

# Electronic Companion to

## Thomas Åstebro, Jing Chen and Peter Thompson (2011): “Stars and Misfits: Self-Employment and Labor Market Frictions”

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## Appendix A. Supplement to Theory Section

### A.1 Sampling from a bivariate distribution on $[0,1]$

Pairs of correlated random variables,  $(x,y)$ , were generated in the following manner.

1. Draw a value of  $u$  uniformly from the interval  $[0, \bar{u}]$ .
2. Draw  $(x,y)$  uniformly from the rectangle (shaded in Figure A.1) whose corners are given by the coordinates  $(0,u)$ ,  $(u,0)$ ,  $(1,1-u)$ , and  $(1-u,1)$ .

By varying  $\bar{u}$  in the unit interval, one can construct samples of  $(x,y)$  with any degree of positive correlation. The marginal distributions, which are symmetric and unimodal with mean 0.5, are similar for a wide range of correlations (see Figure A.2).

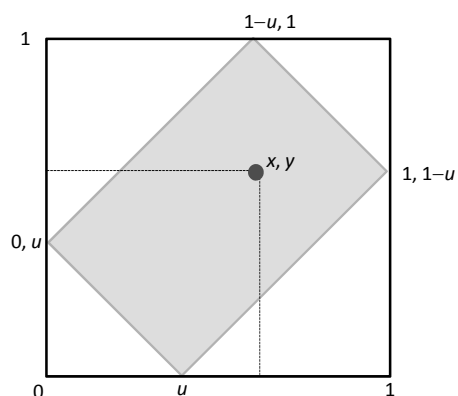


Figure A.1

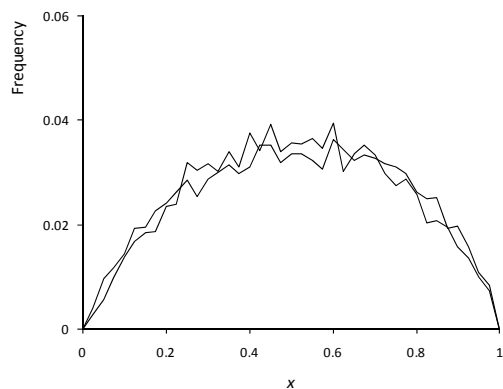
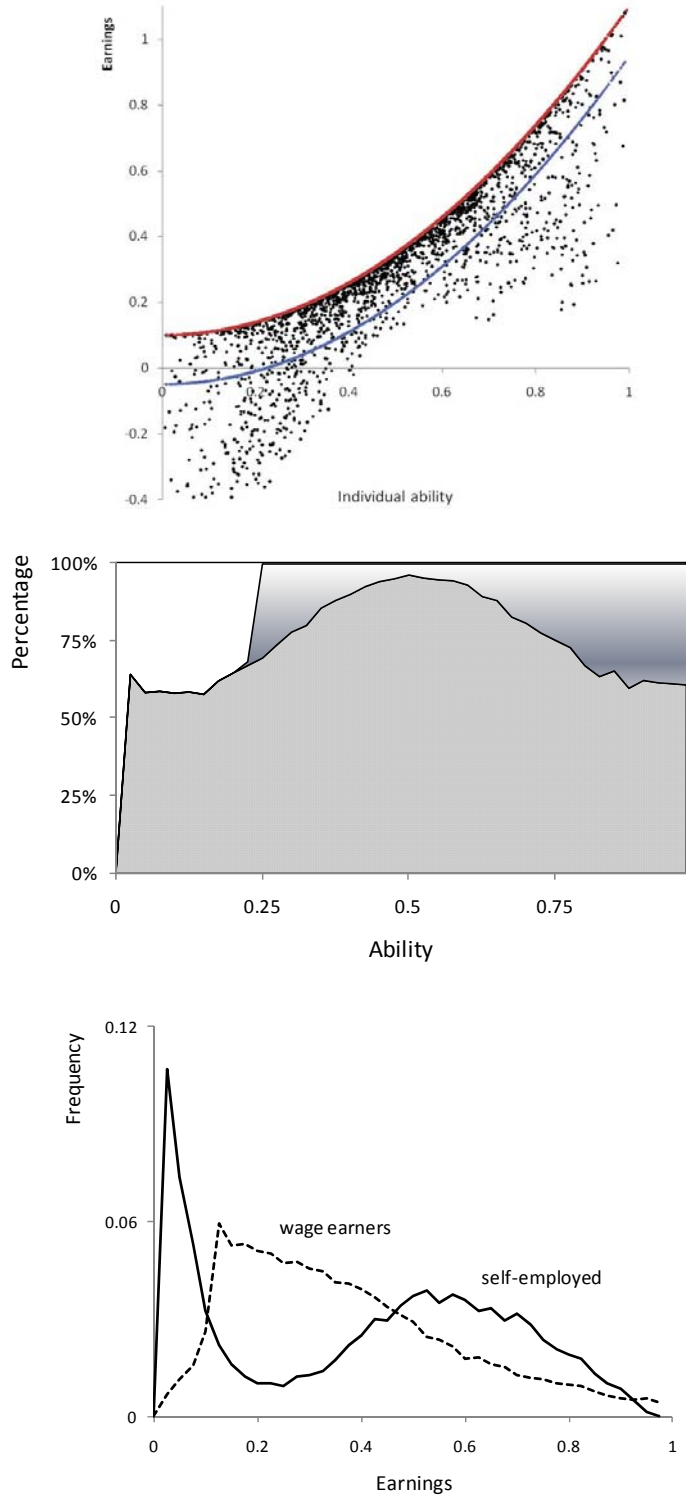


