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Abstract

This paper explores both observable and unobservable variables that would affect employed workers' decisions on job change. A survey was conducted through one-to-one interviews, and the sample consists of 965 full-time employed workers. The logistic regression models are employed to analyze the two binary measures of job-to-job mobility: i) whether an individual is considering a job change, and ii) whether an individual is actively looking for another job.

We find that age, job satisfaction, satisfaction with working environment or job security, and firm size are among the major factors determining workers' job-to-job mobility. Younger workers and workers in smaller firms are more mobile. Workers with lower level of job satisfaction are more likely to consider a change in employment and to actively look for other jobs, and so are workers with lower level of satisfaction with their working environment or job security. We also find that men are more likely to consider a change in job than women, but when actually looking for another job is concerned, men and women do not differ. Furthermore, monthly income and working sector contribute significantly to looking for other jobs but not to considering job change.

JEL Classification: J60, J63, C25

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1. Introduction

Throughout the last few decades, studies and findings in the literature of job mobility have been numerous and multi-dimensional. The most widely documented facts about labor mobility are that average job change rates decline with age and job tenure. Groot and Verberne (1997) investigated voluntary job-to-job mobility and its determinants in Dutch labor market. They found that all factors determining job mobility became more unfavorable to job change when the worker got older. Thus older workers were less likely to change jobs, and so were workers who had worked for a longer period of time with their current employer since tenure increased the cost of job mobility. Burgess and Rees (1997) found the same results for the British labor market. Their explanations were based on a "life-cycle story", i.e., workers engage in job searching while they are young, and eventually find a good match and stay in that job for a long time. Viscusi (1980) showed that younger workers and workers with shorter tenure were more likely to quit. Furthermore, Topel and Ward (1992) found that the role of job mobility was an important element of career development among young workers.

Education may also affect job mobility. A theoretical study by Jovanovic (1979) suggested a positive relation between education and job mobility. Yet empirical studies have showed somehow contradictory results on the effect of education on job mobility. Weiss (1984) found that better-educated workers had lower probability of quitting their jobs, although education could improve alternative opportunities of workers. Many other studies also found that education was negatively correlated with job mobility (see e.g., Johnson, 1978; Mincer and Jovanovic, 1981; Gruber and Madrian, 1994). However, Blau and Kahn (1981) found that education had no significant effect on men's quitting rate, while the effect was positive on women's quitting rate. Royalty (1998) noted that education-induced changes in job turnover behavior might differ by sex. She found that less-educated women had lower job-to-job turnover, while well-educated women were very much similar to men in their turnover behavior. Thus, the different rates of job turnover between men and women were due to the different behavior of less-educated women.

Voluntary job-to-job mobility is to look for a better job when workers are working but not satisfied with their current jobs for pecuniary and/or non-pecuniary reasons. Most

of the empirical studies on job mobility are based on observable variables, such as age, job tenure, monthly income, and education level. However, working people should be viewed as economic, psychological, as well as sociological individuals. A study on job change behavior should also be approached in a similar fashion to gain a better understanding of job mobility. Besides age, gender, monthly income, and education level, job mobility may also be affected by unobservable and subjective variables. For example, it is possibly the expected wage level rather than the actual monthly income that affects a worker's decision on changing employment (see e.g., Burdett 1978). Whether or not workers are satisfied with their jobs would also affect their decisions on job change, and other non-financial aspects of jobs, such as working environment and job security, are also important as well. It is interesting to see how these unobservable factors determine job mobility.

However, empirical studies on job mobility have relied largely on data from statistical reports with observable variables only. Partly because of difficulties in measuring and identifying unobservable and subjective variables, relatively fewer studies have been done to explore correlations of subjective factors (such as job satisfaction) to job mobility.[1] One of the earliest studies on investigating subjective variables that may determine job mobility was done by Freeman (1978), who found that job satisfaction altered the overall level of job mobility by affecting job quitting. Recently, Clark, Georgellis, and Sanfey (1998) found that workers with higher job satisfaction were less likely to quit than those with lower satisfaction. Hamermesh (2001) empirically investigated the distribution of job satisfaction among workers with different wage levels. He found that job satisfaction was not simply based on actual wages although the distribution of job satisfaction widened with the growing inequality of earnings. Using data on British workers, Clark and Oswald (1996) tested the hypothesis that utility depends on income relative to a reference level. They found that workers' reported job satisfaction levels were inversely related to their reference wage level, and satisfaction was declining with the level of education. Weiss (1984) found that assigning workers to more complex jobs did not increase

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[1] Hamermesh (2001) observed that "economists have traditionally been loath to deal with subjective outcomes describing work", although he noted that economists had not "remained entirely aloof from this area."

job satisfaction since such workers were more likely to quit their jobs than were workers assigned to simpler tasks.

