The Differential Incorporation into Japanese Labor Market: A Comparative Study of Japanese Brazilians and Professional Chinese Migrants

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Abstract

This paper is an exploratory study on the incorporation of Japanese Brazilian migrants into the Japanese labor market, in comparison with professional Chinese migrants in Japan. Prior studies on newly arrived migrants in Japan have interpreted their opportunity structure in the Japanese labor market in terms of the segmented labor market hypothesis. However, since most of them relied heavily on the qualitative method, many hypotheses have not been examined by quantitative survey data. This study tries to examine both the human capital hypothesis and the segmented labor market hypothesis, using the sample survey data collected in Iwata City, Shizuoka Prefecture. The empirical result does not indicate that Japanese Brazilians are likely to earn more money as they accumulate their human capital, unlike Chinese professionals in Japan. The result highlights that income levels among Japanese Brazilians depend on the labor demand in factories for subcontract workers and the exit/non-exit from labor market for subcontract workers. We thus could not observe the results presupposed by the theory of human capital. In this sense, these two migrant groups are thought to form different segmentations in the Japanese labor market.

Key Words: incorporation into Japanese labor market, human capital, labor market segmentation, exit from labor market for subcontract workers

1. Introduction

This research clarifies the differential incorporation of migrants into the Japanese labor market through a comparative analysis between Japanese Brazilians and Chinese migrants in Japan with regards to income determinants.[1]

Although recent social transformation toward globalization has also promoted transnational migration and multiculturalization in contemporary Japanese society, there are few researches on immigrants in Japan in terms of social stratification. Most studies on migrants in Japan have relied heavily on qualitative anthropological investigation methods. On the other hand, scholars who explored the structure and processes of social stratification in Japan in terms of quantitative methods have neglected ethnic stratification in Japan because they claim that there are a small number of minority populations in Japan (Kosaka 1994: 41).

However, Japanese society includes various kinds of ethnic minorities such as Buraku people, Ainu, the people of Okinawa, as well as Korean and Chinese people who settled down in the prewar era. In addition, the number of migrant workers from Asian and Latin American

countries has risen rapidly due to economic prosperities during the late 1980s and early 1990s and the decrease of seasonal workers from rural areas in Japan. Students of social stratification should no longer overlook the economic inequalities and social stratification among ethnic minorities in Japan (Lie 1996).

This research aims to explore the incorporation of Japanese Brazilian migrants into the Japanese labor market. In order to clarify this, I compare between Japanese Brazilians and Chinese migrants with regards to rates of return on human capital, not only because we cannot clearly understand where they stand in the labor market in Japan without a comparison with other groups, but because they approximately represent two kinds of immigrant groups, including labor immigrants and professional immigrants[2] and they are typical cases among recently arrived immigrants since the 1980s.

Although the Japanese immigration system doesn't accept foreign unskilled workers in principle, immigrants of Japanese descent have been exceptionally authorized to take any occupation in Japan since 1990. This means that the immigration policy of the Japanese government gives preferences to migrants of the same ethnic origin over other foreign migrants (Kajita 2001). As a result, the number of Japanese Brazilians has increased very rapidly since the Immigration Act was revised in 1990 with regards to how to deal with migrants of Japanese ancestry, and they were incorporated into the labor market in Japan as unskilled but documented foreign workers (Higuchi 2003; Tsuda 2003).

On the other hand, Chinese migrants in Japan consist of several different types of groups, such as Chinese of Japanese ancestry who have permanent visas, undocumented and documented migrants. These different legal statuses reflect their different social backgrounds and current socioeconomic circumstances in Japanese society. Chinese of Japanese descent come from rural areas in China; most of them were farmers and got only primary education before coming to Japan. That leads to their difficulties in socioeconomic attainment as well as cultural adaptation to Japanese society. Many Chinese of Japanese ancestry are actually involved in unskilled manual occupations.[3]

As for documented Chinese migrants excluding students, many of them have attained tertiary education and are involved in nonmanual occupations. The Japanese immigration policy doesn't accept foreign migrants who are attached to unskilled jobs, though refugees, immigrants of Japanese descent and settlers with permanent visas can attain any types of job. Therefore, if Chinese migrants want unskilled work in Japan, they inevitably have to be undocumented. This research pays attention to documented Chinese migrants involved mainly in professional jobs. Thus, these two groups which this research targets, Japanese Brazilians and documented Chinese migrants in Japan, make up the labor migrants and professional migrants in Japanese society.

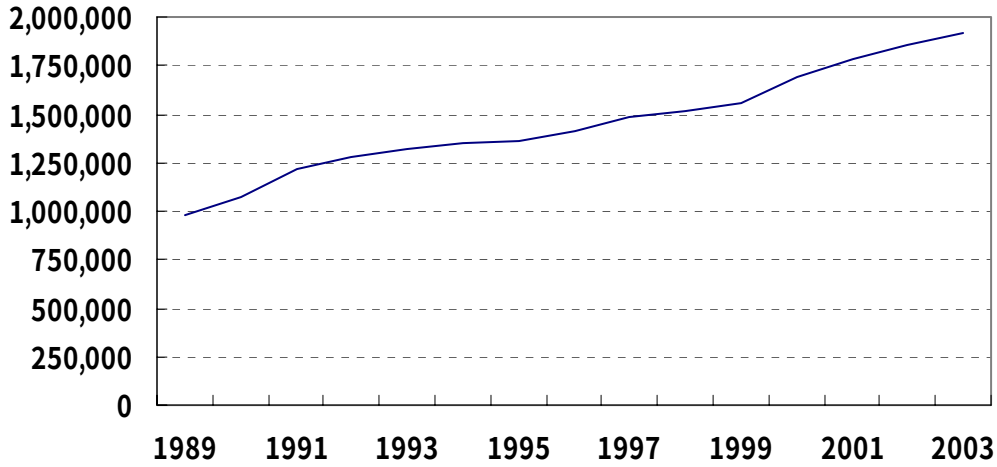
In order to clarify the differential incorporation into the Japanese labor market between manual and professional workers, this paper examines the impact of human capital acquisitions on raising the income levels of

Japanese Brazilians and Chinese migrants in Japan. In other words, I delineate the different economic adaptation processes between Japanese Brazilians and Chinese migrants in Japan.

