEDGMENT: This research has been financially supported by a Grants-in-Aid for Scientific Research (A) project of the Japan Society for the Promotion of Science (JSPS), Japan, titled "Interdisciplinary research on policies promoting young people's migration to and permanent residence in local cities" (No. 15H02271; 2015.04~2019.03).

REFERENCES

- 1) Childs, G., Craig, S., Beall, C. M., Basnyat, B.: Depopulating the Himalayan highlands: Education and outmigration from ethnically Tibetan communities of Nepal, *Mountain Research and Development*, 34(2), 85–94, 2014.
- 2) Easterlin R.A.: Income and happiness: Towards a unified theory. *Economic Journal* 111(473): 465–484, 2001.
- 3) Li, Y., Liu, Y., Long, H., Cui, W.: Community-based rural residential land consolidation and allocation can help to revitalize hollowed villages in traditional agricultural areas of China: Evidence from Dancheng County, Henan Province. *Land Use Policy*, 39, 188–198, 2014.
- 4) Liu, Y.S., Liu, Y.: Progress and prospect on the study of rural hollowing in China. *Geographical Research*, 29(1), 35–42, 2010.
- 5) Smith, D.P., Sage, J.: The regional migration of young adults in England and Wales (2002–2008): A 'conveyor-belt' of population redistribution?. *Children's Geographies*, 12(1), 102–117, 2014.
- 6) Veenhoven R.: Evidence based pursuit of happiness: What should we know, do we know and can we get to know?, 2012 (Available from <http://www2.eur.nl/fsw/research/veenhoven/Pub2010s/2012j-full.pdf>; Accessed August 1, 2014)
- 7) Zhang J., Tsuchiya Y., Fujiwara A., Chikaraishi M.: Citizens' life decisions and behavior survey: Proposal and application to the evaluation of quality of life. *Proceedings of Infrastructure Planning* 43 (CD-ROM), 2011 (in Japanese).
- 8) Zhang, J., Yu, B., Chikaraishi, M.: Interdependences between household residential and car ownership behavior: a life history analysis. *Journal of Transport Geography*, 34, 165–174, 2014.

(Received July 31, 2015)