

an important determining factor of employer-provided training. Therefore, as our second measure, we calculate the expected remaining tenure (RT) for each attribute, which gauges how long a worker with given attributes can be expected to continue working for the present employer.

Specifically, we use the sample of occupied persons from Sections 7.2 and 7.3 (labeled sample B in the preceding subsection) and divide this into 6,151 groups according to workers' attributes (sex, education, employment status, industry, size of employer, and whether workers entered a firm directly upon graduation).¹⁰ Because for some groups the number of observations may be very small, we employ not the average years of tenure but the median to avoid any distortion from outliers. We subtract from the median value of years of tenure for each group the actual years of tenure and set this as remaining tenure (RT). If the value thus obtained is negative, we set RT to zero. Moreover, we use a dummy that takes a value of 1 if RT is set to zero to represent strong attachment to a firm that is unascertainable from workers' observable attributes. In addition, we also construct interval dummies (from 0 to 15) from RT.¹¹

The reason that we distinguish whether workers took up their current employment directly upon graduation is that there is a strong tendency for fresh graduate recruits to follow a career path through promotion within the firm, while mid-career recruits represent a much more fluid working force and can be expected to subsequently follow a career through job changes. Here, we mechanically regard as having started their present job as fresh graduate recruits those for whom the age at which they took up the job (current age minus years of tenure) was 15-16 years in the case of junior high school graduates, 18-19 years in the case of high school graduates, 20-21 years in the case of graduates of vocational schools, junior colleges, or technical colleges, and 22-25 in the case of graduates of colleges and graduate schools.

Figure 7.1 shows the distribution as well as the average and median for the RT of 30-year old male regular employees who graduated from college or graduate school, with the upper panel for fresh graduate recruits and the lower panel for mid-career recruits. Whereas the RT of graduate recruits is around 12 years, that for mid-career recruits, even though they otherwise have the same

10 We do not consider occupation as one of workers' attributes because workers' occupation can change with age, such as when they change into administrative and managerial occupations.

11 The RT interval dummies are constructed in exactly the same way as the AI interval dummies.

attributes in terms of sex, education, and employment status, is strikingly lower at around 2 years. Based on this, we expect that those recruited upon graduation are in jobs in which they will continue to work for a long time and the probability that they receive employer-provided training is consequently high.

7.4.2 AI, RT, and training probabilities

We start by looking at the relationships between AI and RT on the one hand and training probabilities on the other. As before, we use a probit estimation, with the dependent variables being whether a person received employer-provided training or not and whether a person engaged in any self-development or not. As explanatory variables, we use the interval dummies for AI and RT.

The results are presented in Figures 7.2 and 7.3, which on the horizontal axis show the values of the interval dummies and on the vertical axis the size of the coefficient (training probabilities) from the probit estimation. As can be seen, for AI, the higher the index (i.e., the greater the predicted future labor market attachment), the higher is the training probability. What is more, there are no great differences in the shapes of the curves for employer-provided training and for self-development. For RT, we also find that the higher the value, the higher is the training probability, but there is a considerable difference in the shapes of the curves for the two types of training. That is, whereas the probability of employer-provided training displays a steep increase, the probability of self-development moves sideways until 6 years of RT and after that rises relatively gently. This result shows that whereas greater length of future employment as represented by AI is associated with an increase job training at the initiative of both workers and firms, greater length of predicted employment at a specific firm, represented by RT, is associated mainly with an increase in job training at the initiative of firms.

The preceding results show that the length of the expected payoff period for investment in human capital affects participation in job training. But what we also want to know is what explanatory power the various factors determining training probabilities have. In Section 7.3, we showed that the training probabilities for marginal workers such as women, nonregular employees, and the less educated were significantly lower than for the reference groups. Moreover, it is

sometimes claimed that these patterns are attributable to the fact that the attachment of marginal workers to the labor market as a whole and to a specific firm is comparatively low and that a long investment payoff period cannot be expected. Therefore, in our next step, we look at the extent to which the negative coefficient for marginal workers changes when we estimate training probabilities controlling for AI and RT. If short expected investment payoff periods explain why the job training probabilities of marginal workers are low, then we would expect that by controlling for the AI and RT variables, the gap vis-à-vis the references groups, that is, the size of the negative coefficient, should shrink.

Table 7.5 shows the estimation result for the probabilities of employer-provided training and self-development using sex, employment status, and education as explanatory variables. Moreover, we also include the industry, employer size, and fresh graduate recruit dummies used for the construction of groups in the calculation of RT. This is to take into account the possibility that these factors directly affect workers' job training probability through technological aspects of production activities and worker heterogeneity. The results in columns (1) and (3) do not include AI and RT, while those in columns (2) and (4) do.

Comparing the results for employer-provided training, we find that in column (1) the difference between men and women is 3.5 percentage points, but by controlling for AI and RT in column (2), the difference shrinks by two-thirds to 1.4 percentage points. That is, more than half of the difference between men and women in the probability of receiving employer-provided training can be explained by the two factors of how much longer someone will continue to be employed in the labor market (AI) and how much longer he or she will continue to work for the present employer (RT). On the other hand, only about one-fifth of the low training probability for the less educated can be explained by these factors. This suggests that while the length of the investment payoff period explains some of the difference in training probabilities by level of educational attainment, a large part of the difference is due to differences in the returns from job training (that is, differences in learning efficiency) and differences in the discount rate for future earnings. Finally, for nonregular workers, the differences do not diminish even when AI and RT are included. We suspect that a large part of the difference in training probabilities between regular and nonregular workers is

due to differences in the type of work they do and the resulting need or otherwise for long-term skill formation.