2. Social Background of Newly Arrived Migrants in Jpaan Since the 1980s

Figure 1 shows the number of documented foreign nationals for each year. According to the figure, the foreign population has doubled in the last fifteen years from 1989 until 2003. After the economic recession in the 1970s, the Japanese economy recovered immediately from the economic collapse. In the latter half of 1980s, Japan experienced an economic boom, but the Japanese economy simultaneously faced a serious labor shortage in the manufacturing and construction industries. In fact, the labor shortage was serious particularly in small to medium sized companies. Some small companies which could not hire enough domestic workers attempted to introduce some workers from foreign countries such as Pakistan, Iran, Bangladesh, Sri Lanka, and so on (Inagami et al. 1993). On the whole, most of them entered Japan on a tourist visa. Since the Japanese immigration policy had not admitted unskilled workers from foreign countries, foreign migrants who were actually engaged in unskilled manual occupations inevitably got undocumented status in Japan. Although employers knew that they were undocumented migrants, all they had to do was hire them due to the severe labor shortage.[4]

Figure 1 Populations of Documented Foreign Residents in Japan per year

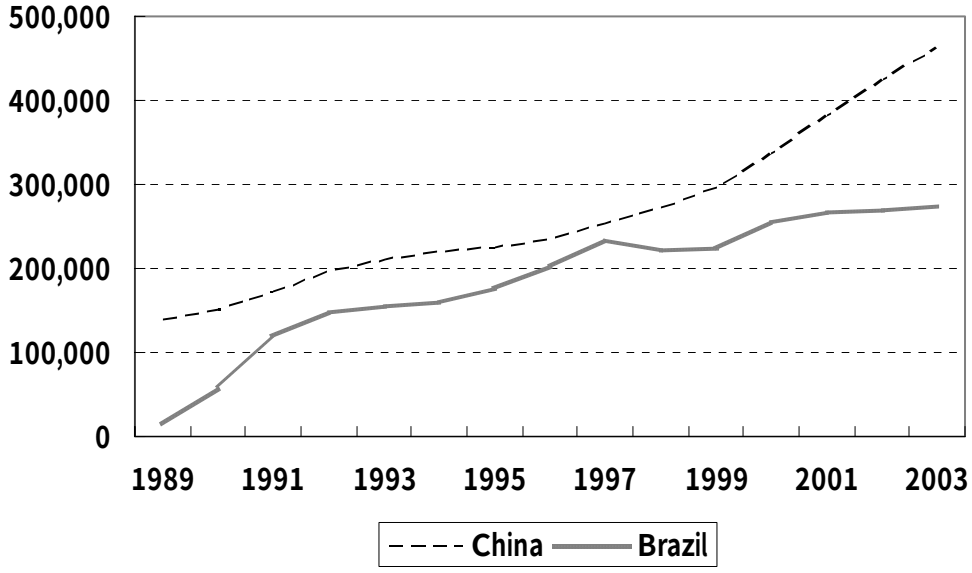


In 1990, the Immigration Act in Japan was revised with regards to employment visa status. In particular, professional occupations were ramified in terms of visa and it seems that through this revision the Japanese government intended to introduce professional and highly skilled migrants from foreign countries. On the other hand, the revised Immigration Act also

admitted foreign migrants with Japanese descent to be involved in any sort of occupation such as unskilled jobs. Soon after enforcing the revised law, the number of Latinos with Japanese descent and their family members who entered Japan in order to work as target earners increased rapidly (Miyajima 1993).

Figure 2 indicates the population size of Brazilians and Chinese for each year. While only 14,000 Brazilians lived in Japan in 1989, the population of Brazilians soon exceeded 100,000 in 1991 and was over 200,000 in 1996. Even though the rate of population growth has decreased since then, the population reached roughly 274,000 in 2003. Latinos with Japanese descent have become one of the largest immigrant groups among newly arrived migrants in Japan (JIA 2004).

Figure 2 Populations of documented Chinese and Brazilians per year



Next, we will take a look at the case of Chinese migrants in Japan. Since the latter half of the 1980s, the Japanese government has been implementing an immigration policy intended to increase the number of students coming from foreign countries to learn at universities in Japan. That policy included a relaxation of immigration control with regards to overseas students as well as improvement in the scholarships for students from abroad. In fact, this policy led to a rise in overseas students, in particular, from East Asian countries such as mainland China and South Korea. While a policy of deregulating border control toward overseas students increased the number of Chinese students entering Japan on a student visa in order to work, it also increased the number of students who actually aimed to receive tertiary education in Japan. Overseas students who were fortunately able to find jobs continued to stay in Japan after graduating and often worked in the field of their specialty (Tsuboya 1998). In addition, since the Immigration Act revised in 1990 aimed to introduce more and more professional migrants

as mentioned earlier, professional migrants from China, who don't necessarily have educational qualification in Japan, have also risen recently as well as professional migrants with tertiary education in Japan (Tsuboya 2000).

According to Figure 2, the Chinese population in Japan was yet 137,000 in 1989, though this figure included old settlers since the prewar era as well as newly arrived migrants. While the rate of growth was constant and gradual in the 1990s, it has increased rapidly since 2000. The Chinese population grew to over 300,000 in 2000 and exceeded 400,000 in merely two years. In 2003, roughly 463,000 Chinese resided in Japan.

3. Concepts and Hypothesis

There are two important approaches that explain the determinants of earnings among immigrants such as human capital theory (Mincer 1974) and segmented labor market theory (Doeringer and Piore 1971). Human capital theory presupposes that the rates of return on human capital are constant across all employment sectors. As Chiswick (1978) argues, migrants' economic assimilation approach based on human capital theory not only stresses that immigrants are more likely to raise their income earnings as they had attained higher educational levels and skills before they came to the host society, but it emphasizes that immigrants can catch up to the earnings level of the native population in the host society as they acquire some educational degrees, occupational competences and increase their language fluency after immigration. Thus, human capital theorists argue about an important role of economic assimilation into the host society (Borjas 1982, Chiswick and Miller 1985).

