

Japanese Graduates' Transition from University to Work and Their Income: A Comparison with Australia, Indonesia, and Vietnam*

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Abstract

This study examines the prevalence and effects of four types of experiences for university students and graduates in Japan regarded as failures in their first job search. The prevalence and effects of the four types of experiences in Japan are compared with those in Australia, Indonesia, and Vietnam. The research resulted in the following findings. First, in Japan, the proportion of university students who face the four types of difficulties in their transition from university to work is much smaller than that in the other three countries. Second, the effects of the difficulties on current income are larger and more persistent in Japan than in the other three countries.

1. Introduction

It is generally believed that people in Japan who graduated during an economic boom (recession) tend to have a higher (lower) income. This is because the demand for new graduates is high (low) during a boom (recession). Words such as “bubble generation” and “employment ice-age generation” indicate that people perceive these effects to have lasted for long. The “bubble generation” is the group of people who graduated during the so-called bubble economy, which started in 1987 and ended in 1991. This cohort has thrived and is enjoying rich and

luxurious lives compared to their subsequent cohort. Meanwhile, the “employment ice-age generation” is the group of people who graduated during the long recession after the burst of the bubble economy, that is, from the mid-1990s to the mid-2000s. In 2019, the government implemented a support program for the “employment ice-age generation” (Cabinet Office 2019).

Some econometric studies support the hypothesis that the labor market conditions at the time people graduate have an effect on people's future income (e.g., Ohtake and Inoki 1997; Genda and Kurosawa 2001; Genda, Kondo, and Ohta 2010). These studies use unemployment rates as an index of labor market conditions.

The reason behind the above-mentioned effect is that more people are successful in their first job search during booms—whereas the opposite is true during recessions—and that people's first job affects their career development. Thus, people who are successful in their first job search would earn higher future incomes, whereas those who face difficulties would earn lower future incomes.

The aim of this study is threefold. First, I test whether people who faced difficulties in their first job search currently have a lower income. Four variables are used to capture the difficulties

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these people faced—the time gap between their graduation and the start of their first job, failure to be offered an acceptable job before graduation, failure to find a full-time job, and resigning from their first job within a year. In Japan, if university students or graduates have experienced one of these cases, their job search is generally regarded as having been unsuccessful.¹

Second, if the effect exists, I test whether it is persistent. There are two conditions under which the effect decreases over time: (1) the labor market is flexible so that those who faced difficulties during their first job search can attempt to find a job again, and (2) those who faced difficulties have the same abilities as those who were successful in their first job search.

Third, I compare this effect in Japan to that in three other countries—Australia, Indonesia, and Vietnam. The effect should depend on the job search system in each country.

2. Job search system for university students in Japan

The job search process is socially systematized in Japan. The Japan Federation of Economic Organization (JFEO) sets the following guidelines: (1) Firms can start their job fairs for third-year students in March. (2) Firms can start interviewing fourth-year students in June. (3) Firms can offer jobs to fourth-year students in October. Although this guideline is not strictly followed by JFEO's member firms, the organization pressures firms not to start their recruiting activities too early. Firms generally start their job fairs and interviews in March and offer jobs in May (Career Center, Doshisha University 2018). Firms also hold job offering ceremonies in October, the month when job offers are made, according to the JFEO guidelines.

Students generally undertake internships in August and September, register on job information sites in October, and submit applications in March of their third year.

3. Hypotheses

Students who are not successful in finding a job have typically experienced one of the following—failure to start a job immediately after graduation, failure to be offered a job before graduation, failure to find a full-time job, attending college for another year, or resigning from their first job within a year. I use four of these types of experiences to construct hypotheses.

Hypothesis 1. Experiencing one of the following difficulties reduces graduates' income:

- 1) a long time gap between graduating and starting one's first job,
- 2) a failure to find a job before graduation,
- 3) a failure to find a full-time job, and
- 4) a resignation from one's first job within a year.

The second hypothesis is about the persistence of the effect. As mentioned above, it is generally perceived that those who graduated during recessions tend to suffer from a low income for a long time.

Hypothesis 2: The aforementioned effect does not decrease over time.

