1. Research Question: what is the situation of ethnic residential segregation in Japan?

The number of foreigners living in Japan has been increasing rapidly since 1989, when the Japanese border-control-law was changed. It reached 2.085 million at the end of 2006, and it makes up 1.63% of the total population of Japan, which is the highest level in Japanese history. Ethnic relation in Japan is changing rapidly from both the view points of foreigners' population size and the component of their country of origin.

However there have not been many studies that reveal the situation of ethnic residential segregation in Japan from the view points of a dissimilarity and exposure index so far. Many sociologists in Japan have studied foreigners' incorporation mainly from the view points of ethnography. Therefore, those studies are just a case study, so they do not reveal a quantitative aspect about a phase and overall situation of foreigners' incorporation to Japanese society.

This study uses the micro-area data of the national census of Japan and aims not only to compute the dissimilarity and exposure indexes but also to explain the variance of the dissimilarity index among those municipalities using the multiple-regression model based on the urban-ecology theory. This study aims to show the situation of the ethnic residential segregation among the top 94 foreigner-concentrated municipalities in Japan on the basis of the spatial-assimilation theory, which argues that ethnic minority disperse from an ethnic-enclave in a poor inner-city to a wealthy suburbs as they are assimilated into a host society.

2. Data Source

This study uses the micro-area data of the Japanese national census. Japanese census has been done every 5 years and contains demographic information of every municipality and its wards. Every municipality in this study has 2 to 742 wards and the mean of it is 88.2 wards in a municipality. The mean of ward population is 1939.9, and the range is from 402.0 to 5729.6 people in every ward. The proportion of foreigners in each municipality in this study is from 1.7% to 21.2%, and the mean of it is 3.6%. There are 2,366 municipalities in Japan at the time of the national census in 2005, from which I picked up top 94 of high-foreigner-concentration municipalities.

3. Findings

We can see the relatively low-level of ethnic residential segregation in Japan; the mean of the dissimilarity index is 28.6. The highest is 57.4, which is moderate compared to that of the U.S. and other west-European countries, and the lowest is 7.5. It is shown that there are variations even among top 94 high-foreigner-concentration municipalities.

The weighted-average exposure index shows that foreigners are about 3 times more likely to be exposed to foreigners (including co-ethnics) than are Japanese (8.0 versus 3.0). It means that foreigners tend to have more foreigners around them than do Japanese. There is also a wide variety in the exposure index; it ranges from 2.19 to 28.76.

Highly-ranked municipalities are mainly in Aichi prefecture, which is the center of manufacturing industry in Japan. Majority is mainly Brazilians, many of whom are Japanese Brazilians working in the manufacturing industry there. Almost all municipalities are middle-size

ones and average share of foreigners is 3.79%, which is almost the same level of overall average of top 94 municipalities in this study.

From the above mentioned findings, I can say that the degree of segregation depends on a nationality rather than the length of residence in Japan or their socio-economic status. For example a degree of residential segregation of Koreans is not the smallest one among major nationalities, although many of them have lived in Japan for longer than 50 years and have plenty of time to assimilate into Japanese society. Therefore, we cannot assume a straight-line assimilation process as suggested in the spatial –assimilation theory in foreigners' locational choices.

The result of multiple-regression also shows that ethnic residential segregation in Japan is not a variation of spatial-assimilation theory case; there are some important contradictions to the theory in the result. For instance, the ethnic residential segregation in Japan can be seen in suburbs or remote-areas from large metropolitan areas not in the inner-city of large cities and the degree of ethnic residential segregation mainly depends on the nationality and its legal status rather than length of time after they come to Japan or their socio-economic status.

## 4. Conclusion

As a result, we can see the ethnic residential segregation in many of those municipalities, although it is still moderate, compared to that of the U.S. and Europe. The multiple-regression model showed that this segregation and its process is not a variation of the spatial-assimilation case; because, we can see the ethnic residential segregation not in the inner-city area of big cities but in suburbs and the remote-areas from the metropolitan areas, and nationality rather than socio-economic status or the time length matters to determine the disparity of segregation between municipalities.

Figure 1. Distribution of the Dissimilarity Index among High-Foreigner Concentrated Municipalities (N=94)

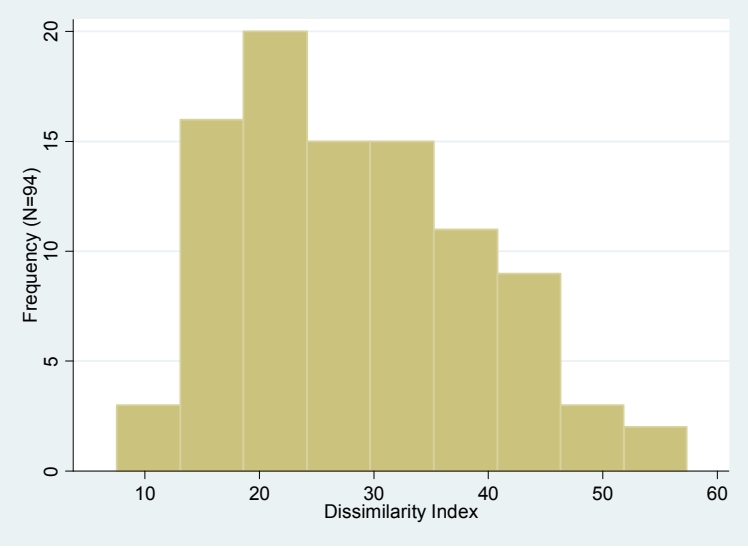

Table 1. Basic Statistical Value of the Dissimilarity Index (N=94)

| | Sample | Mean | S.D. | Min | Max |
|---|---|---|---|---|---|
| dissimilarity index | 94 | 28.6 | 10.7 | 7.5 | 57.4 |