In sum, our results indicate that differences in labor market attachment and expected remaining tenure at the present employer affect training probabilities in a way that is consistent with the predictions of human capital theory. Moreover, the results show that these factors partly explain the low training probabilities for women and the less educated. However, concerning the low training probability of nonregular workers, other factors are more important. While we do not clearly know the reasons for the difference in training probabilities between regular and nonregular workers, what we now do know is that this difference cannot be explained with differences in expectations regarding their future employment behavior. Our hunch therefore is that there are fundamental differences in the need for skill accumulation in the work of regular and nonregular employees that bring about the large differences in job training probabilities.

7.5 Conclusion

Using microdata from the 2007 *Employment Status Survey*, this study empirically examined the situation concerning workers' participation in employer-provided training and in self-development. We began by calculating training ratios for different worker attributes and then, controlling for individuals' attributes, estimated training probabilities. Doing so, we particularly focused on how much lower than for the relevant reference groups the participation probabilities for marginal workers (women, the less educated, and nonregular workers) were. Further, employing a standard human capital theory framework, we investigated for each worker attribute how differences in participation in employer-provided training and in self-development could be explained. Specifically, calculating each workers' expected labor market attachment – that is, how much time that worker will spend in the labor market until retirement – and, similarly, each worker's remaining tenure – that is, how many years each worker with given attributes will continue to work for his/her present employer – we examined the relationship of these variables with training probabilities. Further, we estimated to what extent these factors explain the low training probabilities of marginal workers.

Our main findings were as follows. First, controlling for age, employer size, years of tenure, industry, and occupation, we found that training probabilities for women, the less educated, and nonregular workers were lower than for the relevant reference groups. The differences were particularly large for employer-provided training. On the other hand, for self-development, there was almost no difference by sex, and the differences by age and by employer size were also small. This pattern could be interpreted as suggesting that women and workers at small firms try to make up for receiving less employer-provided training through self-development. On the other hand, the differences between the less educated and the better educated were even greater for self-development than for employer-provided training. A likely explanation for this is that learning ability and discount rates for future earnings differ across those with different levels of educational attainment. In addition, we found that differences in employer-provided training probabilities across levels of educational achievement and employment status were greatest for the young.

Second, we estimated the relationship between training probabilities on the one hand and, on the other, workers' attachment to the labor market, represented by the attachment index (AI), and how long a worker can be expected to continue working for his current employer, represented by remaining tenure (RT). The results indicated that the higher the AI (i.e., the greater the predicted future labor market attachment), the higher are the training probabilities. In addition, there were no great differences in the shapes of the curves for employer-provided training and self-development. For RT, we also found that the higher the value, the higher is the training probably, but the slope of the curve showing the effect of RT was much greater for employer-provided training than for self-development. Conforming with the predictions of human capital theory, this shows that whereas greater length of future employment increases job training participation at the initiative of both workers and employers, differences in predicted years of employment at a specific firm raise job training participation mainly at the initiative of firms. Moreover, these results suggest that there is firm-specificity in the formation of skills through employer-provided training due to technology-related factors and/or market frictions.

Third, the disadvantages for women and the less educated with regard to employer-provided training diminish once we control for AI and RT in the estimation. On the other hand, for

nonregular workers, the negative coefficient remains largely unchanged even when controlling for AI and RT.

Based on the above results, we can derive the following policy implications and issues for future research.

First, although it appears that women are more likely to be employed in occupations or industries with a high training probability, once we control for employment status and educational attainment in the same industry or occupation, women's training probability is still lower than that for men. This can be thought to be an example of statistical discrimination arising from differences in work duties and, based on this, differences in expected future employment spans. Consequently, policies to promote that women remain in employment will simultaneously have the effect of reducing the gap between women and men in job training participation.

Second, although part of the overall difference in training probabilities by educational attainment can be explained by the fact that the better educated tend to be employed in occupations with higher training probabilities, there remain differences even in the same industry or occupation. This is possibly because educational attainment captures unobserved differences such as with regard to individual learning ability or the discount rate for future earnings. Consequently, efforts should be made from the stage of school education onward to raise individuals' learning ability.

Third, we found that the higher the labor market attachment (AI) and the longer the remaining tenure at a firm (RT), the higher is the probability of job training. Especially for high values of RT, a remarkable rise in the training probability is observed. This shows that marginal workers, for whom RT is low, have little hope of receiving employer-provided training. On the other hand, although such workers do not receive much employer-provided training, the probability that they engage in self-development is also low. It would therefore be difficult to claim that the fact that they receive insufficient employer-provided training is compensated for by self-development. This suggests that in order to raise the skills and hence the incomes of marginal workers, further policy measures are required to provide training opportunities that serve as an alternative to employer-provided training.

Fourth, the low training probabilities for nonregular workers show almost no change even when

we control for RT and AI. Moreover, although RT and AI partly explain the low training probabilities for women and the less educated, gaps remain even when controlling for these two factors. This shows that the scarcity of training opportunities for marginal workers has deep-seated reasons other than attachment to the labor market and the expected length of work for a particular employer. Although at this point in time it is only conjecture, a likely reason seems to be that marginal workers are only assigned to tasks that require little training to begin with. The fact that differences in training probabilities by employment status are all the larger for the young, who have many training opportunities, is likely to give rise to large differences in the subsequent accumulation of job skills. These findings mean that more in-depth research on the causes of disparities in job training between regular and nonregular workers is necessary.

