

Re-Entering the Labor Market after Childbirth among Japanese Women

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Abstract

This study explores trends regarding the re-entrance into the labor market of Japanese women after the first childbirth, as well as further employment status changes after the re-entry, using the Japanese Panel Survey of Consumers (JPSC). Cox regression models are applied to analyze the determinants of returning to the labor market after the first childbirth. Multinomial logistic regression models are used to examine the extent to which women who re-enter the labor market as non-standard employees become standard employees, self-employed; and also the extent to which they again leave the labor market. The results of the analyses show that those who were in professional job, were self-employed as their first job post-education are more likely to re-enter the labor market, compared to those who were employed as office clerks. Additionally, those who live with, or within very close proximity to, either their parents or parents-in-law, tend to re-enter the labor market relative to those who live further away. Those who re-entered the labor market as service workers are less likely to become standard employees or self-employed, compared to those who re-entered the labor market as office clerks. These results indicate that gendered career developing systems prevalent in Japanese firms places women who seek to return to the labor market and developing their career after childbirth at a great disadvantage.

Introduction

Many Japanese women quit working around the time of their first childbirth and re-enter the labor market when their children get somewhat older. According to the Japanese National Fertility Survey in 2010, 60% of women quit working at the time of their first childbirth. However, women's employment rate gradually increases as the age of the youngest child get older (National Institute of Population and Social Security Research, 2011).

This study explores women's working behavior after their first childbirth in Japan. Some previous researches have already investigated this issue (Hirao, 2005; Sakamoto, 2009). However, most of them focus solely on women's first re-entry to the labor market after childbirth. This study further explores trends in women's career after the

re-entry to the labor market for it seems that many women experience changes on their employment status even after re-entering the labor market.

Therefore, this study will ask: 1) what kind of trajectories does women's career follow after their first childbirth, 2) what determines women's re-entry to the labor market after childbirth, and 3) what determines the changes of employment status after re-entering the labor market.

Previous studies on re-entering the labor market

This study focuses on the effects of human capital and social support on re-entering the labor market.

Accumulation of human capital is assumed to enhance women's re-entering the labor market. However, previous researches on Japanese women do not show clear effects of human capital on women re-entering the labor market when the human capital was measured by educational attainment. Educational attainment tends to relate to a higher probability of women re-entering the labor market in some studies (Higuchi, 2000, 2007; Hirao, 2005, Sakamoto, 2009), but the effect of educational attainment is not statistically significant, or the value of coefficient of educational attainment decreases when the effect of husband's income is also taken into account.

On the other hand, job experiences prior to childbirth tend to significantly relate to the re-entry. Previous researches point out that experience in professional job increases the probability of women re-entering the labor market (Sakamoto, 2009, Yamato, 2011).

Household's economic needs measured by husband's income consistently show significant effects on women re-entering the labor market (Higuchi, 2000, 2007; Hirao, 2005, Sakamoto, 2009).

Parents and the husband are assumed to be two main sources of social support for women raising children. Previous studies in Japan often examined the impact of possibility in getting support from parents or parents-in-law on women's re-entering the labor market by measuring the residence distance from parents. It seems that the findings are not consistent whether support from parents has significant impact on women's re-entering the labor market. There are no previous research which examines the relationship between support from husband and women's re-entry. According to the research which examines the women's employment in childcare stage, probability of women's work continuation increases when their husbands work at public offices. It implies that working at public offices increases husbands' compatibility between work and family demands, which helps women to work. It is possible that women's

re-entering the labor market is also enhanced when their husbands work for public offices.

Further employment status change after re-entry

There are no previous studies which examine the determinants of further employment status change after the re-entry among Japanese women. However, as is shown in later section, there are certain numbers of women who change employment status or leave job again after childbirth.

The determinants of further employment status changes are assumed to be similar to the factors which were considered in the analysis of the re-entering the labor market. In addition to these factors, the type of occupation at the time of the re-entry should be taken into account. In the previous study, it is pointed out that there are high percentages of middle-aged women working as non-standard employees in service and manual work, and that their hourly wages are lower than that of standard employees (Osawa, 1993). It suggests that women who re-entered the labor market as non-standard employees in service and manual work are somewhat in disadvantageous position in the labor market; therefore, they face difficulties in further career development.