On the other hand, segmented labor market theory implies that returns on human capital and occupational surroundings would depend much on the labor market sectors which they belong to, and indicates that the importance of human capital is divergent among segments of the labor market (Doeringer and Piore 1971). Piore pursues the segmented labor market approach in terms of migration studies. When there are two labor market sectors, such as primary and secondary labor markets, immigrants are often incorporated into the secondary sector which is less stable in terms of job continuation, whose companies are small in size, and where people have few opportunities to climb up the corporate ladder, raise their income level and go into the primary sector (Piore 1978). Segmented labor market theorists imply that the wage gap between natives and immigrants would be constituted by the wage difference between primary and secondary labor sectors since many immigrants are incorporated into the secondary sector.[5]

Hence, segmented labor market approaches as raised by Piore suppose that migrants would remain at a lower position in the social stratification in the receiving country. In contrast, ethnic enclave theorists show that it is possible for transnational migrants to upgrade their socioeconomic statuses by belonging to ethnic enclave labor market sectors, while this is basically based on the theory of segmented labor market. According to Portes and Bach (1985: 203), ethnic enclave is a distinctive economic formation characterized by the spatial

concentration of immigrants who organize a variety of enterprises to serve their own ethnic market and the general population. They think that ethnic enclave would enable immigrants to utilize in the host society their human capitals acquired in the country of origin.

When we take a look at the research on immigrants in Japan, Kajita (1994) explains, based on theoretical considerations in regards to incorporation of immigrants into the Japanese labor market, that migrant workers are actually excluded from internal labor markets and corporate ladders. This means that many immigrants, including both labor migrants and professional migrants, would be incorporated into external labor markets. Therefore, they would face the problems with regards to raising their income levels and socioeconomic statuses even though they improved their job skills, language fluency and educational levels.

Another approach to immigrants' labor markets delineates how labor markets of foreign migrants are segmented along their legal status in the host society. Inagami et al. (1993) did a comparative research on migrants involved in unskilled labor between undocumented South Asian migrants and documented Japanese Brazilians. They pointed out that Brazilians and Asian undocumented workers are incorporated into different labor market sectors. While undocumented workers found jobs in small-sized companies through personal relations with others from the same ethnic origin, most Brazilians were sent to large-sized manufacturing companies through recruiting agencies and job brokers. Their qualitative survey suggested that differences in the size of firms at which they worked resulted in the wage disparity between them, and they finally called these differential incorporation 'loosely structured dualism' between transnational migratory groups. Furthermore, it is also argued that immigrant labor markets in Japan are also segmented depending upon the time of arrival and social network structure as well as legal status in Japan (Shimodaira 1999, Tanno 1999). While prior studies thus pay much attention to labor market segmentation within labor migrants, there are few works which compare between labor migrants and other migrants such as professional migrants and so on, or between immigrants and native population with regards to rates of return on human capital.[6]

Moreover, what characterizes a labor market into which Japanese Brazilians are incorporated is the existence of brokerage firms for migrant workers. Many Japanese Brazilians are employed basically as subcontract workers through the agency of brokerage firms (Roth 2002). They are temporal workers who take a role of adjustment in the varied labor demand at each company (Higuchi and Tanno 2003). For how long Brazilian subcontract workers belong to a company is dependent on temporal and seasonal changes in the output level of each company. Therefore, some students suppose that many Brazilian subcontract workers would be involved in unskilled dead-end jobs and that it would be difficult for them to improve their job skill level and upgrade income earnings. Hence, these prior studies have emphasized the divergences in incorporation into the labor market between Brazilian and native Japanese workers (Tanno 1999).

While many sociologists have explained the economic situations of immigrants in Japan based on qualitative data in terms of segmented labor market theory, there are only a few studies which explore earnings among immigrants, relying upon quantitative survey data. Cornelius and Tsuda, drawing on data from a comparative study of the role of immigrant labor in the U.S. and Japanese economies, compared the impact of human capital on hourly wage earnings between immigrant workers in San Diego, the U.S. and Hamamatsu, Japan. They indicated that the human capital acquisitions which they brought from their home country and which they attained after entry into Japan had no significant influence on raising income levels, whereas immigrants who had more English fluency and years of schooling were more likely to raise their earnings in the U.S. In addition, they showed that there were significant earning gaps by gender and ethnicity among foreign workers in Japan. Men or Nikkeijin were likely to earn more money than their counterparts, women or other foreign migrants. I think that these results provided the evidences to support the segmented labor market hypothesis in terms of gender and ethnicity (Cornelius and Tsuda, 2002).

On the other hand, my prior research which targeted Chinese migrants in Japan who are mainly engaged in professional jobs also examined the effect of human capital on increasing income level. My research on professional Chinese migrants finally clarified the important role of human capital such as educational credentials acquired in Japan and Japanese language fluency (Takenoshita 2005a). Thus, it seems that there are different results among different ethnic groups regarding which hypothesis such as human capital hypothesis or segmented labor market hypothesis explains the economic wealth of transnational migrants in Japan. Therefore, it is necessary for us to examine their validity toward Japanese Brazilians who make up a part of the labor migrant population in Japan, compared with professional Chinese migrants.

4. Data

In this study, I analyze three survey data. Before going to the comparative analysis of income determinants between Japanese Brazilians and Chinese migrants, I compare career mobility in transnational migration between Latinos and East Asian populations, based on the representative data. In doing so, we can grasp continuities and discontinuities of career mobility in transnational migration as well as understand how migrants have been incorporated into the Japanese labor market. In order to grasp career mobility, this paper employs 'the Current Survey on Foreign Residents in Kanagawa' conducted by the Kanagawa Prefectural government in 1999. This survey adopted a systemic sampling method. Samples were drawn from the population of foreign nationals over the age of 18 registered in each city government in Kanagawa. The Kanagawa government mailed 3,024 samples, even though 315 questionnaires did not reach foreign nationals. The response rate of 37.2 percent yielded a usable sample of 1,007 (CPFRK 2001).