References for Chapter 7

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Tables & Figures

Table 7.1: Job training ratios, occupied persons and persons not in employment but wishing to work (%)

		Any job training (employer-provided self-development)	or	Employer-provided training	Self-development
Occupied persons plus persons not in employment but wishing to work		38.7		29.9	19.5
Sex	Male	43.6		35.3	20.3
	Female	33.5		24.2	18.8
Employment status	Regular employees	47.9		40.3	22.5
	Part-time and casual workers	22.5		15.1	11.5
	Dispatched workers from temporary labor agencies	29.6		16.9	17.9
	Contract employees	40.6		29.1	21.7
	Persons not in employment	18.8		4.7	15.9
Education	Primary or junior high school	16.4		12.5	6.0
	Senior high school	29.8		23.8	11.8
	Vocational school, junior college	41.5		31.3	22.2
	College, graduate school	57.5		43.9	33.8
Age	Average	38.4		38.7	37.8
	15 to 19	33.4		26.7	12.1
	20 to 24	45.7		35.8	22.9
	25 to 29	44.3		33.0	24.7
	30 to 34	40.2		29.8	21.8
	35 to 39	37.7		28.3	19.5
	40 to 44	38.6		30.1	19.5
	45 to 49	39.7		31.7	19.5
	50 to 54	35.8		29.1	16.3
	55 to 59	29.8		24.0	13.0

Source: Authors' calculation based on data from the 2007 *Employment Status Survey*, Ministry of Internal Affairs and Communications.

Table 7.2: Job training ratios, occupied persons (%)

		Any job training (employer-provided self-development)	or	Employer- provided training	Self- development
Occupied persons		41.7		33.6	20.1
Sex	Male	44.8		37.1	20.2
	Female	37.7		29.3	19.9
Employment status	Regular employees	47.9		40.3	22.5
	Part-time and casual workers	22.5		15.1	11.5
	Dispatched workers from temporary labor agencies	29.6		16.9	17.9
	Contract employees	40.6		29.1	21.7
Education	Primary or junior high school	17.9		14.9	5.5
	Senior high school	32.1		26.8	11.8
	Vocational school, junior college	45.4		36.0	23.2
	College, graduate school	59.3		47.0	33.9
Age	Average	38.5		38.7	37.9
	15 to 19	36.7		32.0	11.3
	20 to 24	48.2		39.5	23.1
	25 to 29	47.2		36.7	25.4
	30 to 34	43.9		34.2	22.7
	35 to 39	41.5		32.7	20.4
	40 to 44	41.8		33.9	20.2
	45 to 49	42.2		35.0	19.8
	50 to 54	38.2		32.0	16.6
	55 to 59	32.1		26.9	13.2
Industry	Agriculture, forestry and fisheries	21.7		13.7	11.8
	Mining, construction	35.2		27.8	15.2
	Manufacturing	34.4		28.6	13.3
	Electricity, gas, heat supply and water	63.6		55.5	28.3
	Information and communications	52.4		38.7	30.9
	Transport	28.5		23.9	9.9
	Wholesale and retail trade	33.1		26.5	13.9
	Finance and insurance	62.9		55.8	27.8
	Real estate	44.1		31.2	25.7
	Eating and drinking places, accommodations	23.6		15.4	12.4
	Medical, health care and welfare	59.1		49.2	33.2
	Education, learning support	69.3		56.6	43.6
	Compound services	58.9		54.2	20.5
	Services not elsewhere classified	40.3		30.2	20.9
Government not elsewhere classified	58.3		49.7	27.5	

(continued)

		Any job training (employer-provided self-development)	or Employer-provided training	Self-developm ent
Occupation	Specialist and technical workers	66.3	54.2	40.6
	Administrative and managerial workers	65.8	60.0	27.6
	Clerical workers	42.8	33.1	21.3
	Sales workers	41.0	34.3	16.8
	Service workers	37.8	29.0	18.8
	Security workers	57.8	49.5	25.0
	Agriculture, forestry and fishery workers	24.5	15.8	13.4
	Transport and communication workers	25.9	22.2	7.9
	Production process and related workers	28.9	23.9	10.2
Size of employer (number of employees)	1 to 9 persons	25.2	15.3	14.6
	10 to 29	29.4	21.3	14.7
	30 to 99	33.9	25.9	16.1
	100 to 299	40.4	32.9	18.4
	300 to 499	44.7	36.7	20.3
	500 to 999	47.2	39.7	21.1
	1000 and over	51.1	43.9	22.6
	Government	64.3	55.9	34.9
Tenure	Average	11.5	12.3	10.5
	0 to 4 years	38.7	28.6	20.7
	5 to 9	39.5	31.9	19.2
	10 to 14	41.2	34.4	18.7
	15 to 19	44.8	38.1	19.8
	20 to 24	48.8	42.5	22.0
	25 to 29	50.9	45.5	21.9
	30 to 34	49.5	44.0	20.6
	35 to 39	44.1	39.5	16.0
	40 and over	35.1	31.1	10.8

Source: See Table 7.1.