This study explores both observable and unobservable variables that would affect employed workers' decisions on job changes, based on primary data collected personally, through one-to-one interviews conducted in Singapore. We obtain a total of 965 valid (completed) questionnaires. Two sets of logistic regression models are presented in our analysis. The first set estimates one's consideration (intention) towards a job change. The second estimates the behavior of employed workers who were actively looking for other jobs. Our regression analysis will identify determinants of voluntary job-to-job mobility. Furthermore, we will uncover and discuss the motivations behind the choices of those who want to leave their current employment and the reasons for others who do not want to change their employment.

Our data indicate that about 42 percent of interviewees showed their intention to change their employment, but only 12 percent of them were actually looking for other jobs. The econometric analysis on the collected data shows that age, job satisfaction, satisfaction with working environment or job security, and firm size are among the major factors determining workers' job-to-job mobility. Younger workers and workers in smaller firms are more mobile. Workers with lower level of job satisfaction are more likely to consider a change in employment and to actively look for other jobs, and workers with lower level of satisfaction with their working environment or job security are more inclined towards both considering and actively looking for a change in employment. Thus, job satisfaction exerts an essential influence on workers' job searching behavior. We also find that men are more likely to consider a change in job than women, but when the issue concerns whether actually looking for another job, men and women do not differ significantly. Furthermore, monthly income and working sector contribute significantly to actively looking for another job but not to considering a change of job.

This paper is organized as follows. Section 2 outlines the survey procedure and presents a summary of the collected data. Section 3 describes our estimation models. Section 4 presents our empirical results and discusses the determinants that affect individuals' decisions of both considering job changes and actually looking for other jobs. Section 5

discusses the reasons for respondents' respective decisions of either leaving or remaining in their current jobs. Section 6 concludes this paper.

2. Survey on Job Mobility and Summary of Data

2.1. The Survey

The purpose of this survey is to investigate the determinants of job changes. The questionnaire incorporates observable and unobservable aspects that may affect one's decision on job change. Job change is measured by two binary variables: considering a change in employment and actively looking for other Jobs, which will be analyzed separately in the subsequent sections.

A sample survey was first conducted to test the feasibility of such a study as well as the responsiveness of those interviewed. With valuable comments obtained from the first group of interviewees, a few amendments were made and the questionnaire was revised accordingly. The survey process started in the fourth week of November and was completed by the end of December 1998 in Singapore.

The survey was conducted on a random basis, excluding the self-employed, the employed on a part-time basis, and the unemployed as well. The survey was conducted personally, on a one-to-one basis, with the assistance of our research assistants. Respondents were given a choice of being interviewed while their responses were being recorded, or they were guided through the questionnaires if they felt more comfortable filling them up on their own. Where a certain section was incomplete, they were asked politely to furnish the relevant information for the accuracy of the study. However, some respondents failed to produce valid questionnaires and were thus excluded from the effective sample.

2.2. Summary of the Data

A total of 965 completed questionnaires were found to be valid. People in the sample were all full-time workers. Table 1 presents the basic data categorized by gender and age. From the Table, we see that the overall numbers of males and females in the sample are about the same. Most of the people are in the age groups between 20 and 49. There are relatively more younger-females (aged 18 to 29) and relatively more older-males (aged 50 to 65) in the sample.

Table 1. Stratification of the Sample by Age and Gender

Age Range	Male	Female	Sum
18-19	1	11	12
20-29	227	293	520
30-39	118	116	234
40-49	75	72	147
50-59	38	12	50
60-65	2	0	2
Total	461	504	965

2.2.1. Considering a Change in Employment

It was found that out of the 965 individuals, 402 of them (42%) were considering a change in employment. Furthermore, 200 out of these 402 individuals were males. It is evident from Table 2 that younger workers (both males and females) are more likely to considering changing their jobs.

Table 2. Percentage of Males and Females Who Were Considering
Changing Employment

Age Range	Male	Female	Male (%)	Female (%)	Total (%)
18-19	1	8	8.33	66.67	74.00
20-29	123	146	23.65	28.08	51.73
30-39	42	27	17.95	11.54	29.49
40-49	28	20	19.05	13.61	32.66
50-59	5	1	10.00	2.00	12.00
60-65	1	0	50.00	0.00	50.00
Total	200	202			

Note: Percentages are calculated by taking the number of males (females) who have intention of changing jobs divided by the number of respondents within the same age range.

2.2.2. Actively Looking for other Jobs

From the sample, out of the 402 respondents who considered a change in employment, 117 of them were actually searching for other jobs, making up about 12 percent of the entire sample. As shown in Table 3, younger female workers are more likely to be actively searching for other jobs, but such a pattern is not observed for male workers.