As for Japanese Brazilians, I use 'the

Current Survey on Foreign Residents in Iwata,' conducted by the Iwata municipal government in Shizuoka Prefecture in 2004. Statistics on the population of foreign nationals indicate that there were 274,700 Brazilian residents in Japan in 2003 and that 15.1 percent of Brazilians in Japan were living in Shizuoka. In fact, approximately half of the Japanese Brazilian population is concentrated in the Tokai area (JIA 2004).

Statistics on the registration of foreign nationals in Iwata city indicate that about 3,700 Brazilians lived there in 2004. The proportion of Brazilians to all foreign nationals registered here is roughly eighty percent. Thus, the ratio of Brazilians out of all documented foreign residents is extremely high. Japanese Brazilians have usually been in cities like Iwata, where the manufacturing industry such as the electronic and motor industries is concentrated.

The Brazilian Survey relied upon a probability sampling method, even though it employed another supplementary sample. First, samples of Brazilians were drawn from the Brazilian population over the age of 18 living in Iwata city. The list used to draw this sample was taken from the Foreign Nationals Registry held by the Iwata city government. Secondly, when interviewers failed to receive survey responses from respondents due to reasons such as refusal of research and so on, they conducted interviews of other supplementary samples extracted from the list of Foreign Nationals Registry. The survey was finished when five hundred questionnaires were collected from the respondents. This means that we cannot calculate an exact response rate of this survey. The questionnaire written in Portuguese was used in the survey. The samples of this research are limited to employed men, and responses from 202 respondents will be analyzed in the end.

As for Chinese migrants in Japan, I employ the data collected in 1999 by the 'Survey on family and social networks of Chinese residents in Japan,' in which I also participated.[7] The questionnaire of the survey was designed in Japanese at first, and translated into Chinese. We requested some Chinese migrants' associations to cooperate with our research activity, and asked members of such associations to answer our questionnaire.[8] We handed out 868 questionnaires to Chinese migrants through these associations and 148 respondents replied.[9] The samples of this research are limited to employed men and responses from 57 respondents will be analyzed in the end[10].

5. Measurement

Based on 'the Current Survey on Foreign Residents in Kanagawa,' I examine career mobility accompanied with transnational migration compared between the Latino and East Asian population.[11] In comparing the distribution of occupations in the sending country and current occupations in Japan, I choose five categories of occupation: professional, managerial, clerical, sales and service, and manual jobs.[12]

In addition, although I make use of data from surveys like the Brazilian Survey and Survey on Chinese Migrants in order to clarify different modes of incorporations into Japanese labor markets, they were not originally designed

to be used for a comparative study. Each survey actually measures variables using different wordings and scales even though there are many similarities between them with regards to the substances of variables. Consequently, I have to make adjustments with respect to the operationalization of these variables before analyzing the two datasets.

This research makes use of the following variables in order to examine the causal relationship between human capital and income from a comparative perspective. As for independent variables, it utilizes education in their home country, education in Japan, period of stay in Japan, Japanese proficiency and age as the measured variables of human capital. As for dependent variables, I employ natural logarithm of income.

Education-related variables, period of stay in Japan and age are measured in almost the same way. In regards to education in both countries, I code those with no education as zero, those who completed elementary education as one, those who completed secondary as two, junior college graduates as three, four-year college graduates as four, and those who completed a MA or more as five. Period of stay in Japan and age are coded in the format of real numbers.

However, language proficiency and income have substantial differences with regards to the wording of the question between the two surveys. Although language proficiency is similarly measured in terms of conversation skills in both surveys, they are actually divergent in the options of answer. While the Brazilian Survey, in measuring language proficiency, words its question in the following way--whether one can speak Japanese or not, the survey on Chinese migrants gives respondents four answer options to this question: 'one can speak about complicated topics in Japanese,' 'one can speak about easy topics in Japanese,' 'one can give greetings in Japanese,' and 'one cannot speak Japanese at all.' As a result, while I code those who can speak Japanese as one and the rest as zero for Japanese Brazilians, I give numbers ranging from zero to three to each answer option for Chinese counterparts. In this case, Chinese respondents with higher language scores are supposed to be more proficient speakers of the Japanese language.

In addition, it is income that is measured in a different way between both surveys. While the Brazilian Survey asks respondents about monthly individual incomes, the survey on Chinese migrants inquires respondents about yearly household incomes. In order to reduce the substantial differences between them, the Chinese respondents whose spouses have an occupation are excluded out of the dataset. In other words, this analysis is limited to Chinese men who belong to a household with a single earner. I suppose that this operation enables us to regard household income among Chinese respondents as an individual's to some degree. Moreover, numerical adjustments are made so that the monthly income of Japanese Brazilian respondents is represented in yearly income. Thus, the differences in variables between both surveys are accommodated for before analyzing the datasets.

Furthermore, work time per week, frequencies of job shifts and employment status

are used for the analysis of Japanese Brazilians. Work time and frequencies of job shifts are coded in the format of real numbers. Employment status is a dummy variable, and those who work as a subcontract worker are coded as zero and those who work as a self-employed or an employee are coded as one.

6. Results

Table 1 shows the result of the distribution of both occupations migrants had in the sending country and their current occupations in Japan by region of origin. It greatly differs by region how immigrants have followed their career path in going beyond national borders. Indices of dissimilarity indicate that there are less differences between occupations in their home country and current occupations in Japan for respondents who came from East Asia than those who came from Latin America.[13] This means that there are larger numbers of Latinos who have to change their type of occupation in moving beyond national borders than East Asians. In addition, while an index of dissimilarity with regards to occupation in the country of origin between East Asians and Latinos is 33.0, a dissimilarity index with respect to current occupation between them is 61.0. This result implies that the difference of the distribution of occupation between them is enlarging through geographic mobility from country of origin to Japan.