Table 7.3: Job training probabilities, occupied persons and persons not in employment but wishing to work

	Employer-provided training	Self-development
Female	0.007 (0.002)	0.026 (0.001)
Employment status		
Regular employees (reference)		
Part-time and casual workers	-0.196 (0.001)	-0.072 (0.001)
Dispatched workers from temporary labor agencies	-0.170 (0.003)	-0.035 (0.003)
Contract employees	-0.080 (0.003)	-0.001 (-0.003)
Persons not in employment	-0.292 (0.001)	-0.031 (0.002)
Education		
Primary or junior high school	-0.108 (0.003)	-0.069 (0.002)
Senior high school (reference)		
Vocational school, junior college	0.099 (0.002)	0.104 (0.002)
College, graduate school	0.167 (0.002)	0.214 (0.002)
Age		
15 to 19	0.035 (0.008)	0.000 (-0.006)
20 to 24 (reference)		
25 to 29	-0.043 (0.003)	-0.009 (0.002)
30 to 34	-0.058 (0.003)	-0.019 (0.002)
35 to 39	-0.056 (0.003)	-0.024 (0.002)
40 to 44	-0.036 (0.003)	-0.017 (0.002)
45 to 49	-0.023 (0.003)	-0.019 (0.002)
50 to 54	-0.037 (0.003)	-0.033 (0.002)
55 to 59	-0.061 (0.003)	-0.044 (0.002)
Observations	427,558	427,558
Pseudo R2	0.111	0.067

Notes: Marginal effects at the means of the independent variables. Standard errors robust to some types of misspecification in parentheses.

Table 7.4: Job training probabilities, occupied persons

		Employer-provided training				Self-development			
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Female	0.024 (0.002)	-0.036 (0.002)	-0.014 (0.002)	-0.037 (0.002)	0.035 (0.001)	0.000 (-0.002)	0.000 (-0.002)	-0.009 (0.002)
Employment status	Regular employees (reference)								
	Part-time and casual workers	-0.193 (0.002)	-0.171 (0.002)	-0.185 (0.002)	-0.168 (0.002)	-0.075 (0.002)	-0.062 (0.002)	-0.064 (0.002)	-0.056 (0.002)
	Dispatched workers from temporary labor agencies	-0.199 (0.003)	-0.171 (0.004)	-0.176 (0.004)	-0.163 (0.004)	-0.044 (0.003)	-0.020 (0.004)	-0.018 (0.004)	-0.012 (0.004)
	Contract employees	-0.102 (0.003)	-0.100 (0.003)	-0.096 (0.003)	-0.096 (0.003)	-0.016 (0.003)	-0.017 (0.003)	-0.010 (0.003)	-0.012 (0.003)
Education	Primary or junior high school	-0.077 (0.003)	-0.067 (0.003)	-0.061 (0.003)	-0.062 (0.003)	-0.064 (0.002)	-0.059 (0.003)	-0.053 (0.003)	-0.052 (0.003)
	Senior high school (reference)								
	Vocational school, junior college	0.108 (0.002)	0.059 (0.002)	0.063 (0.002)	0.047 (0.002)	0.105 (0.002)	0.069 (0.002)	0.063 (0.002)	0.054 (0.002)
	College, graduate school	0.126 (0.002)	0.085 (0.002)	0.068 (0.002)	0.064 (0.002)	0.187 (0.002)	0.151 (0.002)	0.130 (0.002)	0.124 (0.002)
Age	15 to 19	0.019 (0.009)	0.032 (0.009)	0.019 (0.009)	0.031 (0.009)	-0.021 (0.007)	-0.015 (0.007)	-0.020 (0.007)	-0.015 (0.007)
	20 to 24 (reference)								
	25 to 29	-0.050 (0.003)	-0.049 (0.003)	-0.048 (0.003)	-0.048 (0.003)	0.002 (-0.003)	0.003 (-0.003)	0.003 (-0.003)	0.003 (-0.003)
	30 to 34	-0.073 (0.003)	-0.073 (0.003)	-0.070 (0.003)	-0.072 (0.003)	0.002 (-0.003)	0.004 (-0.003)	0.004 (-0.003)	0.003 (-0.003)
	35 to 39	-0.083 (0.003)	-0.086 (0.003)	-0.081 (0.003)	-0.084 (0.003)	-0.003 (-0.003)	-0.003 (-0.003)	-0.002 (-0.003)	-0.003 (-0.003)
	40 to 44	-0.075 (0.003)	-0.083 (0.003)	-0.076 (0.003)	-0.082 (0.003)	-0.002 (-0.003)	-0.005 (-0.003)	-0.003 (-0.003)	-0.005 (0.003)
	45 to 49	-0.077 (0.003)	-0.087 (0.003)	-0.076 (0.004)	-0.086 (0.003)	-0.010 (0.003)	-0.015 (0.003)	-0.009 (0.003)	-0.013 (0.003)
	50 to 54	-0.101 (0.003)	-0.110 (0.003)	-0.097 (0.003)	-0.107 (0.003)	-0.028 (0.003)	-0.031 (0.003)	-0.024 (0.003)	-0.028 (0.003)
	55 to 59	-0.126 (0.003)	-0.133 (0.003)	-0.122 (0.003)	-0.131 (0.003)	-0.041 (0.003)	-0.044 (0.003)	-0.037 (0.003)	-0.040 (0.003)