Research questions and hypotheses

Based on the previous researches, this study asks 1) what kind of trajectories does women's career follow after their first childbirth, 2) what determines women's re-entry to the labor market after childbirth, and 3) what determines further employment status changes after the re-entry.

In the analysis on the re-entry to the labor market, it is hypothesized that job experience rather than educational attainment relates to the women's re-entry to the labor market. And it is also anticipated that husband's income and possibilities of getting support from parents, parents-in-law, and husband relates to women's probability of re-entering the labor market.

In the analysis on further employment status changes after the re-entry as non-standard employees, it is hypothesized that re-entering to service and manual work inhibits switching from nonstandard employment to standard employment or become self-employed after re-entering the labor market.

Data and methods

This study uses data from the Japanese Panel Survey of Consumers (JPSC) conducted by the Institute for Research on Household Economics. The first wave of this

survey was conducted in 1993, and it was based on random sample of women born between 1959 and 1969. All these surveyed women were re-interviewed in October every year since then. Additional respondents have started to participate in the survey for women born between 1970 and 1973 since 1997, women born between 1974 and 1979 since 2003, and women born between 1980 and 1984 since 2008. This study utilizes data collected between 1993 and 2008.

The analyses are furthermore restricted to sample members who were born between the 1960 and 1979, and were not working when they had their first child (n=911).

This study examines the effects of human capital and social support on the re-entry to the labor market and further employment status changes after the re-entry. These effects are calculated using Cox regression models for the re-entry, and multinomial logistic regression models for the employment status changes after the re-entry. The data were re-organized into a person-year file, which contained time-constant and time-varying variables for each respondent in each year. Note that entering the labor market is treated as censored for the analysis on the re-entry, whereas employment status changes are treated as censored for the analysis on the employment status changes after the re-entry. The person-year file is analyzed by Cox regression models for the re-entry with time measured in years since the first childbirth. Multinomial logistic regression models are used for the analyses on further employment status changes after the re-entry with time measured in years since the re-entry to the labor market. In these analyses, the occurrence of an event rather than experiencing no event is the dependent variable.

Variables

In the analysis on the first re-entry to the labor market, the dependent variable is a dichotomous variable on the change of employment status of 1 = “get a job” or 0 = “stay out of labor market.” In the analysis on the employment status change after re-entering the labor market as non-standard employees, the dependent variable is the employment status categorized as 1) continue working as non-standard employees, 2) change to standard employees or self-employed, 3) leave job.

As independent variables, human capital is measured by educational attainment and type of occupation of the first job. The need for household income is measured by husband’s income. To measuring the possibilities to receiving support from parents, parents-in-law, and husband, the residence distance from their parents or parents-in-law, and whether their husbands work for public offices or not are taken into account.

In the analysis on further employment status change after the re-entry, the occupation at the time of re-entry is also included as independent variable.

As for control variables, number of children, age of the youngest child, unemployment rate, birth cohort, and the age of the respondent's first child birth are considered.

The educational attainment, occupation of the first job, and, residence distance from their parents or parents-in-law, take the following values:

Educational attainment: 1) high school or less, 2) junior college (including vocational school), and 4) university.

Occupation of the first job: 1) professionals, 2) clerks, 3) service workers, 4) manual workers, 5) self-employed, and 6) teachers¹.

Residence distance from their parents or parents-in-law: 1) co-residence, 2) proximate residence, 3) living in the same city or further².

Whether their husbands work for public offices, and the birth cohort were measured as dichotomous variables. As for husband's work place, the values take 1 = husband works for public office and 0 = husband does not work for public office. In terms of the birth cohort, the values take 1 = women born in the 1970s and 0 = women born in the 1960s.

Husband's income, number of children, age of the youngest child, unemployment rate, and the age of the respondent's first child birth were treated as continuous variables and the exact values for each variable were used in the analyses.