Table 1. The distribution of occupations in the country of origin and Japan

		Managerial	Professional	Clerical	Sales	Manual	Sum	I.D.
East Asian	Country of origin	10.4	57.1	14.9	5.8	11.7	100(154)	28.4
Countries	Japan	10.3	36.2	7.6	23.8	22.2	100(185)	
Southeast Asian	Country of origin	13.7	27.5	31.4	15.7	11.8	100(51)	58.0
Countries	Japan	4.5	10.6	3.0	12.1	69.7	100(66)	
Other Asian and	Country of origin	21.7	30.4	21.7	13.0	13.0	100(23)	44.2
African Countries	Japan	10.8	16.2	2.7	21.6	48.6	100(37)	
Latin American	Country of origin	18.5	30.9	29.6	16.0	4.9	100(81)	78.2
Countries	Japan	3.0	5.0	3.0	5.9	83.2	100(101)	
Western	Country of origin	8.7	58.7	15.2	13.0	4.3	100(46)	21.5
Countries	Japan	6.6	80.3	3.3	6.6	3.3	100(61)	
Sum	Country of origin	13.4(47)	45.7(160)	21.1(74)	10.9(38)	8.9(31)	355(100)	38.2
	Japan	7.3(33)	29.8(134)	4.9(22)	15.6(70)	42.4(191)	450(100)	

Note: Figures in this table are percent by row.

I.D. means an index of dissimilarity regarding a proportion of occupation between country of origin and country of destination.

A direct comparison between Latinos and East Asians suggests that there is much divergence with regards to the distributional change in occupation of professional and manual workers in transnational migration. Roughly 80 percent of Latinos who were involved in professional jobs before entering Japan moved to another occupation, though 37 percent of East Asians who were involved in professional jobs in their country of origin changed their jobs in Japan. Moreover, while the proportion of East Asian manual workers in Japan is approximately

twice as large as the proportion of manual workers in their country of origin, the proportion of Latino manual workers is sixteen times larger in Japan than the proportion of manual workers in their home country. Thus, although some East Asians can keep working in professional occupations even after entering Japan, many Latinos face downward mobility from nonmanual occupations like professional, clerical and managerial positions to manual occupations. The result of career mobility among foreign residents in Kanagawa suggested that Latinos including Brazilians, Peruvians and so on are more likely to be confronted with discontinuities in career mobility than East Asians.

Next, I compare between Japanese Brazilians and Chinese migrants with regards to the effect of human capital on income attainment. Tables 2 and 3 indicate basic statistics and correlation matrix among Chinese migrants and Japanese Brazilians. First of all, we notice the divergences with respect to mean and standard deviation of education both in the sending and receiving country. Educational qualifications are higher among Chinese migrants than their counterparts, Japanese Brazilians.

Table 2 Basic Statistics and Correlation Matrix among Chinese Residents in Japan

	N	Mean	Standard Deviation	①		②		③	
①*ln* Income	57	6.313	0.622						
②Education in China	57	4.035	0.865	-0.055					
③Education in Japan	57	3.316	2.300	0.464	**	-0.068			
④Period of Stay	57	8.658	4.819	0.440	**	-0.323	**	0.621	**
⑤Japanese Proficiency	57	2.737	0.518	0.147		-0.019		0.370	**
⑥Age	57	38.47	6.464	0.030		-0.051		-0.064	

	④		⑤
①*ln* Income			
②Education in China			
③Education in Japan			
④Period of Stay			
⑤Japanese Proficiency	0.267	*	
⑥Age	0.343	**	0.112

+ p < .10 * p < .05 ** p < .01

And besides, mean and standard deviation of age are also different between them. Chinese respondents are on average around six years older than their Japanese Brazilian counterparts. Even though the figures for language proficiency are different as well, they seem to depend partly upon the different measurement scale as mentioned earlier. On the other hand, there is actually a resemblance with respect to the period of stay between them.

Both Japanese Brazilians and Chinese respondents have on average lived in Japan for roughly eight years.

Before going to the result of the regression analysis, we take a look at peason's correlation coefficients between variables. First, when we see the matrix of correlations among Chinese respondents, we notice significant positive correlations between income earnings and other variables such as education in Japan and period of stay. As Chinese migrants went on to higher educational levels and stayed in Japan for a longer time, they are more likely to have higher income earnings. When we pay attention to relations between independent variables, we find some significant correlations. Especially, the peason's coefficient between education in Japan and period of stay is the highest of all. Since it exceeds 0.6, I can't simultaneously examine the impact of two variables on income earnings in the regression analysis, due to the possibility of multicollinearity. Therefore, their effect on income has to be estimated in each separate model.

Second, when we take a look at the result of correlations among Japanese Brazilians, there are three positive significant relations between income and variables related to human capital

Table 3 Basic Statistics and Correlation Matrix among Japanese Brazilians

	N	Mean	Standard Deviation	①		②		③	
①*ln* Income	219	5.908	0.245						
②Education in Brazil	201	1.751	0.786	0.140	*				
③Education in Japan	215	0.121	0.551	-0.024		-0.045			
④Period of Stay	217	7.899	4.974	0.073		-0.054		0.154	+
⑤Japanese Proficiency	218	0.468	0.500	0.145	*	-0.039		0.017	
⑥Age	212	32.547	9.495	-0.015		-0.008		0.052	
⑦Work Hours per Week	221	53.199	11.101	0.208	**	0.086		0.011	
⑧Frequencies of Job Shift	197	2.274	2.670	0.054		0.020		0.175	**
⑨Employment Status	221	0.104	0.306	0.095	+	-0.085		0.253	**

	④		⑤		⑥		⑦		⑧	
①*ln* Income										
②Education in Brazil										
③Education in Japan										
④Period of Stay										
⑤Japanese Proficiency	0.278	**								
⑥Age	0.452	**	0.201	**						
⑦Work Hours per Week	0.024		-0.007		0.001					
⑧Frequencies of Job Shift	0.304	**	0.256	**	0.056		-0.027			
⑨Employment Status	0.058		0.127	*	0.052		0.021		0.162	*

+ p < .10 * p < .05 ** p < .01

Note: Basic statistics and correlation coefficients are calculated to use a pairwise deletion method because each regressed equation model actually has different numbers of samples due to employing a listwise deletion procedure.

such as education in Brazil and Japanese language proficiency. If we pay attention to the difference of coefficients between Japanese Brazilians and Chinese migrants, we find that these coefficients among Brazilians are greatly lower than their Chinese counterparts. This means that the degree of correlation between human capital and income earnings among Brazilians is weaker than their Chinese counterparts. When we take another look at correlations between independent variables, the coefficient between period of stay and age is the greatest of all (0.452). In addition, although correlations between education in Japan and period of stay in Japan are significant among Japanese Brazilians as well, the figure among Brazilians is much lower than their Chinese counterparts. It seems that we don't have to be as worried about the possibility of multicollinearity among Japanese Brazilians as with Chinese migrants.