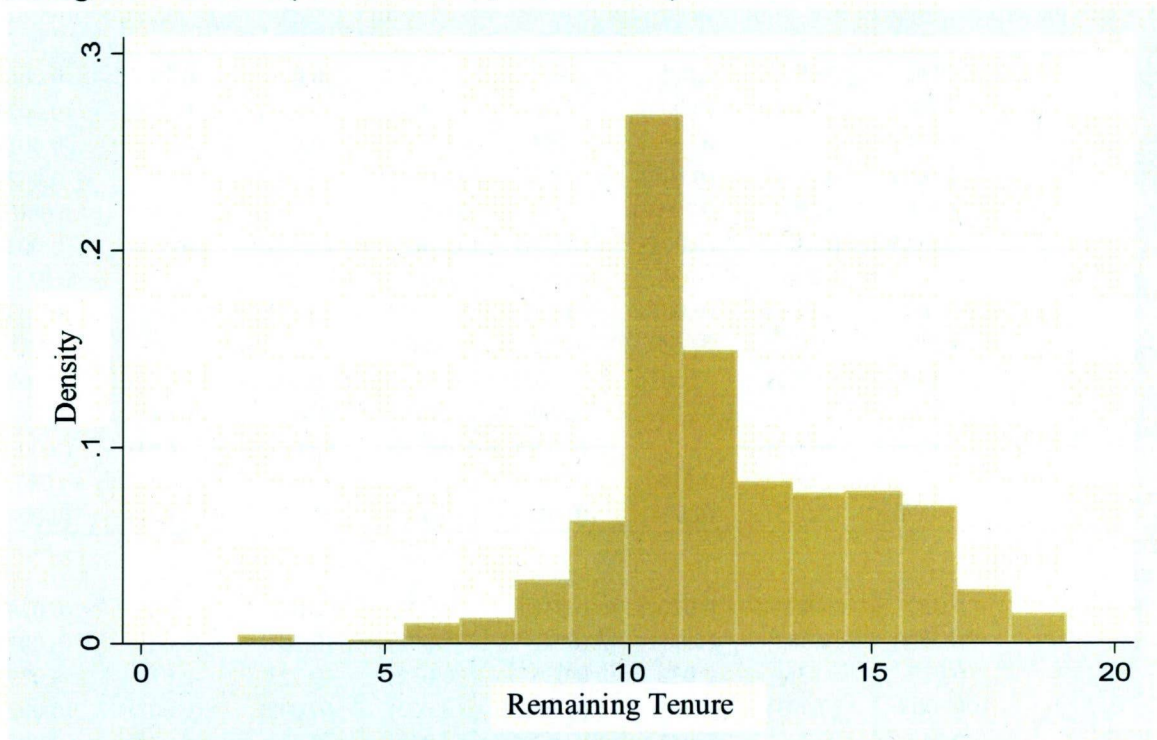
(continued)

		Employer-provided training				Self-development				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Size of employer (number of employees)	1 to 9 persons (reference)									
	10 to 29	0.090 (0.004)	0.084 (0.004)	0.085 (0.004)	0.082 (0.004)	-0.003 (-0.002)	-0.005 (0.002)	-0.006 (0.002)	-0.006 (0.002)	
	30 to 99	0.140 (0.003)	0.136 (0.004)	0.135 (0.004)	0.134 (0.004)	0.002 (-0.002)	-0.001 (-0.002)	-0.002 (-0.002)	-0.001 (-0.002)	
	100 to 299	0.201 (0.004)	0.200 (0.004)	0.195 (0.004)	0.198 (0.004)	0.009 (0.003)	0.008 (0.003)	0.004 (-0.002)	0.006 (0.003)	
	300 to 499	0.243 (0.004)	0.244 (0.005)	0.238 (0.005)	0.241 (0.005)	0.023 (0.003)	0.026 (0.003)	0.018 (0.003)	0.023 (0.003)	
	500 to 999	0.258 (0.004)	0.266 (0.005)	0.255 (0.004)	0.262 (0.005)	0.026 (0.003)	0.035 (0.003)	0.022 (0.003)	0.030 (0.003)	
	1000 and over	0.300 (0.003)	0.314 (0.004)	0.304 (0.003)	0.309 (0.004)	0.043 (0.003)	0.060 (0.003)	0.046 (0.003)	0.054 (0.003)	
	Government	0.362 (0.004)	0.287 (0.005)	0.316 (0.004)	0.278 (0.005)	0.118 (0.003)	0.047 (0.004)	0.065 (0.003)	0.037 (0.004)	
	Tenure	0 to 4 years (reference)								
		5 to 9	0.020 (0.003)	0.022 (0.003)	0.020 (0.003)	0.021 (0.003)	-0.024 (0.002)	-0.023 (0.002)	-0.025 (0.002)	-0.024 (0.002)
10 to 14		0.029 (0.003)	0.036 (0.003)	0.032 (0.003)	0.035 (0.003)	-0.032 (0.002)	-0.028 (0.002)	-0.031 (0.002)	-0.029 (0.002)	
15 to 19		0.042 (0.003)	0.055 (0.003)	0.042 (0.003)	0.052 (0.003)	-0.028 (0.002)	-0.021 (0.002)	-0.030 (0.002)	-0.025 (0.002)	
20 to 24		0.070 (0.004)	0.081 (0.004)	0.066 (0.004)	0.076 (0.004)	-0.017 (0.003)	-0.011 (0.003)	-0.023 (0.003)	-0.018 (0.003)	
25 to 29		0.093 (0.004)	0.100 (0.004)	0.086 (0.004)	0.094 (0.004)	-0.010 (0.003)	-0.007 (0.003)	-0.019 (0.003)	-0.015 (0.003)	
30 to 34		0.099 (0.005)	0.105 (0.005)	0.089 (0.005)	0.096 (0.005)	-0.005 (-0.003)	-0.002 (-0.003)	-0.016 (0.003)	-0.012 (0.003)	
35 to 39		0.098 (0.006)	0.108 (0.006)	0.085 (0.006)	0.098 (0.006)	0.002 (-0.004)	0.007 (-0.004)	-0.010 (0.004)	-0.005 (-0.004)	
40 and over		0.084 (0.010)	0.092 (0.010)	0.071 (0.010)	0.083 (0.010)	0.006 (-0.008)	0.010 (-0.008)	-0.005 (-0.008)	-0.001 (-0.008)	
Industry dummies		No	Yes	No	Yes	No	Yes	No	Yes	
Occupation dummies	No	No	Yes	Yes	No	No	Yes	Yes		
Observations	374,468	374,468	374,468	374,468	374,468	374,468	374,468	374,468		
Pseudo R2	0.109	0.135	0.125	0.140	0.080	0.103	0.104	0.111		