Figure A.2. Empirical marginal distributions for  $\rho=0.2$  and  $\rho=0.8$ ; 10,000 draws.

### A.2 Additional Numerical Examples, Static Model

In the main text, all simulations are carried out for the two-task case. Figures A.3 through A.5 illustrate the effects of increasing technological complexity, [captured, as in Kremer (1993), by an increase in the number of tasks,  $n$ , involved in production]. The immediate effect of increasing  $n$  is to

$n = 2$



**Figure A.3.**  $n = 2$ ;  $c = 0.15$ ,  $\alpha = 0.1$ ,  $\rho = 0.2$

$n = 3$

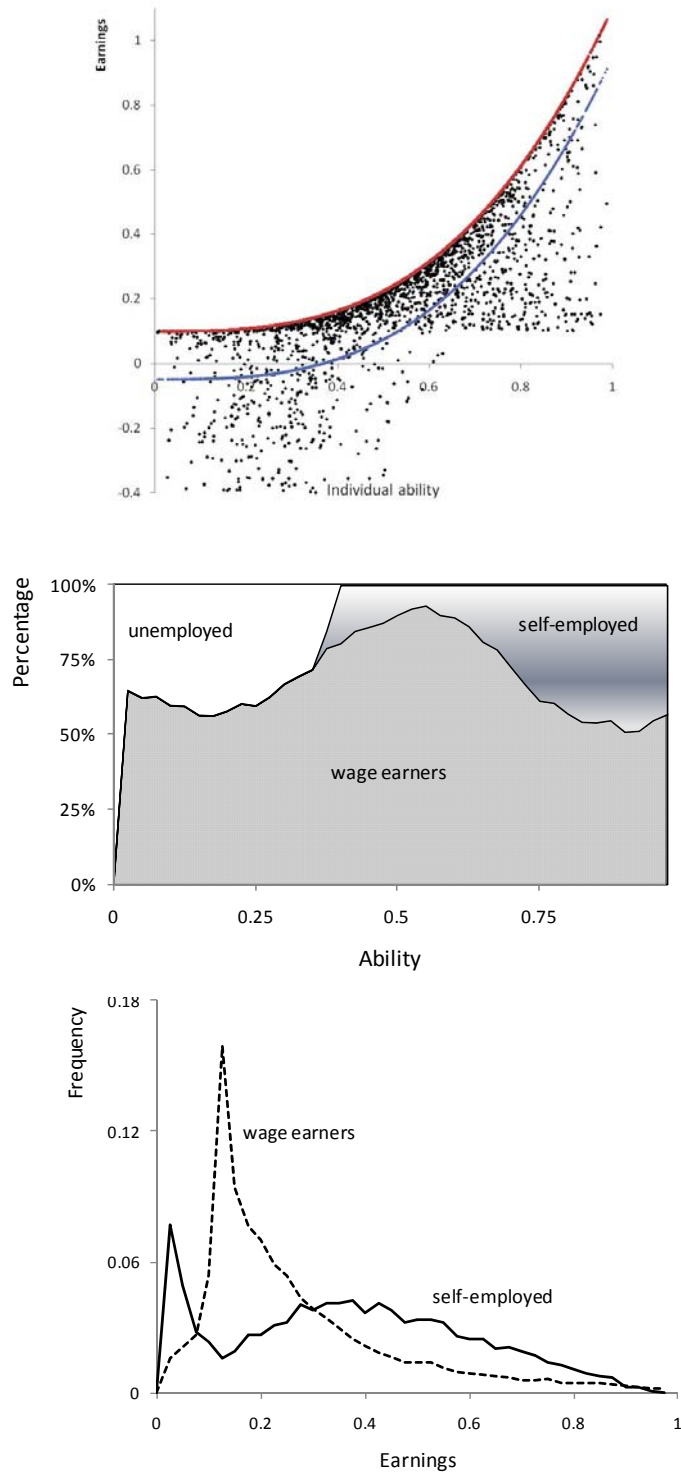


Figure A.4.  $n = 3$ ;  $c = 0.15$ ,  $\alpha = 0.1$ ,  $\rho = 0.2$

$n = 4$

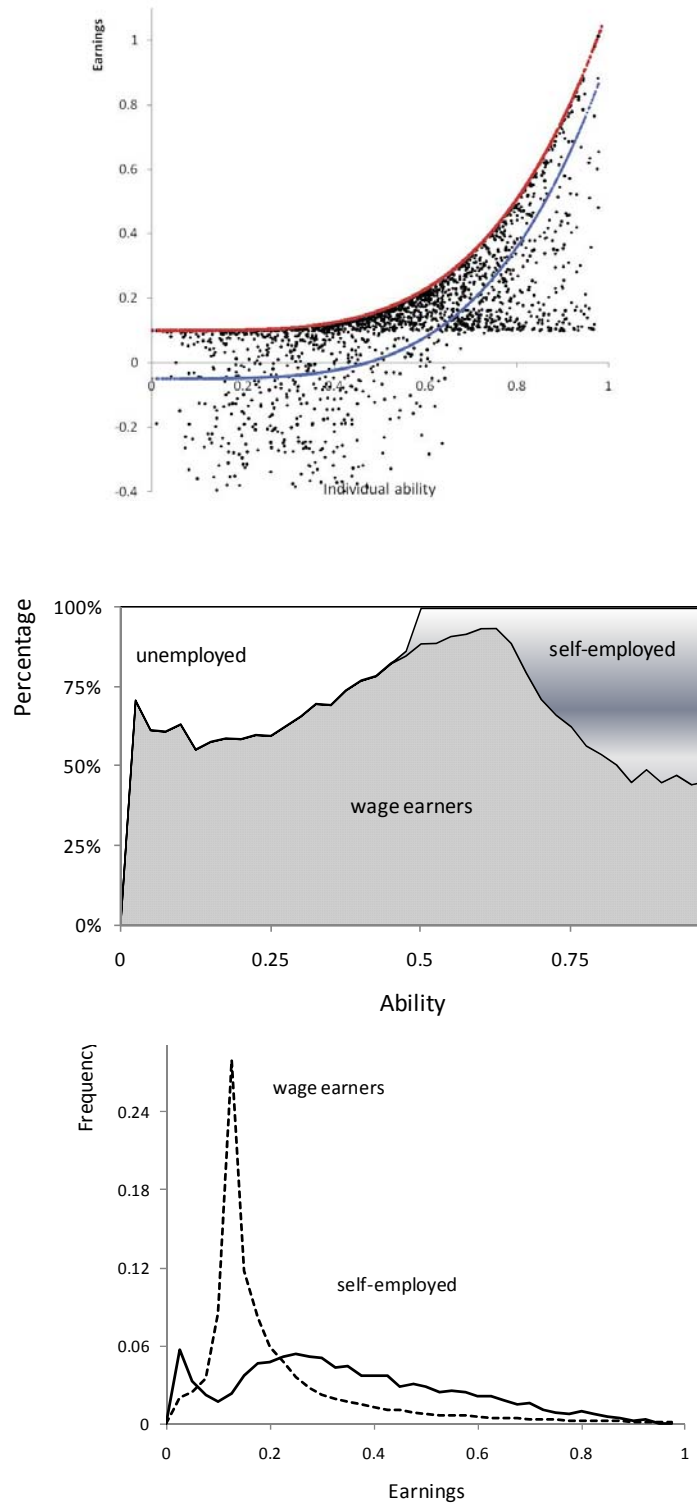


Figure A.5.  $n = 4$ ;  $c = 0.15$ ,  $\alpha = 0.1$ ,  $\rho = 0.2$

make the self-employment earnings function more convex, and reducing the payoffs to both wage work and self-employment. The consequence is that, as  $n$  increases, self-employment becomes less attractive relative to unemployment for lower-ability agents. Selection effects then cause the mass of the self-employment earnings distribution to shift to the right. If  $n$  increases sufficiently, there are no low-ability self-employed agents, and the self-employment