It is important to reinforce the fact that, in this study, an individual considering a change in employment is not the same as an individual actively looking for another job. However, the one who was actively looking for another job must also be the one who

stated considering a change in employment. In our data set, 42 percent of workers were considering changing jobs, yet only 12 percent were actively looking for other jobs.

Table 3. Percentage of Males and Females who were Actively Looking for other Jobs

Age Range	Male	Female	Male (%)	Female (%)	Total (%)
18-19	0	3	0	25.00	25.00
20-29	33	45	6.35	8.65	15.00
30-39	9	11	3.85	4.70	8.55
40-49	9	3	6.12	2.04	8.16
50-59	3	1	6.00	2.00	8.00
60-65	0	0	0	0	0
Total	54	63			

Note: Percentages are calculated by taking the number of males (females) who are actively look-
ing for jobs divided by the number of respondents within the same age range.

3. The Model

We will estimate two actions: a) considering a change in employment, and b) look-
ing actively for another job. In our analysis, the two dependent variables, job change de-
cisions, take only two values: 0, implying not considering or looking for another job, and
1, implying considering or actively looking for another job. This is a case of a dichoto-
mous (binary) dependent variable. The interpretation of the dependent variable is that it is
a probability measure for which the realized value is 0 or 1. The logistic regression model
is commonly used to investigate the relationship between a binary response and a set of
explanatory variables. The model takes the following general form:

$$g(\pi_i) = \alpha + \sum_{j=1}^{k} \beta_j X_{ij}, \quad i = 1, \cdots, n, \tag{1}$$

where π_i is the probability of considering a change in employment or actively looking for
another job for the ith individual, $g(\cdot)$ is a function that "links" this probability to a set of
explanatory variables $X_1, X_2, ..., X_k, \alpha$ is the intercept, and βs are the regression coeffi-
cients. Because the probability assumes values from 0 to 1, but the explanatory variables
can assume values in the real line, the link function has to be able to translate the [0, 1]
domain to the whole real line. A natural choice of this function is the inverse of some
cumulative distribution function with a domain of the whole real line. Thus, the common
link functions include the logit function,

$$g(\pi_i) = \log\frac{\pi_i}{1-\pi_i}, \tag{2}$$

which is the inverse of the cumulative logistic distribution function; the probit function,

$$g(\pi_i) = \Phi^{-1}(\pi_i), \tag{3}$$

which is the inverse of the cumulative standard normal distribution function, and the complementary log-log (clog-log) function,

$$g(\pi_i) = \log[-\log(1-\pi_i)], \tag{4}$$

which is the inverse of the cumulative extreme-value distribution. The resulted models will be referred to, respectively, the *logit model*, *probit model*, and *clog-log model*.

In the general logistic regression models, the coefficients do not measure directly the change in the probability of an event occurring as a result of a unit change in the value of one explanatory (independent) variable while the others being kept constant. Under the logit link, they are associated with the changes in *odds* ($\pi_i/(1-\pi_i)$) of the response 1, in particular, the odds of considering a job change increases multiplicatively by e^{β_j} for every one-unit increase in X_j, while other explanatory variables are held constant.[2] As for the commonly used economic measure: the marginal effect of a unit change in X_j on π_i, it has the form of $\beta_j \exp(-Z_i)/[1+\exp(-Z_i)]^2$ under the logit link, $\beta_j \phi(Z_i)$ under the probit link, and $\beta_j \exp(Z_i - \exp(Z_i))$ under the complementary log-log link, where $Z_i = \alpha + \sum_{i=1}^{k} \beta_j X_{ij}$ and $\phi(\cdot)$ is the probability density function of the standard normal variable.

Note that unlike the case of linear regression model where the marginal effect is just the regression coefficient not depending on the actual values of X, the marginal effect for logistic regression is the regression coefficient times a factor that depends on the values of the explanatory variables. Note also that the link function is monotonic increasing, hence the direction of the effect of a change in X_j depends on the sign of the β_j. Positive values of β_j imply that increasing X_j will increase the probability of having the response

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[2] The fact that the coefficients are directly related to odds-ratio makes the use of the logit link more attractive. The other advantage of logit link is that differences on the logistic scale are interpretable regardless of whether the data are sampled prospectively of retrospectively. See Agresti (1996) for detailed discussions on link functions.

1; negative values imply the opposite. However, the magnitude of the change depends on the actual values of all the *X* variables.

Table 4 summarizes the definitions of the two dependent variables and a set of potential independent variables that are derived from the survey questionnaire. Some independent variables take on binary values, such as sex, education level, and working sector; and some take on ordinal levels such as all the satisfaction levels. Income and firm size also enter the model as ordinal variables. More over, the two quadratic terms: IncomeSq (= Income^2) and SizeSq (= Size^2) are also considered.