4. Model

The model used in this study is a linear one. Table 1 defines the relevant variables.

The dependent variable is the natural logarithm of the current annual income. The independent

¹ Some of these four experiences are not regarded as "difficulties" in the other countries studied herein, because they are not associated with future income, as we will see later.

Table 1 Definition of Variables

Variable	Definition
ln income	natural logarithm of annual income
time gap	years of gap between graduation and starting the first job
fail to be offered the first job (d)	1 if the respondent fails to be offered the job before graduation, and 0 otherwise
first job is part-time (d)	1 if the first job is a part-time job, and 0 otherwise
resign within a year (d)	1 if the respondent resigns from the first job within a year, and 0 otherwise
Y	number of years since the respondent started to work after graduation
female (d)	1 if the respondent is a woman, and 0 otherwise
master / Ph.D. (d)	1 if the respondent has a master or higher degree, and 0 otherwise
major	
humanities (d)	1 if the respondent majored in humanities, and 0 otherwise
social sciences (d)	1 if the respondent majored in social sciences, and 0 otherwise
natural sciences (d)	1 if the respondent majored in natural sciences, and 0 otherwise
others (d)	1 if the respondent majored in other sciences, and 0 otherwise

Note 1: (d) denotes a dummy variable.

variables are the four variables that capture the difficulties graduates faced in the first job search, the cross-terms of these four variables with the number of years since graduates started their first job, and some control variables.

The four variables that capture difficulties in the first job search are the time gap between graduating and starting the first job, a dummy variable taking the value 1 if a person is offered their first job after graduation, a dummy variable taking the value 1 if the first job is a part-time job, and a dummy variable taking the value 1 if a person resigns from his or her first job within a year.

The control variables are age, age squared, a dummy variable for female workers, a dummy variable for people with a Master's or higher degree, and three dummy variables that capture people's majors—social sciences, natural sciences, and others (with humanities being the reference category).

5. Data and descriptive statistics

Data from the Global Career Survey 2012 and Working Person Survey 2012 are used in this study. Both surveys are implemented by the Recruit Works

Institute. The former survey was administered in 12 countries in September or December 2012. The latter was administered in Japan in December 2012. Most questions in the former survey are also in the latter one.

The samples of both surveys consist of university graduates aged in their 20s and 30s living in metropolitan areas. The sample size is 3,000 for Japan and 600 for each of the other countries.

The sample was selected based on two criteria: workers under 25 years old were removed, and employers, executives, the self-employed, and family employees were removed.

The reason observations involving workers under 25 years were deleted was to avoid sample selection bias: a substantial number of postgraduate students in the population are under 25 years.

The reason observations involving employers, executives, the self-employed, and family employees were removed was that their income may include a substantial amount of profit from their own firms. Thus, people with a large income from family-owned companies would not be included in the sample.

Table 2 Descriptive statistics

	Japan	Australia	Indonesia	Vietnam
ln income	5.94 (0.61)	10.92 (0.62)	16.79 (1.56)	18.08 (1.09)
time gap	0.292 (0.743)	0.567 (0.885)	0.570 (1.031)	0.364 (0.803)
Y * time gap	2.33 (5.87)	4.02 (7.02)	3.81 (6.69)	2.37 (5.12)
fail to be offered the first job (d)	0.193 (0.394)	0.533 (0.500)	0.658 (0.475)	0.649 (0.478)
Y * fail to be offered the first job	1.72 (3.97)	4.36 (5.36)	5.05 (4.74)	4.34 (4.27)
first job is part-time (d)	0.042 (0.200)	0.163 (0.370)	0.097 (0.296)	0.042 (0.200)
Y * first job is part-time	0.344 (1.89)	1.076 (2.89)	0.645 (2.21)	0.276 (1.54)
resign within a year (d)	0.114 (0.318)	0.179 (0.384)	0.270 (0.444)	0.217 (0.413)
Y * resign within a year	1.04 (3.24)	1.39 (3.38)	2.11 (3.92)	1.31 (2.84)
female (d)	0.343 (0.475)	0.509 (0.501)	0.472 (0.500)	0.501 (0.501)
age	32.15 (4.19)	31.27 (4.09)	30.73 (3.90)	30.22 (3.67)
age_sq	1051.3 (270)	994.3 (261)	959.2 (245)	926.9 (226)
master / Ph.D. (d)	0.157 (0.364)	0.064 (0.245)	0.054 (0.226)	0.060 (0.238)
major				
humanities (d)	0.202 (0.401)	0.155 (0.362)	0.075 (0.265)	0.088 (0.283)
social sciences (d)	0.352 (0.478)	0.277 (0.448)	0.404 (0.491)	0.400 (0.490)
natural sciences (d)	0.301 (0.459)	0.275 (0.447)	0.332 (0.471)	0.314 (0.465)
others (d)	0.145 (0.352)	0.293 (0.456)	0.189 (0.392)	0.199 (0.399)
Number of observations	2534	375	371	433