earnings stochastically dominate wages. Consequently, the model predicts that in high-tech industries, self-employment is a choice only of the more gifted; in such industries, self-employment is rarer, and average self-employment earnings are greater than the average wage.

Kremer (1993) shows that his O-ring technology implies that wealthier countries employ more sophisticated technologies. A corollary of the present model, then, is that self-employment will be more prevalent in poorer countries; this corollary is consistent with evidence [Gollin (2008, Table 1)]. These comparative statics are also consistent with prior empirical evidence. The SIPP sample analyzed in Hamilton (2000) draws from a population consisting of both high-ability and low-ability individuals. While the self-employed in this sample are likely engaged in a wide range of activities, low-cost low-tech activities are almost certain to dominate. When costs and technological sophistication are moderate, our model produces an income distribution consistent with Hamilton's findings. In contrast, the SESTAT sample used by Gort and Lee (2007) is a sample of highly-educated individuals; the self-employed among them are more likely to be engaged in relatively sophisticated activities. Our model predicts, consistent with the results in Gort and Lee, that in such cases mean earnings among the self-employed exceed the average wage.<sup>1</sup>

In the main text, we reported that better job matching reduces the number of self-employed, and make them less concentrated in the tails of the ability distribution. Figure A.6 plots the consequences for the earnings distributions of changes in the correlation between firm quality and agent ability. As one would expect, the effect on the earnings distributions is to reduce, and ultimately eliminate, the bimodality of the earnings distribution. Nonetheless the self-employment earnings distributions exhibits more skew and fatter tails for quite a wide range of correlations. There is relatively little change in the wage distribution.

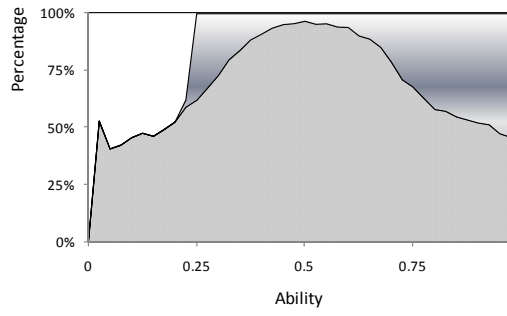
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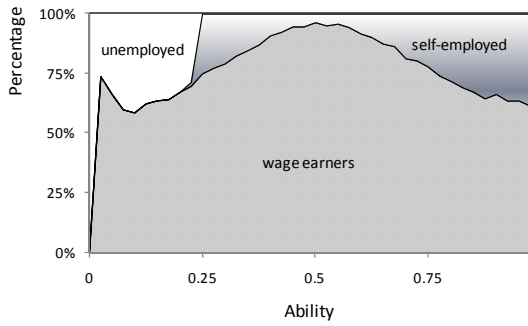
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<sup>1</sup> Gort and Lee sample individuals with advanced technical degrees and study, *inter alia*, self-employment earnings. One could alternatively sample on small firms founded in high-tech activities, presumably yielding much the same results.