Results

Trend in re-entering the labor market

Table 1 presents the yearly percentages of women's employment status change during 10 years after the first childbirth. The table is separately made by the 1960s and the 1970s birth cohorts. Seven types of employment status changes during each year from the first to the 10th year after the first childbirth are considered; 1) continue as standard employees, 2) continue as non-standard employees, 3) continue as self-employed, 4) continue working, change in employment status, 5) get job, 6) leave

¹ In the questionnaire of JPSC, the type of occupation is asked only for employees. For those who are self-employed, the type of occupation is unknown. Teachers are often included in professional job, but JPSC set independent category for teachers. Since teachers in Japan are often in different work conditions from other professional jobs, this study leaves it as an independent occupational category.

² The questionnaire of JPSC asks respondents to answer about residence distance from either their own parents or parents-in-law who live closer to them. "The proximate residence" refers to the parent living in the same town or within one kilometer radius of respondent's residence.

job, 7) continue as not working.

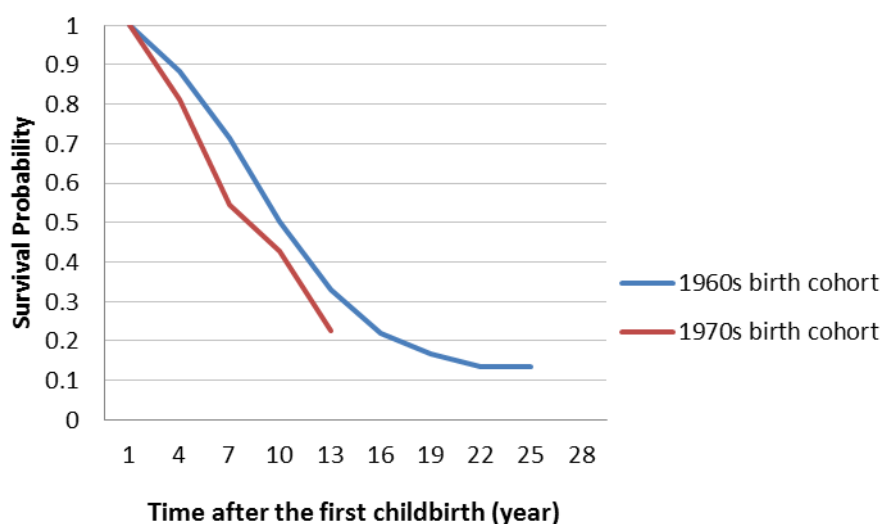
Table 1. Yearly employment status changes for ten years after the first childbirth

										(%)
1960s birth cohort	The year of childbirth ~1 year	1~2 years	2~3 years	3~4 years	4~5 years	5~6years	6~7 years	7~8 years	8~9 years	9~10 years
Continue as standard employees	14.7	13.8	12.9	12.9	13.3	14.5	13.8	13.4	12.6	13.3
Continue as non-standard employees	3.0	5.9	7.1	9.4	10.6	13.4	15.9	18.6	21.9	24.1
Continue as self-employed	5.1	5.0	4.9	6.4	6.5	7.2	8.6	8.7	8.6	9.2
Continue working, but employment status changes	1.3	1.4	1.8	1.8	2.3	2.0	2.3	3.4	4.2	3.7
Get job	4.3	4.9	7.5	6.6	8.3	8.1	7.8	7.9	9.5	8.2
Leave job	6.2	2.5	4.2	3.7	4.6	4.3	4.7	4.4	4.4	6.1
Continue as not working	65.4	66.5	61.5	59.2	54.4	50.4	46.9	43.7	38.9	35.5
Total	100	100	100	100	100	100	100	100	100	100
N	875	877	875	869	858	835	811	801	769	736
										(%)
1970s birth cohort	The year of childbirth ~1 year	1~2 years	2~3 years	3~4 years	4~5 years	5~6years	6~7 years	7~8 years	8~9 years	9~10 years
Continue as standard employees	14.2	13.7	11.2	11.9	11.9	11.3	10.0	11.6	13.4	12.9
Continue as non-standard employees	5.1	8.4	10.4	14.9	19.4	21.7	25.5	23.3	23.0	25.7
Continue as self-employed	3.0	4.0	5.3	6.6	5.7	5.9	5.8	5.5	4.8	4.7
Continue working, but employment status changes	1.5	1.1	2.5	2.8	4.6	4.6	4.2	6.6	7.2	6.4
Get job	8.3	7.7	10.4	12.1	8.5	9.0	6.1	11.6	5.3	11.7
Leave job	6.4	4.6	5.9	4.7	5.0	5.6	6.4	5.8	11.5	4.1
Continue as not working	61.6	60.5	54.3	47.1	45.0	41.9	42.1	35.6	34.9	34.5
Total	100	100	100	100	100	100	100	100	100	100
N	606	569	527	471	438	391	330	275	209	171