Table 2 presents the descriptive statistics. A remarkable fact is that the probability that Japanese students face difficulties in their first job search is much smaller than that of the students of the other countries. The time gap between graduation and the start of the first job in Japan is 0.292 years, which is significantly shorter than in the other countries, where it ranges from 0.364 to 0.570 years. The proportion of workers who were not offered an acceptable job before graduation is 0.193, less than half of the corresponding proportion in other countries, which ranges from 0.533 to 0.658. The proportion of workers who could not find full-time jobs after graduation is 0.042, which is the

same as that of Vietnam but much smaller than that of Australia and Indonesia—0.179 and 0.270, respectively. Furthermore, the proportion of workers who resigned from their first jobs within a year is 0.114, significantly smaller than the corresponding proportions in the other countries, which range from 0.179 to 0.270.

6. Estimation results

The estimation results are summarized in Table 3. First, we look at models (1) through (4), which do not include the cross-terms of the number of years

since respondents started their first jobs with the four variables that capture the difficulties they faced in their first job search.

The time gap variable has a negative effect on respondents' current income in all the countries. The coefficients are significantly different from zero in all the countries except Indonesia. The magnitude of the coefficient is the smallest in Japan. Thus, in Japan, failure to start a job soon after graduation has a relatively smaller effect on the respondents' future

income.

On the other hand, in Japan, the other three variables that capture respondents' difficulties in their first job search have larger effects. Failure to be offered an acceptable job before graduation has a significantly negative effect only in Japan. Japanese workers who have experienced this failure have an income 13% lower than that of workers who have not.

Table 3 Effect of difficulties on log of income

	Japan (1)	Australia (2)	Indonesia (3)	Vietnam (4)
time gap	-0.035 ** (0.016)	-0.075 *** (0.029)	-0.092 (0.064)	-0.224 ** (0.105)
Y * time gap	-	-	-	-
fail to be offered the first job (d)	-0.137 *** (0.030)	-0.051 (0.061)	0.034 (0.173)	-0.039 (0.117)
Y * fail to be offered the first job	-	-	-	-
first job is part-time (d)	-0.445 *** (0.071)	-0.297 *** (0.105)	0.157 (0.309)	-0.344 (0.318)
Y * first job is part-time	-	-	-	-
resign within a year (d)	-0.203 *** (0.037)	0.040 (0.068)	-0.106 (0.178)	-0.225 * (0.131)
Y * resign within a year	-	-	-	-
female (d)	-0.363 *** (0.028)	-0.165 ** (0.064)	-0.519 *** (0.160)	-0.154 (0.108)
age	0.140 *** (0.044)	0.143 (0.137)	0.765 ** (0.325)	0.478 ** (0.233)
age_sq	-0.002 ** (0.001)	-0.002 (0.002)	-0.011 ** (0.005)	-0.007 * (0.004)
master / Ph.D. (d)	0.127 *** (0.028)	0.066 (0.086)	0.159 (0.349)	-0.169 (0.209)
major				
social sciences (d)	0.097 *** (0.034)	0.056 (0.104)	0.130 (0.320)	0.111 (0.184)
natural sciences (d)	0.101 *** (0.036)	0.075 (0.105)	0.160 (0.316)	0.108 (0.192)
others (d)	0.095 ** (0.038)	-0.004 (0.103)	0.023 (0.342)	0.033 (0.200)
Constant	3.277 *** (0.684)	8.430 *** (2.113)	3.887 (5.014)	10.267 *** (3.514)
Number of observations	2534	375	371	433
Prob>F	0.000	0.000	0.000	0.004
R-squared	0.2591	0.1198	0.0892	0.0802

(continues on the next page)

Note 1: Figures in parentheses are robust standard errors.