Table 4. Dependent and Independent Variables

Variable	Description of Variable	Description of Levels
CONSIDE	Consider a change in employment (dependent variable)	1 = yes 0 = no
LOOK	Actively look for another job (dependent variable)	1 = yes; 0 = no
Age	Age of respondent	Continuous variable
Sex	Sex of respondent	1 = male; 0 = female
EduPri	Highest educational level attained	1 = primary; 0 = otherwise*
EduOA	Highest educational level attained	1 = O, A level; 0 = otherwise
EduDip	Highest educational level attained	1 = diploma; 0 = otherwise
DEP	Number of dependants	1 = three or more dependants 0 = otherwise
SoleB	Sole breadwinner of the family	1 = yes, 0 = no
Sector	Working sector	1 = Public; 0 = Private
NJobs	Number of jobs held	Discrete variable
Income	Monthly income level	1 to 6, lowest to highest
JobSat	Overall job satisfaction level	1 to 5, least to most satisfied
INC	Satisfaction with salary and bonuses	1 to 5, least to most satisfied
BEN	Satisfaction with fringe benefits	1 to 5, least to most satisfied
ENV	Satisfaction with working environment	1 to 5, least to most satisfied
FAIR	Satisfaction with fairness in treatment	1 to 5, least to most satisfied
INTER	Satisfaction with interest in job scope	1 to 5, least to most satisfied
JPROS	Satisfaction with promotional prospects	1 to 5, least to most satisfied
JSEC	Satisfaction with job security	1 to 5, least to most satisfied
Ideal	Is current employment ideal occupation	1 = yes, 0 = no
Size	Size of respondent's organization	1 to 6, smallest to largest

*Lowest education level in the survey is primary school education.

4. Empirical Results

To see if our results are robust with respect to different model specifications, we test the two actions with all three links. Table 5 summarizes the results of logistic regression analysis for the CONSIDER (considering a change in employment) variable and Table 6 summarizes the results for the LOOK (actively looking for another job) variable. Among the reported results are the estimates of the regression coefficients and their standard errors. The tables also include a R^2 value, a Hosmer-Lemeshow goodness-of-fit test (Lackfit), and the maximized log likelihood. The definition of R^2 is given by Nagelkerke (1991) who modified that defined by Cox and Snell (1989, pp. 208-209), so that a maximum value of 1 is possible.

Table 5. Logistic Regression Analysis of CONSIDER Variable

	Logit		Probit		Cloglog	
Variable	Estimate	Standard Error	Estimate	Standard Error	Estimate	Standard Error
Age	-0.0597***	0.0131	-0.0356***	0.0075	-0.0443***	0.0092
Sex	0.6506***	0.1852	0.3940***	0.1070	0.4195***	0.1236
EduPri	0.5814	0.5526	0.3940	0.3173	0.5501	0.3739
EduOA	0.1576	0.2308	0.1065	0.1339	0.0694	0.1544
EduDip	0.1847	0.2359	0.1017	0.1371	0.0459	0.1593
DEP	-0.3825	0.3133	-0.2052	0.1778	-0.2397	0.2258
SoleB	0.1249	0.2374	0.0637	0.1367	0.0660	0.1625
Sector	0.1084	0.2018	0.0547	0.1171	0.1220	0.1386
NJobs	0.0449	0.0571	0.0271	0.0328	0.0441	0.0383
IncomeSq	0.0205	0.0131	0.0125	0.0075	0.0163	0.0092
JobSat	-0.3657*	0.1503	-0.2083*	0.0866	-0.2783**	0.1011
INC	-0.1946	0.1261	-0.1154	0.0733	-0.1720*	0.0848
BEN	-0.4517***	0.1184	-0.2565***	0.0684	-0.2746***	0.0779
ENV	-0.2661	0.1408	-0.1555*	0.0810	-0.2274*	0.0910
FAIR	-0.1074	0.1371	-0.0693	0.0791	-0.0633	0.0888
JSEC	-0.3480**	0.1100	-0.1951**	0.0631	-0.1836**	0.0718
Ideal	-1.6071***	0.1743	-0.9484***	0.1012	-1.1228***	0.1281
Size	-0.9110*	0.3698	-0.4810*	0.2136	-0.3595	0.2485
SizeSq	0.1151**	0.0413	0.0615**	0.0238	0.0486*	0.0277
R^2	0.4592		0.4585		0.4525	
Lackfit	3.6800	(.8848)	4.7863	(.7802)	7.8822	(.4451)
Max Log Likelihood	-454.05		-454.47		-457.72	
Number of observations	965		965		965	

The R^2 is defined by Nagelkerke (1991). Lackfit is the Hosmer and Lemeshow χ^2 goodness-of-fit test with eight degrees of freedom, *p*-values are in parenthesis. Significance is indicated by one asterisk (5-percent level), two asterisks (1-percent level), or three asterisks (0.1-percent level).