Notes: See Table 7.3.

Figure 7.1. Remaining Tenure: 30 year-old male regular employees graduated from college or graduate school

Fresh graduate recruits (median=12.000, mean=12.126)



Mid-career recruits (median=2.000, mean=2.203)

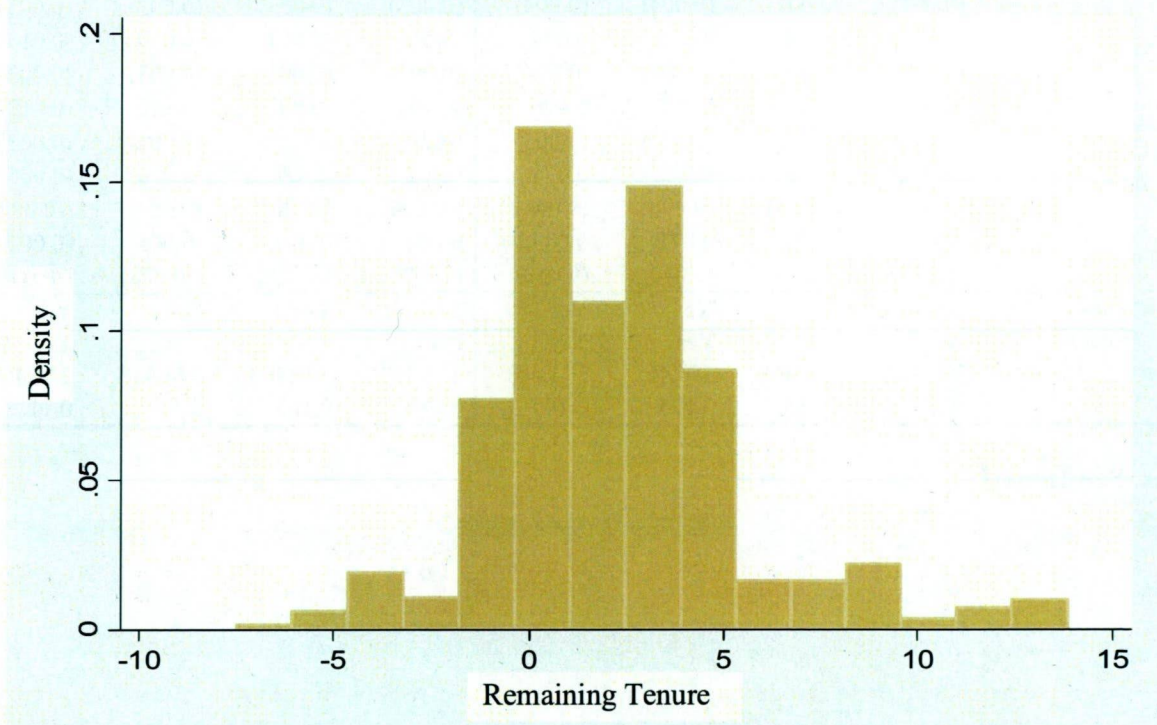
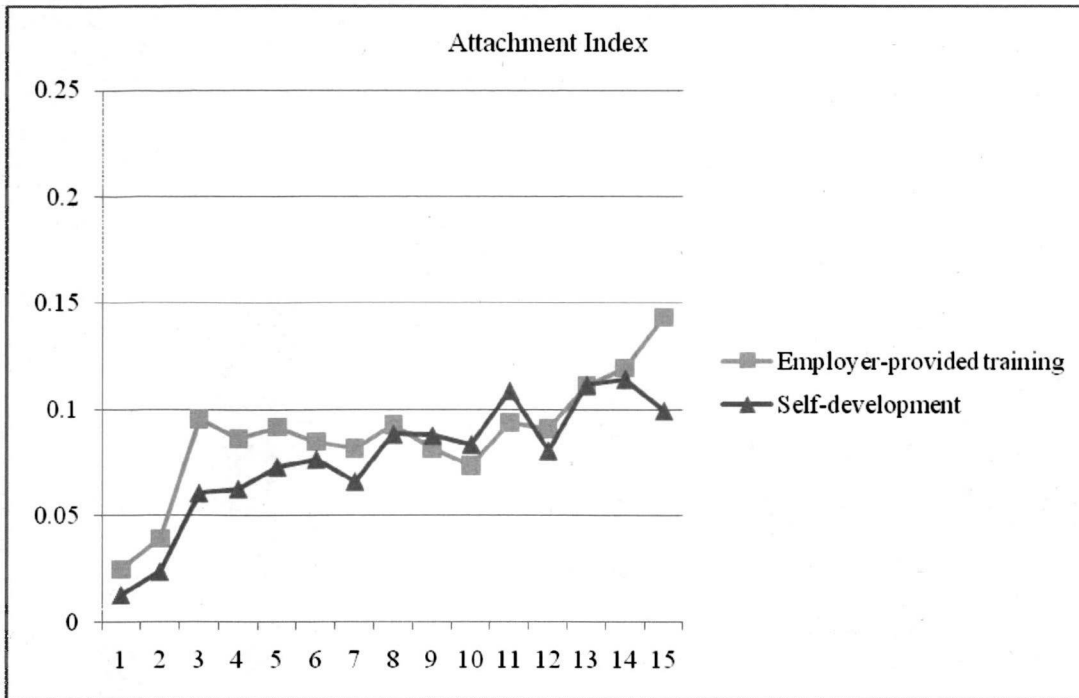
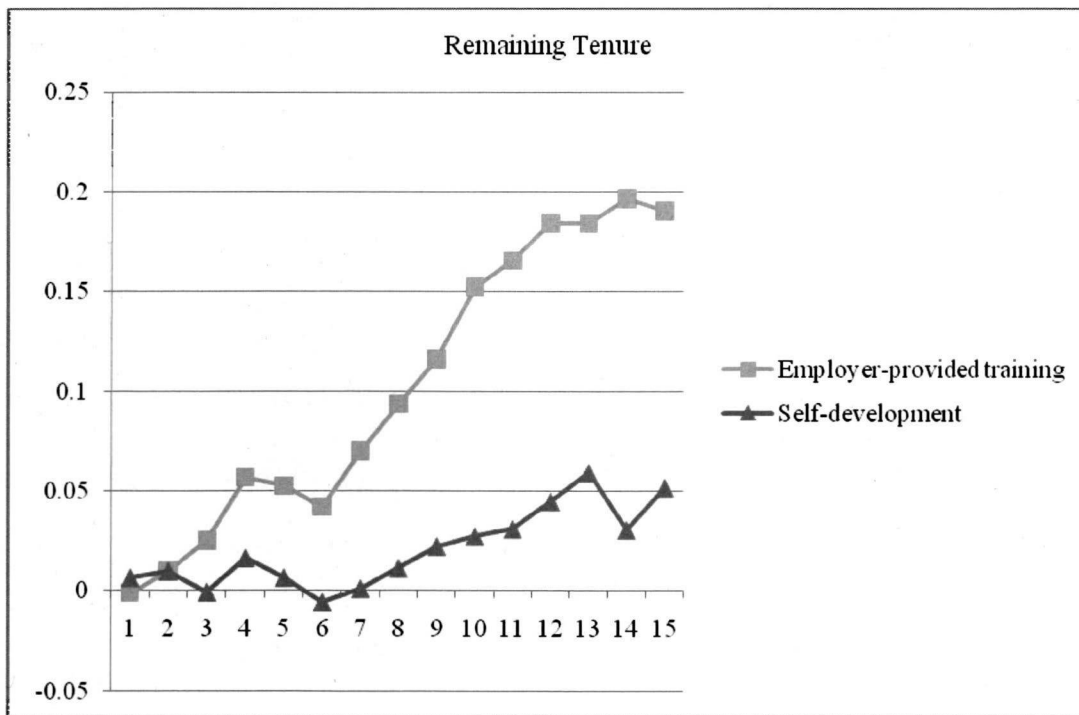