Note 2: * < .10, ** < .05, and *** < .01

Table 3 (continued)

	Japan (5)	Australia (6)	Indonesia (7)	Vietnam (8)
time gap	-0.083 ** (0.039)	-0.193 *** (0.072)	0.085 (0.143)	-0.275 (0.239)
Y * time gap	0.008 * (0.005)	0.018 * (0.010)	-0.027 (0.023)	0.010 (0.034)
fail to be offered the first job (d)	-0.213 *** (0.076)	-0.024 (0.102)	-0.571 * (0.337)	0.024 (0.225)
Y * fail to be offered the first job	0.007 (0.008)	-0.003 (0.012)	0.083 ** (0.039)	-0.009 (0.027)
first job is part-time (d)	-0.643 *** (0.146)	-0.546 *** (0.171)	0.764 (0.665)	-0.892 (0.638)
Y * first job is part-time	0.025 (0.017)	0.036 ** (0.017)	-0.095 (0.093)	0.077 (0.060)
resign within a year (d)	-0.280 *** (0.085)	-0.228 (0.144)	-0.140 (0.417)	-0.743 ** (0.301)
Y * resign within a year	0.008 (0.008)	0.031 ** (0.015)	0.007 (0.049)	0.083 ** (0.041)
female (d)	-0.367 *** (0.028)	-0.173 *** (0.064)	-0.523 *** (0.160)	-0.157 (0.107)
age	0.132 *** (0.044)	0.115 (0.132)	0.725 ** (0.322)	0.413 * (0.244)
age_sq	-0.0016 ** (0.001)	-0.0016 (0.002)	-0.0108 ** (0.005)	-0.0061 (0.004)
master / Ph.D. (d)	0.140 *** (0.029)	0.094 (0.089)	0.154 (0.353)	-0.118 (0.210)
major				
social sciences (d)	0.101 *** (0.034)	0.074 (0.103)	0.143 (0.314)	0.100 (0.189)
natural sciences (d)	0.099 *** (0.036)	0.086 (0.105)	0.185 (0.310)	0.096 (0.197)
others (d)	0.097 *** (0.037)	0.003 (0.105)	-0.006 (0.335)	0.047 (0.200)
Constant	3.478 *** (0.688)	9.067 *** (2.031)	4.951 (5.012)	11.458 *** (3.766)
Number of observations	2534	375	371	433
Prob. > F	0.0000	0.0000	0.0001	0.0032
R-squared	0.2644	0.1460	0.1066	0.0920

In Japan and Australia, starting the first job on a part-time basis has a significantly negative effect on workers' current income. Their current income is 36% lower in Japan and 26% lower in Australia compared to that of workers who started their career with a full-time job. In contrast, the type of employment does not affect the current income of Indonesian and Vietnamese workers.

In Japan and Vietnam, workers who resigned from their first jobs within a year have a significantly lower current income. The magnitude of the effect is similar in the two countries—18% in Japan and 20%

in Vietnam. This effect is smaller and nonsignificant in Australia and Indonesia.

Thus, in Japan, all four variables have significantly negative effects on income, and their magnitude is larger, except for that of the time gap variable.

Subsequently, I examine the persistence of the effects by adding four variables: the cross-terms of the number of years since respondents started their first job with the variables that capture the difficulties they faced during their first job search. The results are listed in columns (5) through (8) in Table 3.

The effect of the time gap variable weakly diminishes in Japan and Australia. The coefficients of this variable in the two countries are significant at the 10% level, but the magnitude of the coefficients shows that the effect disappears approximately ten years after workers start their first jobs. The coefficient of the time gap becomes insignificant in Vietnam when the cross-term is added.