Table 6. Logistic Regression Analysis of LOOK Variable

Variable	Logit		Probit		Cloglog	
	Estimate	Standard Error	Estimate	Standard Error	Estimate	Standard Error
Age	-0.0485**	0.0186	-0.0255**	0.00989	-0.0498**	0.0154
Sex	0.1532	0.2558	0.0915	0.13820	0.0785	0.2150
EduPri	0.9047	0.7431	0.4384	0.40300	1.0105	0.6000
EduOA	0.3246	0.3230	0.1838	0.17480	0.2595	0.2731
EduDip	-0.0114	0.3483	0.0103	0.18640	-0.0366	0.2985
DEP	-0.8537	0.5366	-0.4315	0.26920	-0.7084	0.4910
SoleB	0.5631	0.3126	0.3359*	0.16930	0.4583	0.2591
Sector	0.6300*	0.2891	0.3457*	0.15490	0.5638*	0.2432
NJobs	0.0846	0.0706	0.0458	0.03910	0.0819	0.0572
IncomeSq	0.0380*	0.0190	0.0225*	0.01010	0.0357*	0.0161
JobSat	-0.4040*	0.2058	-0.1885	0.11240	-0.3944*	0.1677
INC	-0.2339	0.1662	-0.1501	0.09040	-0.1768	0.1405
ENV	-0.5309***	0.1622	-0.2975***	0.08880	-0.4167**	0.1324
INTER	-0.2273	0.1483	-0.1420	0.08210	-0.1809	0.1196
JPROS	-0.0390	0.1485	-0.0290	0.08110	-0.0347	0.1218
JSEC	-0.5712***	0.1364	-0.3172***	0.07560	-0.4571***	0.1087
Ideal	-0.7640**	0.2806	-0.4260**	0.14700	-0.6350**	0.2466
Size	-1.3357**	0.4876	-0.7741**	0.26580	-1.0877**	0.4114
SizeSq	0.1376**	0.0550	0.0802**	0.02990	0.1134**	0.0465
R^2	0.3496		0.3550		0.3453	
Lackfit	5.3188	(.7230)	6.1169	(.6341)	7.0162	(.5349)
Max Log Likelihood	-259.18		-257.51		-260.49	
Number of observations	965		965		965	

The R^2 is defined by Nagelkerke (1991). Lackfit is the Hosmer and Lemeshow χ^2 goodness-of-fit test with eight degrees of freedom, p-values are in parenthesis. Significance is indicated by one asterisk (5-percent level), two asterisks (1-percent level), or three asterisks (0.1-percent level).

We now summarize some general observations from the results given in Tables 5 and 6. First, all the models fit the data quite well as judged by the R^2 values and the Hosmer-Lemeshow goodness-of-fit tests. Second, all three links result in rather similar models for both the CONSIDER response and the LOOK response, and most of the variables are quite robust to the link specifications. Third, some variables are statistically significant to one response variable, but become insignificant to the other. For example, sex is highly significant to CONSIDER, but is not significant in the model for LOOK. This indicates that "considering a change of job" and "actively looking for another job" may be two different things.

4.1. The regression analysis on consideration of changing jobs

From Table 5, we see that age variable has a negative coefficient that is highly significant for all three models. This means that an older worker is less likely to think about changing jobs as compared to a young worker. The quantitative effect of age on CONSIDER can be seen directly from the logit model. For example, for workers who are five years younger, it is estimated that the odds of considering a change of employment is increased by 35 percent ($100(e^{5 \times 0.0597} - 1)\% = 35\%$).

The sex variable has a positive coefficient and is also highly significant, implying that males have a higher likelihood of considering changing jobs. Based on the logit model, the odds for a male to consider a change in employment is $e^{0.6506} = 1.92$ times that of a female (a 92% increase). [3] In other words, the odds-ratio of male and female in considering a change in employment is estimated to be 1.92. The 95% Wald confidence interval for the true odds ratio has lower and upper limits 1.333 and 2.756 (see Table 7). The interval does not cover 1, indicating the odds of response 1 for males is different from that of females. This result coincides with the traditional belief that males tend to be more ambitious and have higher expectations in jobs.