Among Japanese Brazilians, I construct five equation models in the regression analyses in order to compare them with Chinese migrants. In the first two models, the main effects of education in Japan and period of stay on income earnings are estimated separately without controlling for the correlation between them. Finally, in the last three equation models, the effects of two variables on income level are examined altogether.

Table 4 Multiple Regressions predicting ln income among Chinese residents in Japan

	Model 1		Model 2	
	B	β	B	β
Constant	5.827 **	----	5.877 **	----
Education in China	-0.014	-0.020	0.075	0.104
Education in Japan	0.130 **	0.481	----	----
Period of Stay	----	----	0.067 **	0.516
Japanese Proficiency	-0.046	-0.038	0.033	0.028
Age	0.006	0.064	-0.014	-0.144
N	57		57	
F-value	3.674 *		3.684 *	
ADJ-R2	0.160		0.161	

+ p < .10 * p < .05 ** p < .01

Tables 4 and 5 indicate the result of multiple regressions predicting natural logarithm of income among Chinese migrants and Japanese Brazilians. When we see the results for Chinese migrants, we notice that educational qualifications in Japan and period of stay in Japan have significant impacts on income earnings, even though these equations can't control the correlation between educational levels and years of stay. Almost similar tendencies between peason's correlation and multiple regression analysis are clarified with regards to the relationship between income and other human capital variables. As Chinese went onto higher educational levels and lived in Japan for a longer period, they are more likely to

earn more income.

Next, we take a look at the coefficients of regressed equations among Japanese Brazilians. Despite the significant correlations between income, education in Brazil and language proficiency, Model 1 suggested that only Japanese proficiency has the significant impact on raising their income level. This means that as Brazilians speak better Japanese, they are likely to earn more money. Moreover, when I add up the period of stay in Japan to the models, the relevant effect of language skills is lost both in model 2 and 3. Even in model 3, income earnings are not dependent on any human capital acquisitions.

Table 5 Multiple Regressions predicting ln income among Japanese Brazilians

	Model 1		Model 2		Model 3	
	B	β	B	β	B	β
Constant	5.85 **	----	5.852 **	----	5.851 **	----
Education in Brazil	0.031	0.101	0.033	0.108	0.032	0.107
Education in Japan	-0.017	-0.033	----	----	-0.022	-0.043
Period of Stay	----	----	0.004	0.092	0.005	0.098
Japanese Proficiency	0.069 +	0.143	0.059	0.123	0.059	0.122
Age	-0.001	-0.042	-0.002	-0.087	-0.002	-0.084
N	194		194		194	
F-value	1.51		1.761		1.473	
ADJ-R2	0.01		0.016		0.012	

Table 5 (Continued)

	Model 4		Model 5	
	B	β	B	β
Constant	5.850 **	----	5.849 **	----
Education in Brazil	0.046 *	0.153	0.038	0.126
Education in Japan	-0.022	-0.043	-0.036	-0.074
Period of Stay	0.003	0.073	0.002	0.046
Japanese Proficiency	0.053	0.110	0.040	0.083
Age	-0.002	-0.092	-0.003	-0.107
N	179		Work Hours per Week	0.004 * 0.206
F-value	1.585		Frequencies of Job Shift	0.003 0.026
ADJ-R2	0.016		Employment Status	0.105 + 0.134
			N	159
			F-value	2.043 *
			ADJ-R2	0.050

+ p < .10 * p < .05 ** p < .01

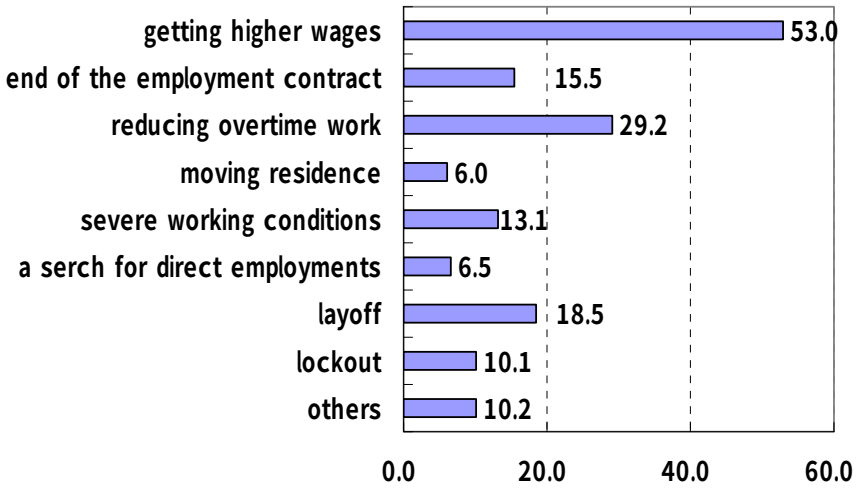
Note: The respondents who work for less than 20 hours per week are excluded out of the dataset in Model 4 and 5.

What is supposed as one of the reasons for the statistical results mentioned above is that inclusion of respondents who work for a very short time per week into the dataset might

prevent us from finding the actual causal relationship between human capital and income. Therefore, I have decided to exclude in model 4 respondents who work for less than twenty hours per week from the dataset. Model 4 clarified the income dependence on education in Brazil. It represents that Brazilians of Japanese descent with higher educational credentials in Brazil are more likely to obtain higher income levels.

When we compare between Brazilians and Chinese with regards to the degree of dependence of income earnings on human capital, adjusted coefficients of determination (R^2_{adj}) show that the total impact of human capital among Japanese Brazilians is absolutely weaker than their Chinese counterparts. A coefficient of determination among Brazilians is around 0.015 in any model while it is roughly 0.16 among Chinese. Thus, the income level of Chinese is roughly ten times more dependent on human capital than their Brazilian counterparts. In other words, it would be quite difficult for Japanese Brazilians to raise their income level compared with professional Chinese migrants, even if they got higher educational credentials, stay in Japan for a longer period and can speak Japanese better.