In Japan, the negative effects of the other three variables that represent difficulties in the first job search do not diminish significantly. This shows that experiencing difficulties in the first job search lasts at least until a Japanese worker turns approximately 40 years old. In the other countries, however, some negative effects caused by difficulties faced in the first job search diminish over time. In Australia, the effect of a part-time first job and of resigning within a year also significantly diminish over time; in Indonesia, the effect of a failure to be offered an acceptable job before graduation declines significantly; and in Vietnam, the effect of resigning from the first job within a year significantly diminishes.

7. Discussion

Based on the descriptive statistics and estimation results, we found the following results. First, in Japan, the proportion of university students who face one of the four types of difficulties in their first job search is much smaller than that in the other three countries. Second, the effects of these experiences on current income are larger and more persistent in Japan than those in the other three countries.

The first finding above does not necessarily mean that the Japanese job search system works better than those in the other countries studied, because some of the four types of difficulties are not truly "difficulties" in the other countries, since they do not affect graduates' income. For example, the time gap between graduating and starting the first job does not affect graduates' income in Indonesia, and failure to be offered an acceptable job before

graduation does not affect their income in Australia and Vietnam. Further, graduates' failure to start their career as a full-time worker does not affect their income in Indonesia and Vietnam, and resigning from their first job within a year does not affect their income in Australia and Indonesia.

The Japanese job search system creates a significant disadvantage for those who cannot successfully find a job at graduation. There are two possible explanations for the large and persistent negative effect of graduates' failure in their first job search on their income.

First, because of the socially systematized job search process of university students, it is difficult for graduates who have failed to find an acceptable job after graduation to try searching again. The labor market for new graduates is different from that of workers who have already graduated. Fourth-year students have more job opportunities than graduates. Those who failed in their first job search are labeled failures, which may signal to employers that these workers are not smart. This is a kind of statistical discrimination. In other words, based on the average ability of those labeled as failures and that of fourth-year students, the former are rated lower than fourth-year students by employers. This type of statistical discrimination is more likely to occur in Japan, where there is a socially systematized job search system.

Second, in Japan, the large and persistent effect of a failure in the first job search is partly due to the so-called lifetime employment system. Large companies in Japan offer training to workers. They accumulate firm-specific skills, which makes it mutually beneficial for them and their employers to have a long employment relationship. As a result, in Japan, there are not as many job opportunities for mid-career workers as there are in the other three countries. Workers who find good jobs when they graduate have an advantage in terms of accumulating skills, and they earn higher wages than those who have failed to find employment for a long period.

8. Conclusions

This study examines the prevalence and effects of four types of experiences for university students and graduates in Japan regarded as failures in their first job search. These four experiences are the time gap between graduating and starting work, the failure to be offered an acceptable job before graduation, the failure to find a full-time job, and resignation from the first job within a year. The prevalence and effects of the four types of experiences in Japan are compared with those in Australia, Indonesia, and Vietnam.

The research resulted in the following findings. First, in Japan, the proportion of university students who face these four types of difficulties in their transition from university to work is much smaller than that in the other three countries. Second, the effects of these difficulties on current income are larger and more persistent in Japan than in the other three countries.

The first finding does not necessarily mean that the Japanese job search system works better than that of the other countries, because some of the four types of difficulties do not affect graduates' income in the other countries. In other words, the four types of experiences regarded as failures in the first job search of Japanese university students are not regarded as such in the other countries.

The Japanese job search system creates a significant disadvantage for those who cannot find a job at graduation. There are two possible explanations for the large and persistent negative effect of a failure in the first job search on workers' income.

First, the job market for fourth-year students is different from that of job seekers who have already graduated. Fourth-year students have more job opportunities than graduates. Those who failed in their first job search are labeled failures, which may signal to employers that they are not smart. This is a kind of statistical discrimination, which is more

likely to occur in Japan, where the job search system is socially systematized.

Second, in Japan, the large and persistent effect of a failure in the first job search is partly because of the so-called lifetime employment system. Large companies in Japan offer training to workers. Workers who find good jobs when they graduate have an advantage in terms of accumulating skills, and they earn higher wages than those who failed to find employment for a long period.

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