Table 1 shows that there are considerable number of women who re-enter the labor market every year during ten years after the first childbirth. The percentage of women who continue working as non-standard employees increases year by year, while the percentage of women who continue working as standard employees is rather stable, indicating that many of women who re-enter the labor market start working as non-standard employees. In addition, a certain percentage of women experience employment status changes as well as leaving job during these ten years.

To estimate the probability of women's re-entering the labor market, Kaplan-Meier method is applied. Figure 1 presents the result of Kaplan-Meier method on the probability of the first re-entry to the labor market after the first child birth, estimated by birth cohorts. The values of X axis show the time after childbirth by year, and the values of Y axis show the estimated probability that a woman will stay out of labor market. A woman will stay out of the labor market for five years or more is around 80% for both the 1960s and the 1970s birth cohorts, and a woman will stay out of the labor market for 13 years or more is about 30% for the 1960s birth cohort and 20% for the 1970s birth cohort.

Figure 1. Survivor function on re-entry to the labor market



The determinants of re-entry

Table 2 presents the result of Cox regression analysis that explores the effects of human capital and social support on re-entering the labor market. Those who engaged in professional job, and were self-employed as their first job are more likely to re-enter the labor market compared to those who were clerks. Those who live with or live close to either their parents or parents-in-law tend to re-enter the labor market compared to those whose parents live in the same city or further. The more children they have, lesser probabilities of re-entering the labor market. Higher unemployment rate enhance women re-entering the labor market.

Table 2. Result of Cox regression analysis on the first re-entering the labor market after the first childbirth (Japanese Panel Survey of Consumers)

	Coef.		Hazard Ratio
Educational attainment (Ref.) high school or less			
junior college	-0.103		0.902
university	-0.294		0.745
Unemployment rate	0.234	***	1.263
Birth cohort (Ref. 1960s birth cohort)	0.228		1.257
Age of the first child birth	-0.005		0.995
First occupation (Ref. clerks)			
professionals	0.371	*	1.45
service	-0.046		0.955
manual	-0.003		0.997
self-employed	1.079	*	2.943
teachers	0.237		1.267
Residence distance from parents/ parents-in-law (Ref. living in the same city or further, all persons)			
co-residence	0.292	*	1.340
approximate residence	0.395	**	1.484
Husband's income	-0.0002		1.000
Husband works for public office	-0.199		0.819
Number of children	-0.328	***	0.721
Age of the youngest child	0.025		1.025
Number of obs	5008		
Log likelihood	-2390.280		
LR chi2 (d.f.)	76.03 (16)		
Prob > chi2	0.000		
*p<.05, **p<.01,***p<.001			

The determinants of further employment status changes after the re-entry

Among women who re-entered the labor market during the observed period, 74.6% of them (n=378) re-entered the labor market as non-standard employees. The following analysis is restricted to these women who re-entered the labor market as non-standard employees.

There are 205 women who changed their employment status after the re-entry during the observed period. The number accounts for 54.2% of those who re-entered the labor market as non-standard employees. Among 205 women, 71 of them became standard employees or self-employed, and 134 of them left their jobs again.

Table 3 reports the results of multinomial logistic regression analysis on employment status change after re-entering the labor market as nonstandard employees. The original analysis also took into account the effects of educational attainment, residence distance from parents or parents-in-law, whether husband works for public

offices, number of children, age of the first childbirth, and unemployment rate on the further employment status changes. However, these variables did not show significant relationship with employment status changes. In addition, the original model which considered all these variables did not reach enough significance level. Therefore, the final model shown in Table 3 considers the effects of type of occupation at the time of re-entry, husband's income, age of the youngest child, and birth cohort.