Figure 7.2: The Attachment Index (AI) and training probabilities



Note: All coefficients are significant.

Figure 7.3. Remaining Tenure (RT) and training probabilities



Note: The coefficients for “Employment-provided training” are significant for RT values from 2 and up. The coefficients for “Self-development” are significant for RT values of 1, 2, 4, and 8 and up.

Table 7.5: The Attachment Index (AI), Remaining Tenure (RT), and training probabilities

	Employer-provided training		Self-development	
	(1)	(2)	(3)	(4)
Female	-0.035 (0.002)	-0.014 (0.002)	0.001 -0.002	0.006 (0.002)
Regular employees (reference)				
Part-time and casual workers	-0.186 (0.002)	-0.185 (0.002)	-0.060 (0.002)	-0.058 (0.002)
Dispatched workers from temporary labor agencies	-0.174 (0.004)	-0.180 (0.004)	-0.005 -0.004	-0.007 (0.004)
Contract employees	-0.108 (0.003)	-0.111 (0.003)	-0.011 (0.003)	-0.011 (0.003)
Primary or junior high school	-0.070 (0.003)	-0.057 (0.003)	-0.064 (0.002)	-0.059 (0.003)
Senior high school (reference)				
Vocational school, junior college	0.063 (0.002)	0.054 (0.002)	0.076 (0.002)	0.072 (0.002)
College, graduate school	0.075 (0.002)	0.065 (0.002)	0.157 (0.002)	0.154 (0.002)
AI	No	Yes	No	Yes
RT	No	Yes	No	Yes
Observations	374,468	374,468	374,468	374,468
Pseudo R2	0.133	0.135	0.100	0.103

Note: Industry, size of employer, and new graduate dummies are also included in every estimation.