Although the variables of education levels are all positively correlated to the independent variable, they are statistically insignificant from the estimated models presented in Table 5. However, detailed analysis shows that effects of education levels may be partially confounded with other factors, such as satisfaction factors. By fitting a simpler model with age, sex and three education dummies only, we find that the EduPri dummy is significant at 1% level with a positive coefficient. This means that workers with primary school education are more likely to change job than workers with higher education levels. Many empirical studies have showed that a better-educated worker will be less likely to change jobs (see e.g., Johnson, 1978; Mincer and Jovanovic, 1981; Gruber and Madrian,

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[3] This number can also be estimated based on models with other links by first estimating the probabilities and then converting the probabilities into odds, but the estimates are no longer independent of X.

1994; and Weiss, 1984). Thus, this conclusion is, in a certain sense, supported by our data as well.[4]

<p align="center">**Table 7.** Point and Interval Estimate for Odds Ratio under Logit Link</p>

	CONSIDER				LOOK		
Effect	Point Estimate	95% Wald* Confidence Limits		Effect	Point Estimate	95% Wald* Confidence Limits	
Age	0.942	0.918	0.966	Age	0.953	0.918	0.988
Sex	1.917	1.333	2.756	Sex	1.166	0.706	1.924
EduPri	1.789	0.606	5.283	EduPri	2.471	0.576	10.602
EduOA	1.171	0.745	1.840	EduOA	1.383	0.735	2.606
EduDip	1.203	0.758	1.910	EduDip	0.989	0.500	1.957
DEP	0.682	0.369	1.261	DED	0.426	0.149	1.219
SoleB	1.133	0.711	1.804	SoleB	1.756	0.952	3.241
Sector	1.115	0.750	1.655	Sector	1.878	1.065	3.309
NJobs	1.046	0.935	1.170	NJobs	1.088	0.948	1.250
IncomeSq	1.021	0.995	1.047	IncomeSq	1.039	1.001	1.078
JobSat	0.694	0.517	0.931	JobSat	0.668	0.446	0.999
INC	0.823	0.643	1.054	INC	0.791	0.571	1.096
BEN	0.637	0.505	0.803	ENV	0.588	0.428	0.808
ENV	0.766	0.582	1.010	INTER	0.797	0.596	1.065
FAIR	0.898	0.687	1.175	JPROS	0.962	0.719	1.287
JSEC	0.706	0.569	0.876	JSEC	0.565	0.432	0.738
Ideal	0.200	0.142	0.282	Ideal	0.466	0.269	0.807
Size	0.402	0.195	0.830	Size	0.263	0.101	0.684
SizeSq	1.122	1.035	1.217	SizeSq	1.148	1.030	1.278

* If the 95% confidence interval for odds-ratio contains the value 1 for a given explanatory variable, then the corresponding coefficient is not significantly different from zero at 5% level of significance.

The variable of overall job satisfaction is negatively correlated to one's intention of changing employment and is statistically significant in all three models. This means that an individual with a higher level of job satisfaction is less likely to consider a change in employment. For one level decrease in job satisfaction, there is a $100(e^{0.3657}-1)\% = 44\%$ increase in the odds of considering changing the employment as estimated from the logit model.

The overall job satisfaction level would be determined by both financial and non-financial factors. We next break down overall job satisfaction into a few more detailed

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[4] We have also tested if well-educated people have higher satisfaction level but found no significant corre-lation between them. Actually, our results suggest that job satisfaction is independent of many observable variables, such as age, education, and wage levels.

factors. We find that all the levels of detailed satisfactions are negatively related to the consideration of job change. The coefficient of level of satisfaction with salary and bonuses (INC variable) implies that a worker who is less satisfied with his level of income is more likely to consider a job change. This variable is statistically significant at 5% level in the model with clog-log link.

The variable of level of satisfaction with fringe benefits (BEN) has a negative sign and is statistically significant. An individual who is less satisfied with benefits, such as paid leave and medical insurance, is more likely to think about leaving. The estimated increase (from the model with logit link) in the odds of considering a change in employment by one level decrease in BEN variable is 57%.

Likewise, the satisfaction of working environment (ENV variable) has significantly effect on one's intention to change jobs. This result shows that an individual who is very contented with his working environment is very likely not to consider changing employment. Job security is also statistically significant in determining one's consideration on job change. It is found that an individual having a higher level of satisfaction with his current job security will be less likely to consider job change.

The variables Ideal, Size and SizeSq are all statistically significant. This shows that a worker who thinks his job is ideal is less likely to consider changing his job and that employed people in smaller firms are more likely to consider changing employment. The negative coefficient of Size and positive coefficient of SizeSq (with a much smaller magnitude) show that the rate of decrease in odds of considering a job change slows down with the increase of firm size.

4.2. The regression analysis on actively looking for other jobs

Similar to the results from testing consideration of job change, age has very significant negative impact on workers' likelihood of looking for other jobs. Consistent with the results of early studies (e.g. Groot and Verberne, 1997, Burgess and Rees, 1997, Madrian, 1993, Jovanovic, 1979), this result shows that younger workers are more likely to look for other jobs. In the process of changing jobs, the wages of young people will increase but the gains decline with ageing (see e.g., Mincer, 1986).