Table 3. Results of multinomial logistic regression analysis on the employment status change after the re-entry as nonstandard employees (Japanese Panel Survey of Consumers)

(Ref. Continue working as nonstandard employees)	Nonstandard⇒Standard or self-employed		Nonstandard⇒not employed	
	B	Exp(B)	B	Exp(B)
Intercept	-2.954		-1.930	0.913
Birth cohort (Ref. 1960s birth cohort)	0.609 †	1.839	-0.091	0.926
Occupation at re-entry (Ref. clerks)				
professionals	0.040	1.041	0.024	1.024
service	-0.772 *	0.462	0.246	1.279
manual	-0.635 †	0.530	0.127	1.135
teachers	-1.377	0.252	0.100	1.106
Husband's income	0.000	1.000	0.000	1.000
Age of the youngest child	0.014	1.014	-0.077 **	0.927
N	1511			
Log likelihood	-667.730			
LR χ^2	22.750			
Prob > χ^2	0.065			
Pseudo R2	0.017			
† p<.10, *p<.05, **p<.01,***p<.001				

According to Table 3, the significance probability of goodness of fit only reaches to 10 % level. This is because there is relatively small number of subjects included in the analysis, and there may be other factors not included in this model, which would better explain the employment status changes. However, the results shown in Table 3 indicate that some work and family factors relate to the employment status change after the re-entry as nonstandard employees.

The Table 3 shows the effects of each independent variable on probabilities to become standard employees or self-employed, or to become not being employed again, compared to continuing working as non-standard employees. Those who re-entered the labor market as service workers are less likely to become standard employees or self-employed, compared to those who re-entered the labor market as office clerks. Higher age of the youngest child decreases the probabilities for women being not

employed. In addition, even though it is only significant at 10 % level, there are tendencies that those who were born in 1970s are more likely to become standard employees or self-employed compared to those who were born in the 1960s, and those who re-entered the labor market as manual workers are less likely to become standard employees or self-employed compared to those who re-entered the labor market as office clerks.

Discussion

This study describes the trend of re-entering the labor market of Japanese women born in the 1960s and the 1970s. And this study also examines the effects of human capital and social support factors on women's re-entry into the labor market as well as further employment status changes after the re-entry.

Women's re-entry to the labor market begins a full-scale process when their first child is around five years old, and by the time the child is 15 years old, the probability of women re-entering the labor market increases to 70 - 80% in which most of them are working as nonstandard employees. Those women who engaged in professional jobs or were self-employed are more likely to re-enter the labor market compared to those who were clerical workers before childbirth. It is also revealed that there are a limited number of women who switch from nonstandard employment to standard employment or become self-employed after re-entering the labor market. Those whose occupation was service at the time of the re-entry shows lesser possibilities to become standard employees or self-employed, compared to those whose occupation were clerk. The older the age of the youngest child, the higher the probabilities for women who re-enter the labor market as non-standard employees to retain their work.

The reason why the occupation shows significant relationship between probabilities on the first re-entry as well as further employment status change after the re-entry is in the gendered career develop systems in Japanese firms. Those systems do not allow women who once left their position because of childbirth and childcare, to return to the position and develop their career again. It is assumed that there are no such positions in most of the Japanese firms. It is assumed that there are fewer possibilities for those who engaged in clerical work before childbirth to return to the labor market, compared to those who engaged in professional work or were self-employed, because clerical women are not trained to acquire skills expected for a long-term employment, and because there are no positions for them to return after certain periods of childcare. On the contrary, professional workers and self-employed individuals often develop their career outside of the firms' human development systems which makes it easier for them

to return to work after childbirth.

Most of the women who left their jobs re-enter the labor market as non-standard employees of service and manual work. However, the results of this study shows that there are not much opportunities for them to become standard employees or self-employed after the re-entry. These results indicate that there are very limited opportunities for women to develop their career after re-entry as non-standard employees.

Therefore, the findings of this study suggest that job allocations and human development systems of Japanese firms need to be changed so that women who once left their positions are able to develop their career again.

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