$\rho = 0.00$



$\rho = 0.25$



$\rho = 0.50$



$\rho = 0.75$

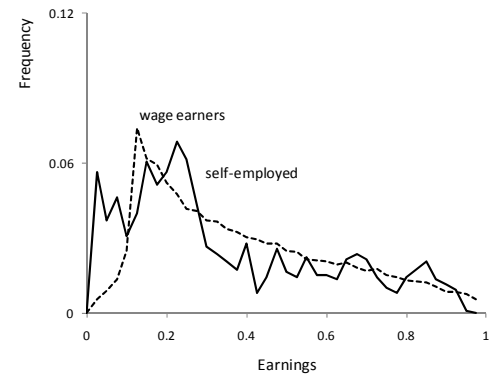
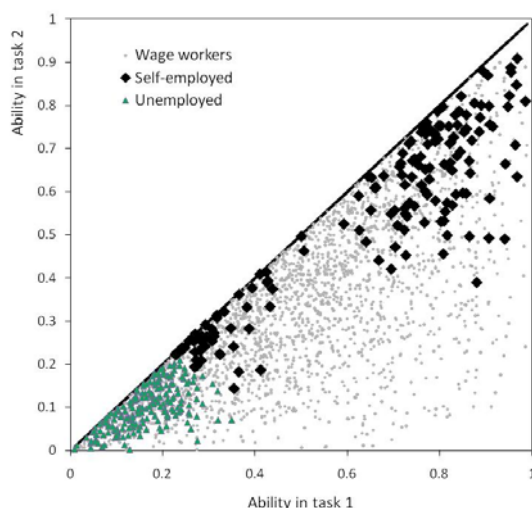


Figure A.6.  $n = 2$ ;  $c = 0.15$ ,  $\alpha = 0.1$ ,

### A.3 Imperfect Task Matching and Imperfect Correlation in Abilities

We construct a sample of abilities in two tasks and matches in the following manner. Firm quality and ability in task 1 are drawn as before from a correlated bivariate distribution on  $[0,1]$ . If an agent works for a firm, he is employed to undertake task 1. Ability in task 2 is drawn from a triangular distribution with support on  $[a(\theta_1), b(\theta_1)]$  for some function  $a(\theta_1) \leq b(\theta_1) \in [0,1]$  and mode  $c$ . The mode is chosen such that  $\theta_2$  has expectation equal to  $\theta_1$  whenever this yields  $a(\theta_1) < c < b(\theta_1)$ . Otherwise,  $c$  is set at  $a(\theta_1)$  or  $b(\theta_1)$ , as appropriate. This algorithm allows us to create samples with varied degrees of correlated abilities, and to vary the likelihood of the possibility of mismatches in a plausible way. In particular it allows for the possibility of mismatches when an agent's ability in task 2 is modestly greater than his ability in task 1, but not when the difference is large. For example, if we set  $a(\theta_1) \equiv 0$  and  $b(\theta_1) = \theta_1$  (and hence  $c = \theta_1$ ), the correlation between abilities is 0.76; raising  $a(\theta_1)$  to  $a(\theta_1) = \theta_1 / 3$  increases the correlation to 0.9. In both these cases,  $\theta_1 \geq \theta_2$  and task matching is perfect. If we set  $a(\theta_1) \equiv 0$  and  $b(\theta_1) = 0.2 + 0.8\theta_1$ , the correlation is 0.68, and  $\theta_2$  may be up to 0.2 greater than  $\theta_1$ .

Figures A.3 and A.4 illustrate occupational choices in the two-task case. The figures plot abilities in the two tasks and uses symbols to indicate the resulting employment choices from 2,500 random draws. In Figure A.3, employees always work in the task for which they have greater ability. Task 1 therefore denotes each agent's best ability, so all pairs of abilities lie below the principal diagonal. Agents choosing unemployment are those with the lowest ability in both tasks. Self-employment is more frequently the choice of agents with moderately low (0.3-0.4), or high ( $>0.7$ ), ability in their best task, those with intermediate ability in task 1 (0.4-0.7) almost never choose self-employment. Figure A.3 also illustrates the role that skill balance plays in inducing self-employment. Because of the outside option provided by unemployment, balance is somewhat more important among the less able.



**Figure A.3.** Task abilities and occupational choice with imperfectly correlated abilities, I: Perfect task matching; 2,500 draws.  $\rho=0.15$ ,  $n=2$ ,  $A=0.9$ ,  $c=0.15$ ,  $\alpha=0.1$ ,  $a(\theta_1)=0$ ,  $b(\theta_1)=\theta_1$ .