Figure 3 The reason of job shift (N=151)



Note: This question is answered by the respondents who have changed their jobs in Japan.

What factors instead of human capital then condition the salary among Brazilians with Japanese ancestry? What I suppose is that factors related to conditions of labor market to which Japanese Brazilians belong might be important in determining their income level. Therefore, in model 5, work hours per week, frequencies of job shifts and employment status are added up into a regression equation for the following reasons.

First, work hours per week are supposed to represent labor demand in a company where respondents work. What it means is that income earnings among Brazilians would be

much dependent upon labor demand conditions since many of them are subcontract workers. Second, it seems that Japanese Brazilians would change their job in order to attain a higher salary. Actually, Figure 3 which represents the results of the Brazilian Survey with regards to reasons of job shifts shows that 53 percent of respondents who have changed jobs in Japan aim to get higher wages.

Third, I think that their income levels might be lowered by the situation of the labor market specific to subcontract workers. Subcontract workers form a part of the flexible labor forces in the manufacturing industry. Many Brazilians are employed on short-term contracts by job brokers who, in turn, send them to their actual workplaces in subcontractor's factories (Yamanaka 2000). Therefore, companies can easily fire subcontract workers as soon as the demand for factory products declines, and they don't have to employ surplus labor. In a sense, Brazilians function as a shock absorber of labor supply between economic booms and recessions. I suppose that the status of subcontract workers leads consequentially to lowering the income level. It might be required to change labor market sectors from subcontract work into standard employment or self-employment so that workers can increase their earnings.

Table 6 Multiple regressions predicting work hours per week

	Model 6	
	B	β
Constant	52.197 **	----
Education in Brazil	1.048	0.075
Education in Japan	-0.168	-0.007
Period of Stay	0.037	0.017
Japanese Proficiency	-0.398	-0.018
Age	-0.032	-0.027
N	181	
F-value	0.236 +	
ADJ-R2	-0.022	

Table 7 Logistic coefficients predicting employment status

	Model 7
	B
Constant	-2.522 **
Education in Brazil	-0.467
Education in Japan	0.469
Period of Stay	-0.018
Japanese Proficiency	0.677
Age	0.025
N	181
-2LL	115.151
$\chi 2$	6.435
Nagelkerke R2	-0.022

Model 5 in Table 5 suggests that two variables such as work hours per week and employment status have the significant effect on raising income earnings, even though the impact of education in Brazil has been lost. It demonstrates that the degree of labor demand in a company and labor market sector actually have greater impact on determining the earnings of Japanese Brazilians than human capital acquisitions. On the other hand, frequencies of job shift have no impact on increasing their earnings. Although Brazilians of Japanese descent have changed the job broker which they belong to, their income level has not improved at all as they had expected.

While we found the labor demand and labor market sector to be important among Japanese Brazilians in Model 5, it is probable that human

capital might indirectly have an impact on income via these variables. I hypothesize that human capital accumulations would eventually result in more likelihood of working longer hours, and becoming a full-time employee or self-employed.

I observe in Tables 6 and 7 whether human capital would enable Brazilians to increase work hours per week and to move toward self-employment or standard employment. Both Tables 6 and 7 indicate that human capital acquisitions have no significant impact on increasing work hours and growing likelihood of leaving the subcontracting work . With regards to work hours, I interpret that income earnings among Brazilians would depend largely upon labor demand in the factories where they are actually sent, regardless of human capital. The findings with respect to employment status imply that labor market sector would to some extent determine income among Japanese Brazilians though social capital which are not examined in this research might raise their earnings and increase the probability of exit from subcontracting working situation. Even if Brazilians attain higher educational qualifications and improve their language fluency, it would be difficult to attain larger earnings without going out of a kind of external and flexible labor market sector.

7. Discussion

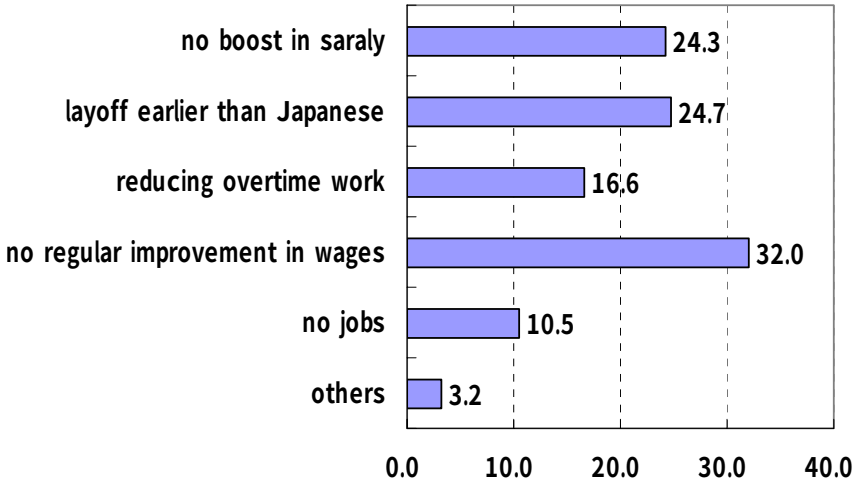
This research attempted to compare between Japanese Brazilians and Chinese migrants with regards to how effective human capital is to raise their income level. The findings imply that income earnings among Japanese Brazilians are less dependent on human capital than their Chinese counterparts. Although we observed the significant relationship between them in two of the four regression models among Brazilians of Japanese descent, I note not only that adjusted coefficients of determination are very weak, but that these regressed equations do not significantly explain the variance of income. Therefore, Japanese Brazilians are thought to face difficulties in raising their income level even if they accumulate more human capital compared with Chinese migrants.

Hence, I paid attention to labor market situations where Brazilian respondents belong, in order to search for the factors which significantly explain income earnings instead of human capital. Implications of the findings are twofold. First, income levels among Brazilians are largely dependent upon labor demand in factories for subcontract workers. No characteristics of Brazilian labor supply such as human capital and job shift behaviors have contributed to improvements in their earnings. In that sense, I pronounce that labor demand actually conditions work outcomes among Brazilians more largely than features of labor supply.