Source: Census Japan

Table 2. Ranking of the Weighted-Average Dissimilarity Index among the Top-20 High-Foreigner Concentrated Municipalities (N=94)

| Rank | Municipality | | Dissimilarity Index | Total Pop. | Proportion of the foreigners to total pop.(%) | Majority | | |
|---|---|---|---|---|---|---|---|---|
| | prefecture | city, town and village | | | | Nationality | Pop. | Proportion of majority to total foreigners' pop.(%) |
| 1 | Aichi | Higashiura-cho | 57.4 | 48,046 | 2.2 | Brazil | 760 | 73.2 |
| 2 | Aichi | Chitate-shi | 55.8 | 66,085 | 4.1 | Brazil | 1,855 | 68.2 |
| 3 | Aichi | Iwakura-shi | 51.7 | 47,926 | 4.0 | Brazil | 1,268 | 66.3 |
| 4 | Miyagi | Daiwa-cho | 50.9 | 24,509 | 2.6 | Brazil | 486 | 75.2 |
| 5 | Aichi | Kosakai-cho | 46.4 | 21,881 | 4.7 | Brazil | 521 | 50.7 |
| 6 | Ibaraki | Iwashita-cho | 45.8 | 24,669 | 4.2 | Brazil | 550 | 52.8 |
| 7 | Shizuoka | Haibara-cho | 45.3 | 24,989 | 3.1 | Brazil | 522 | 66.8 |
| 8 | Shiga | Nagahama-shi | 45.2 | 62,225 | 4.6 | Brazil | 1,786 | 62.4 |
| 9 | Shizuoka | Kosei-shi | 43.1 | 44,057 | 5.1 | Brazil | 1,423 | 63.4 |
| 10 | Gunma | Isezaki-shi | 42.9 | 202,447 | 4.3 | Brazil | 3,751 | 42.9 |
| 11 | Gifu | Minokamo-shi | 42.6 | 52,133 | 7.1 | Brazil | 2,635 | 71.5 |
| 12 | Aichi | Toyosaki-shi | 42.5 | 372,479 | 3.7 | Brazil | 8,666 | 63.2 |
| 13 | Tochigi | Maoka-shi | 42.4 | 66,360 | 5.3 | Brazil | 1,596 | 45.6 |
| 14 | Aichi | Toyoaki-shi | 41.0 | 68,285 | 2.0 | Brazil | 671 | 49.0 |
| 15 | Tokyo | Kodaira-shi | 40.4 | 183,796 | 1.8 | Korea | 1,659 | 51.3 |
| 16 | Nagano | Achi-mura | 40.3 | 6,003 | 2.5 | China | 119 | 77.8 |
| 17 | Nagano | Iijima-cho | 40.1 | 10,570 | 5.5 | Brazil | 467 | 80.7 |
| 18 | Osaka | Higashiosaka-shi | 39.1 | 513,821 | 3.1 | Korea | 12,657 | 79.5 |
| 19 | Shizuoka | Hamamatsu-shi | 38.9 | 804,032 | 2.8 | Brazil | 12,719 | 56.1 |
| 20 | Osaka | Hirano-ku | 37.8 | 200,678 | 3.2 | Korea | 4,597 | 72.1 |

Source: Census Japan

Table 3. The Weighted-Average Dissimilarity Index by Each Nationality among High-Foreigner Concentrated Municipalities (N=94)

| Nationality | Dissimilarity Index |
|---|---|
| Total | 28.6 |
| Korea | 27.5 |
| China | 25.7 |
| Philippine | 27.8 |
| U.S.A. | 27.0 |
| Brazil | 38.6 |
| Peru | 36.3 |

Source: Census Japan

Table 4. The Exposure Index to Foreigners among High-Foreigner Concentrated Municipalities (N=94)

| | expososure index |
|---|---|
| Japanese | 3.0 |
| Foreigners | 8.0 |
| | |
| Nationality | |
| Korea | 10.3 |
| China | 5.8 |
| Philippine | 5.9 |
| U.S.A. | 6.4 |
| Brazil | 9.6 |
| Peru | 8.4 |

Source: Census Japan

Table 5. Result of Multiple-regression of the Dissimilarity Index: High-Foreigner Concentrated Municipalities (N=94)

| | Standardized Coefficient | t-value |
|---|---|---|
| **[Ethnic Aspect]** | | |
| % Foreigners to Total Population | -0.09 | -0.84 |
| Total Population of Foreigners | 0.20 * | 1.67 |
| % of Each Nationality to Total Foreigners | | |
| Korea | 0.10 | 0.58 |
| China | 0.10 | 0.74 |
| Phillipine(Male) | 0.24 * | 1.84 |
| Phillipine(Female) | -0.54 *** | -3.81 |
| USA | 0.04 | 0.33 |
| Brazil | 0.39 * | 1.80 |
| | | |
| **[City Function]** | | |
| % of the Labor Force in Manufacturing | 0.25 | 1.63 |
| Personal Income Growth between 2000 to 2005 | 0.13 | 1.28 |
| Unemployment Rate Increase between 2000 to 2005 | -0.06 | -0.55 |
| Students as % of Population between 16-65 Years Old | 0.00 | 0.02 |
| Population Density | -0.38 ** | -2.19 |
| | | |
| **[Housing]** | | |
| % of Private Owned House to Total Housing Units | 0.03 | 0.17 |
| Pop. Change of Japanese | 0.11 | 0.93 |
| Pop. Change of foreigners | -0.05 | -0.47 |
| | | |
| Adj-R | | 0.44 |
| F-value | | 5.59 |
| Sample | | 94 |

Source: Census Japan

* p<0.1, **p<0.05, ***p<0.01