Figure A.4 introduces inefficiencies in matching workers to tasks. Observations lying above the principal diagonal are those for which agents are better at task 2 than they are at the task 1 (which formed the basis for their offered wage). As expected, the fraction of agents choosing self-employment rises with a reduction in the efficiency of task matching. Unemployment is still chosen only by the least able, and self-employment is still more likely to be chosen by agents with high or low ability. However, compared with Figure A.3, a somewhat greater number of agents with intermediate ability choose self-employment, this increase is driven by self-employment choices in cases where ability in task 2 is markedly greater than ability in task 1.



**Figure A.4.** *Task abilities and occupational choice with imperfectly correlated abilities, II: Imperfect task matching;*  
*2,500 draws.  $\rho=0.15$ ,  $n=2$ ,  $A=0.9$ ,  $c=0.15$ ,  $\alpha=0.1$ ,  $a(\theta_1)=0$ ,  $b(\theta_1)=0.2+0.8\theta_1$ .*

#### A.4 Additional Numerical Examples, Dynamic Model

In this section, we rerun the dynamic simulation model for a number of different parameter values. Table A.1 reduces the entry cost (from  $c = 0.1$  to  $c = 0.02$ ); Table A.2. raises the cost (from  $c = 0.1$  to  $c = 0.25$ ) to a level that is prohibitive for low-ability agents; Table A.3 reduces the correlation between firm quality and agent ability (from  $\rho = 0.50$  to  $\rho = 0.15$ ); and Table A.4 raises the correlation between abilities in the two tasks (from 0.75 to 0.99). In three of the four cases, all the results reported in the main text survive without modification. The one exception is in Table A.2. When low-ability agents are precluded from self-employment, a history of job switching no longer yields a premium among the self-employed. However, even in this case, it remains true that job switching and past unemployment predict entry into self-employment.

**Table A.1.** *Simulated Summary Statistics, period 10*  
*Low self-employment entry cost*  
 $\lambda=0.25, \mu=0.25, n=2, c=0.02, \alpha=0.1, \text{corr}(q, \theta_1)=0.5, \text{corr}(\theta_1, \theta_2)=0.75.$

	ALL	SELF-EMPLOYED		WAGE	
	AGENTS	ALL	NEW	WORKERS	UNEMPLOYED
	(1)	(2)	(3)	(4)	(5)
<b>Panel A: Occupational Choice</b>					
Percentage	100	9.23	<b>4.65</b>	85.7	5.10
No. of prior job switches	4.86	6.30	<b>6.98</b>	4.69	6.16
No. prior task switches	1.66	1.73	<b>2.03</b>	1.65	1.57
Job switches w/o task switch	3.20	4.56	<b>4.95</b>	3.03	4.59
Average no. of times laid off	2.50	2.97	<b>3.13</b>	2.42	3.05
Average no. of periods unemployed	0.55	0.60	<b>0.63</b>	0.40	3.04
Average ability	0.42	0.40	<b>0.41</b>	0.43	0.19
Fraction with mean ability $>.66$	13.1	15.4	<b>14.6</b>	13.6	0.01
Fraction with mean ability $<.33$	36.4	42.6	<b>84.6</b>	33.8	86.4
<b>Panel B: Earnings</b>					
Average earnings	0.33	<b>0.27</b>	0.27	0.36	0.00
Job switches $<$ mean	0.31	<b>0.24</b>	0.24	0.34	0.00
Job switches $>$ mean	0.35	<b>0.31</b>	0.30	0.36	0.00
Task switches $<$ mean	0.33	<b>0.22</b>	0.22	0.36	0.00
Task switches $>$ mean	0.33	<b>0.28</b>	0.28	0.36	0.00
New entrants from unemployment	–	–	0.10	0.16	–
New entrants from wage employment	–	–	0.29	–	–
New entrants from self-employment	–	–	–	0.35	–

**Table A.2.** *Simulated Summary Statistics, period 10*  
*High self-employment entry cost*  
 $\lambda=0.25, \mu=0.25, n=2, c=0.25, \alpha=0.1, \text{corr}(q, \theta_1)=0.5, \text{corr}(\theta_1, \theta_2)=0.75.$