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Education levels are insignificant in the models presented in Table 6, but become significant in a smaller model with only age, sex and three education dummies as the explanatory variables (EduPri is significant and has a positive coefficient). Unlike the case of consideration of job change, there is no significant difference between men and women in their likelihood of looking for other jobs. This statistical insignificance of sex implies that although men are more likely to *consider* changing their jobs, the probability for them to actually look for other jobs is not higher than women. A possible explanation is that although men wanted to change employment, they knew that the job market was not good during the economic recess when unemployment rate was high. Therefore, they were not actually searching for other jobs.

The sign of income variable (quadratic term of it) is positive and statistically significant in all three models. This result suggests that a worker with higher wage is more likely to look for another job. One possible explanation is that whether a person is satisfied with his payment is determined by his expected rather than actual wage. A person earning high wage may be compensated for undesirable working conditions or is high qualified and has more alternative opportunities.

Consistent with other empirical evidence (e.g., Freeman, 1978; Clark, Georgellis, and Sanfey, 1998), there is a negative correlation between the level of job satisfaction and the probability of looking for other jobs. The higher job satisfaction level an individual indicates, the less possible he will search for another job. For one level decrease in job satisfaction, there is a $100(e^{0.404}-1)\% = 50\%$ increase in the odds of actively looking for other jobs as estimated from the model with logit link.

From Table 6, we also see that the variable of working environment is negatively related to an individual's action of looking for another job and is also statistically significant. Clearly, one who is more satisfied with his working environment has a lower probability of searching for another job. Job interesting may also affect one's decision on job change. But our result shows no statistically significant relationship between job interesting and job looking.

As can be inferred from Table 6, the variable of satisfaction with job security has a negative coefficient and is statistically significant. An individual who perceives his job as

not secure, i.e. he feels that he may lose his job anytime, will have a higher likelihood of searching for another job.

Our finding also shows that workers in larger firms are less likely to look for other jobs. This result is consistent with Topel and Ward (1992) who found that the turnover rate in small firms was much higher than that in large firms. One possible explanation is that bigger firms have better working environment or offer better fringe benefits and enriched jobs.[5]

5. Further Evidence on Job-to-Job Mobility

Why do many people remain in their jobs while others are more mobile between jobs? What are the motivations that cause them to leave or remain in their current jobs? To address these issues, the survey posted two questions: *reasons contributing towards decision on changing employment*, and *reasons contributing towards decision on remaining in current employment*, which are analyzed in detail below

5.1. Reasons contributing towards decision on changing employment

This survey was conducted during an economic recess in Singapore when unemployment rate was historically high. In spite of the poor economic outlook and gloomy labor market, there were still 117 respondents (12%) who were actively searching for another job. Intuitively, a person would love to have a job change if there are attractive aspects of a potential new job. However, there must be some "pushing" or undesirable factors in the current job that trigger the job searching. These factors represent unpleasant aspects of the current job that actively repel the individual from the job.

A list of possible reasons was given in the questionnaire for the respondents to choose from. These reasons are 1) company financially unsound, 2) company relocating out of Singapore, 3) transportation problems, 4) poor working environment, 5) excessive work pressure, 6) salary paid below expectations, and 7) working hours too long. The results of 6 most chosen reasons are presented in Table 7.

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[5] McEvoy and Cascio (1985) found that job enrichment was significantly negatively correlated with voluntary job change.

Table 8. Reasons Contributing towards Decision on Changing Employment

Salary below expectations	Poor working environment	Too long working hours	Excessive working pressure	Company financially unsound	Transportation problems
60.68%	39.32%	31.62%	30.77%	14.53%	9.40%

"Salary paid below expectations" was the most common reason given by the 117 respondents who were actively searching for other employment. 61% of them had listed this as one of the major reasons for their decisions. They felt that they were not paid what they deserved for the work done.

"Poor working environment" emerged as the second common reason for looking for other jobs. 39% of the 117 respondents who were looking for other jobs gave this as one of the reasons. 32% of those who were looking for others job had indicated that their working hours were too long. The next reason to explain why people search for other jobs is excessive work pressure. 31% of them gave this as one of their reasons. These people found their workload was too much to handle and too taxing as well.

15% of them stated that one of the reasons they were looking for another job was because their current companies were financially unsound. There is a possibility that the company was declared bankrupt or that the owner was thinking of winding up the business because of losses. Thus instead of waiting for the company to fold, they would want to find a job elsewhere if they could. Another reason to explain why individuals are looking for another job is because of the inconvenience they faced having to get to work. 9.4% of them felt that they encountered transportation problems and so they wanted to find another job that would be closer to their homes and incur less traveling time.