Appendix Table 7.1(a). Basic statistics, occupied persons and persons not in employment but wishing to work

N=427,558

		Mean	Std. Dev.	Min.	Max.
Female		0.499	0.500	0	1
Employment status dummies	Regular employees (reference)	0.611	0.488	0	1
	Part-time and casual workers	0.183	0.387	0	1
	Dispatched workers from temporary labor agencies	0.024	0.152	0	1
	Contract employees	0.043	0.204	0	1
	Persons not in employment	0.124	0.330	0	1
Education dummies	Primary or junior high school	0.076	0.266	0	1
	Senior high school (reference)	0.469	0.499	0	1
	Vocational school, junior college	0.233	0.422	0	1
	College, graduate school	0.211	0.408	0	1
Age group dummies	Age	40.6	11.271	15	59
	15 to 19	0.011	0.104	0	1
	20 to 24	0.079	0.269	0	1
	25 to 29	0.112	0.315	0	1
	30 to 34	0.134	0.340	0	1
	35 to 39	0.136	0.342	0	1
	40 to 44	0.127	0.332	0	1
	45 to 49	0.129	0.335	0	1
	50 to 54	0.130	0.336	0	1
	55 to 59	0.145	0.352	0	1

Appendix Table 7.1(b). Basic statistics, occupied persons

N = 374,468

		Mean	Std. Dev.	Min	Max
	Female	0.464	0.499	0	1
Employment status dummies	Regular employees (reference)	0.697	0.460	0	1
	Part-time and casual workers	0.209	0.407	0	1
	Dispatched workers from temporary labor agencies	0.027	0.162	0	1
	Contract employees	0.050	0.217	0	1
Education dummies	Primary or junior high school	0.070	0.255	0	1
	Senior high school (reference)	0.468	0.499	0	1
	Vocational school, junior college	0.228	0.419	0	1
	College, graduate school	0.222	0.416	0	1
Age group dummies	Age	40.8	11.242	15	59
	15 to 19	0.010	0.099	0	1
	20 to 24	0.078	0.269	0	1
	25 to 29	0.111	0.314	0	1
	30 to 34	0.130	0.336	0	1
	35 to 39	0.133	0.339	0	1
	40 to 44	0.127	0.333	0	1
	45 to 49	0.133	0.339	0	1
	50 to 54	0.133	0.340	0	1
	55 to 59	0.145	0.352	0	1
Size of employer (number of employees) dummies	1 to 9 persons (reference)	0.138	0.345	0	1
	10 to 29	0.136	0.343	0	1
	30 to 99	0.159	0.366	0	1
	100 to 299	0.136	0.343	0	1
	300 to 499	0.056	0.230	0	1
	500 to 999	0.061	0.240	0	1
	1000 and over	0.189	0.391	0	1
	Government	0.118	0.322	0	1
Tenure dummies	Duration Engaged in Work	11.47	10.677	0	44
	0 to 4 years (reference)	0.382	0.486	0	1
	5 to 9	0.169	0.374	0	1
	10 to 14	0.120	0.325	0	1
	15 to 19	0.108	0.310	0	1
	20 to 24	0.069	0.253	0	1
	25 to 29	0.062	0.241	0	1
	30 to 34	0.050	0.218	0	1
	35 to 39	0.033	0.177	0	1
	40 and over	0.008	0.089	0	1
	New graduates dummies	0.235	0.424	0	1
	AI	11.73	8.409	0.0	32.8
	RT	-1.73	8.353	-42.9	35.0

Appendix Table 7.2. Probability of receiving employer-provided training by age group

		15 to 19	20 to24	25to29	30 to34	35to39	40to44	45to49	50to54	55to59
	Female	-0.042 (0.018)	-0.013 (0.007)	-0.022 (0.006)	-0.065 (0.006)	-0.053 (0.006)	-0.036 (0.006)	-0.023 (0.006)	-0.012 (0.006)	-0.027 (0.005)
Employment status	Regular employees (reference)									
	Part-time and casual workers	-0.246 (0.017)	-0.227 (0.007)	-0.215 (0.006)	-0.174 (0.006)	-0.164 (0.006)	-0.149 (0.007)	-0.165 (0.007)	-0.145 (0.006)	-0.117 (0.005)
	Dispatched workers from temporary labor agencies	-0.214 (0.022)	-0.192 (0.012)	-0.193 (0.009)	-0.169 (0.010)	-0.157 (0.010)	-0.146 (0.013)	-0.131 (0.015)	-0.104 (0.018)	-0.079 (0.017)
	Contract employees	-0.080 (0.036)	-0.114 (0.010)	-0.122 (0.008)	-0.076 (0.010)	-0.106 (0.010)	-0.084 (0.011)	-0.078 (0.011)	-0.098 (0.009)	-0.056 (0.008)
Education	Primary or junior high school	-0.077 (0.024)	-0.045 (0.015)	-0.024 (0.014)	-0.027 (0.012)	-0.046 (0.012)	-0.052 (0.013)	-0.089 (0.012)	-0.066 (0.008)	-0.053 (0.006)
	Senior high school (reference)									
	Vocational school, junior college		0.109 (0.008)	0.057 (0.007)	0.044 (0.006)	0.043 (0.006)	0.037 (0.006)	0.044 (0.006)	0.051 (0.007)	0.041 (0.007)
	College, graduate school		0.148 (0.010)	0.098 (0.007)	0.069 (0.007)	0.064 (0.007)	0.057 (0.007)	0.071 (0.007)	0.060 (0.007)	0.030 (0.007)
	Observations	3,670	29,380	41,428	48,706	49,738	47,718	49,762	49,795	54,268
	Pseudo R2	0.138	0.126	0.120	0.115	0.131	0.146	0.164	0.167	0.150

Note: Tenure, size of employer, industry, and occupation dummies are also included in every estimation.