Second, we have observed a weak but significant impact on upgrading income levels of exit from labor market for subcontract workers. Thus, as long as Brazilians with Japanese descent continue to stay in this flexible labor market sector, it would be very difficult for them to increase their income earnings. Moreover, even if they often changed jobs, they really remained in lower pay. As Figure 4 actually clarifies, roughly thirty percent of Brazilian

respondents experience troubles such as 'no regular improvements in wages' and a quarter of them complain that there is 'no boost in salary.' Hence, Brazilian respondents also have a subjective sense of a difficulty in increasing their income level. Since we observed a significant wage gap between subcontract workers and regularly employed and self-employed workers in spite of controlling for human capital and work hours per week, I suppose that labor market sectors for subcontract workers would prevent Brazilian migrants from improving their earnings.

Figure 4 Trouble with a current job (N=247)



As argued above, subcontract workers have to change workplaces more often through the job broker because subcontractor's companies can easily fire them in terms of labor contracts as soon as the demand of factory products and labor demand actually declines. They are not expected to continue to work for a relatively long period and to accumulate human capital, so they are actually involved in unskilled jobs which require no job training and it would eventually be difficult for Brazilians to increase their income. On the other hand, regular employees, in particular among men, have been expected to continue working for a long period and to improve skill levels through on-the-job training. Therefore, I suppose that transition from indirect to direct employment would enable even Brazilians to have some opportunities to get skilled.

Moreover, entry into self-employment gives Brazilians a chance to get more earnings, even though there are quite a small number of respondents who are now involved in self-employment.[14] A population census in 1995 actually showed that less than one percent of Brazilian nationals in Japan were in self-employment (Kajita et al. 2005). Whereas ethnic entrepreneurs didn't thus prevail among Japanese Brazilians, transition from indirect employment to self-employment could also

result in raising economic outcomes.

This research has tried to compare between Japanese Brazilians and Chinese migrants with respects to the determinants of earnings. According to the findings in this research, we could not observe the results presupposed by theory of human capital. How effective human capital is for raising income level depends largely upon the type of immigrants like professional migrants and labor migrants in Japan. In that sense, these two immigrant groups are thought to form different segmentations in the Japanese labor market.[15]

This research has some defects with regards to representative features of samples. The survey on Chinese migrants adopted non-random sampling procedure. The Brazilian Survey restricted the sampling area to a district of a specific local government. Future research will have to collect nation-wide representative samples if possible.

Moreover, the model which this research employed is restricted to the simple causal relationships between human capital, labor market situations and income earnings. For example, Higuchi and Tanno (2003) argued that employment status and work period in a company among Brazilian migrants greatly differed by firm size. According to their research survey which targeted manufacturing companies in Toyota city in 2000, small and medium-sized firms are more likely to regard foreign migrant workers as a substitute of Japanese regular working staffs, while large-sized companies tend to employ them as temporary workers. During the economic recession in the 1990s, while large-sized companies attracted Japanese female and aged part-time workers, small sized companies suffered from labor shortage even in the period of less labor demand. Therefore, future research should consider whether work outcomes are influenced by firm size and work period in a company when analyzing incorporation of Japanese Brazilians into the Japanese labor market.

NOTES

[1] An earlier version of this paper was presented at a conference of the Research Committee on Social Stratification of the International Sociological Association, held in Los Angeles, CA, U.S., from 18th until 21st August, 2005. This research was supported by grants from the Ministry of Health, Labour and Welfare and grants for young scholars from Shizuoka University.

[2] Portes et al. (1996: 14-25) classified transnational migrants into four types of migrants, which consist of labor migrants, professional migrants, entrepreneurs and refugees.

[3] See Araragi (2000) with regards to adaptation toward Japanese society, housing, educational attainment, incorporation into labor market, and others, among Chinese of Japanese ancestry.

[4] See Kajita (2002), and Tsuda and Cornelius (2004) with regards to recent trends in the immigration policy.

[5] Some empirical results have supported differential returns on human capital between immigrant groups or between foreign born and native born (Reimers 1984, 1985).

[6] Takenoshita (2005b) examined differential rates of return on human capital between Japanese Brazilian migrants and native Japanese.

[7] This research was conducted in collaboration with Liu Xiaodan (Keio University) and Mioko Tsuboya (Yokohama City University).

[8] We asked the following associations to help us hand out our questionnaire. These are: an association organized by mothers with regards to education and child care, an association which consists of Chinese employees who work for companies in Japan, an association which consists of permanent residents who came from

China, an organization for Chinese university students, three private tutoring schools for Chinese students and so on.

[9] See Takenoshita (2003, 2005a) for detailed information on this research of Chinese migrants in Japan

[10] Variables which are analyzed in this research were also measured for the spouse of the respondent if any. Therefore, if spouses of female respondents are Chinese and have an occupation, they were added to the samples of the dataset. If the respondents or their spouses engage in manual occupation, they were excluded from the dataset because I especially focus on Chinese migrants who have non-manual occupations.

[11] Kanagawa Survey has no information on detailed distinctions regarding country of origin. Therefore, I just used the data on respondent's occupation by region of origin. While Chinese and Brazilians make up a significant part of the Latino and East Asian population, these classifications might not be comparable in a strict sense.

[12] The comparative analysis of career mobility between transnational migrants is based on the findings of Takenoshita (2005).

[13] Indices of dissimilarity between jobs in the sending country and current jobs can be interpreted as an index of structural mobility in the transnational migration.

[14] Higuchi and Takahashi (1998) actually reported that they observed six companies, whose annual turnover was more than one hundred thousand million yen, among the 77 Brazilian entrepreneurs they interviewed. In that sense, the success of self-employment among immigrants would result in the economic upward mobility in the host society.

[15] This comparative analysis is restricted to male respondents due to the small numbers of female respondents in the survey on Chinese migrants. On the other hand, Takenoshita (2005b) focuses on the differential rates of return on human capital among both male and female Japanese Brazilian migrants, compared with the native Japanese population.

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