5.2. Reasons contributing towards decision on remaining in current employment

As noted earlier, about 88% of the respondents remained in their current jobs although many of them had intentions of changing jobs. What could be the possible motivations behind these 848 respondents who were remaining in their current jobs? Six possible reasons were provided to the respondents to choose from, including 1) contentment with current job, 2) difficulty in getting a better job, 3) poor economic outlook, 4) too much risks involved in being self-employed or starting own business, 5) insufficient

funds to start own business, and 6) lack of qualifications or skills. A summary of the data is given in Table 8.

Table 9. Reasons Contributing towards Decision on Remaining in Current Employment

Poor economic outlook	Contentment	Difficulty getting better job	Lack qualification/skills	No enough funds	Too risk
46.82%	45.05%	32.90%	18.63%	17.10%	12.26%

A main reason that the respondents gave for staying on with their jobs is because of the poor economic outlook. Out of the 848 respondents, almost half of them (47%) had indicated it as one of the reasons that induced them to remain in their current jobs. Many of those interviewed expressed that they would not harbor thoughts of changing jobs during recessionary times. They understood that they should not be too picky about their jobs during the dad times.

Another reason that explains why people remained in their jobs is contentment. 45% of the 848 respondents stated that they were contented and hence they were remaining in their current jobs. More than half of the respondents (51.8%) had expressed that they were currently holding their ideal jobs and had no intentions to move.

About 33% of the respondents listed the difficulty in getting a better job as one of the factors that contribute towards their decision of staying in their jobs. This reason is related to "poor economic outlook" explained before. Due to the gloomy labor market, they knew that it would be difficult to find a better job. Therefore, the best option would be to remain in their current jobs, until the economy and the labor market start to pick up.

The next reason that explains why people are remaining in their jobs is that they realized their limited potential of getting a better job, given their level of qualification or skill. 19% of those who were staying in their jobs felt that they were lack of the necessary qualifications or skills and could not get a better job.

17% of the 848 respondents were not changing jobs because they wanted to start their own business but lacked the capital or funds to do so. Besides the lack of capital to start an own business, some respondents felt that it was too risky to start own business. It was found that 12% respondents included this as one of the reasons for staying in their current jobs.

The most common reason given for one to remain in his job is because of the current economic situation. The 1997 financial crisis has a deep impact on Singapore economy and because sentiments are weak at the moment, only a handful of individuals are actually looking for jobs. On the other hand, the most common reason given by one to search for another job is due to salary being paid below expectations. Many of them were not satisfied with the amount of salary, and looking for another job may increase their chance of earning higher wages.

6. Conclusion

We examine both observable and unobservable variables that would affect employed workers' decisions on job change. Consistent with other empirical results, we find that age is highly significant in determining job-to-job mobility in both sets of models with negative coefficients. The older the workers, the less likely they consider or actively look for another job. Firm size is also a determinant that affecting job change; workers in smaller firms are more likely to consider or look for other jobs. Furthermore, we find that although males are more likely to consider a change in jobs, there is no statistically significant difference between male and female workers in actively looking for other jobs. Significance of education levels does not show up in the models presented in Tables 5 and 6, but shows up in smaller models with age, sex, and three education dummies as explanatory variables.

This study also uncovers interesting results to supplement the limited research on unobservable variables that may affect voluntary job-to-job mobility. We find that job satisfaction is a major determinant of workers' decision on changing employment. In general, the higher the satisfaction levels, the less are the chances of considering changing employment, and the less are the chances of actively looking for a new job. Our results also show that workers with lower levels of satisfaction with working environment or job security are more inclined towards changing their jobs.

We have explored why employed workers want to change their jobs. But a person who is looking for another job may not really get it. That is, we do not investigate those workers who have successfully changed their jobs, as many other empirical studied do.

However, such a study is important in uncovering subjective variables that may affect firms' performance. Since job turnover is costly to firms, understanding what account for workers' intention of changing jobs can help firms in retaining qualified workers, planning their on-the-job training, and improving firms' productivity.

We conclude the paper by discussing two important variables: *working experience* (in years) and *job tenure* (measured by number of years in current job). These two variables are highly correlated with the age variable with Pearson correlation coefficients 0.918 and 0.710, respectively. Further, they are also highly correlated between themselves with Pearson correlation coefficient 0.753. Thus, the existence of the age variable in the model prevents either or both variables in the model (i.e., not significant). Our analyses show that if age variable in the models presented in Tables 5 and 6 is replaced by working experience or job tenure, then working experience or job tenure becomes significant. Hence, working experience and job tenure are also the determinants of job-to-job mobility, but their effects are contained in the age variable.

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