	ALL	SELF-EMPLOYED		WAGE	
	AGENTS	ALL	NEW	WORKERS	UNEMPLOYED
	(1)	(2)	(3)	(4)	(5)
<b>Panel A: Occupational Choice</b>					
Percentage	100	0.42	<b>0.35</b>	93.4	6.22
No. of prior job switches	4.37	5.64	<b>5.76</b>	4.43	5.20
No. prior task switches	1.82	1.89	<b>1.94</b>	1.83	1.62
Job switches w/o task switch	2.55	3.75	<b>3.81</b>	2.50	3.58
Average no. of times laid off	2.50	3.19	<b>3.23</b>	2.64	3.11
Average no. of periods unemployed	0.66	0.06	<b>0.06</b>	0.49	3.19
Average ability	0.42	0.67	<b>0.67</b>	0.43	0.19
Fraction with mean ability >.66	13.1	56.3	<b>53.7</b>	13.8	0.01
Fraction with mean ability <.33	36.3	0.53	<b>0.78</b>	33.0	86.9
<b>Panel B: Earnings</b>					
Average earnings	0.33	<b>0.31</b>	0.29	0.35	0.00
Job switches < mean	0.30	<b>0.31</b>	0.31	0.34	0.00
Job switches > mean	0.35	<b>0.31</b>	0.30	0.36	0.00
Task switches < mean	0.31	<b>0.28</b>	0.30	0.33	0.00
Task switches > mean	0.33	<b>0.31</b>	0.31	0.35	0.00
New entrants from unemployment	–	–	0.03	0.14	–
New entrants from wage employment	–	–	0.30	–	–
New entrants from self-employment	–	–	–	0.50	–

**Table A.3.** *Simulated Summary Statistics, period 10*  
*Low correlation between firm quality and task 1 ability*  
 $\lambda=0.25, \mu=0.25, n=2, c=0.25, \alpha=0.1, \text{corr}(q, \theta_1)=0.15, \text{corr}(\theta_1, \theta_2)=0.75.$

	ALL	SELF-EMPLOYED		WAGE	
	AGENTS	ALL	NEW	WORKERS	UNEMPLOYED
	(1)	(2)	(3)	(4)	(5)
<b>Panel A. Occupational Choice</b>					
Percentage	100	4.23	<b>2.69</b>	90.9	4.90
No. of prior job switches	4.64	5.97	<b>6.35</b>	4.55	5.72
No. prior task switches	1.78	1.78	<b>1.94</b>	1.78	1.72
Job switches w/o task switch	2.86	4.19	<b>4.40</b>	2.77	4.00
Average no. of times laid off	2.50	3.09	<b>3.19</b>	2.44	3.10
Average no. of periods unemployed	0.60	0.71	<b>0.67</b>	0.47	3.06
Average ability	0.42	0.42	<b>0.43</b>	0.43	0.19
Fraction with mean ability $>.66$	13.5	20.4	<b>19.1</b>	13.9	0.01
Fraction with mean ability $<.33$	36.7	41.3	<b>65.1</b>	33.9	86.0
<b>Panel B: Earnings</b>					
Average earnings	0.33	<b>0.22</b>	0.22	0.35	0.00
Job switches $<$ mean	0.30	<b>0.17</b>	0.17	0.33	0.00
Job switches $>$ mean	0.35	<b>0.27</b>	0.26	0.36	0.00
Task switches $<$ mean	0.30	<b>0.14</b>	0.14	0.33	0.00
Task switches $>$ mean	0.33	<b>0.22</b>	0.22	0.35	0.00
New entrants from unemployment	–	–	0.04	0.15	–
New entrants from wage employment	–	–	0.23	–	–
New entrants from self-employment	–	–	–	0.35	–

**Table A.4.** *Simulated Summary Statistics, period 10*  
*High correlation between task abilities*  
 $\lambda=0.25, \mu=0.25, n=2, c=0.25, \alpha=0.1, \text{corr}(q, \theta_1)=0.5, \text{corr}(\theta_1, \theta_2)=0.99.$

	ALL	SELF-EMPLOYED		WAGE	
	AGENTS	ALL	NEW	WORKERS	UNEMPLOYED
	(1)	(2)	(3)	(4)	(5)
<b>Panel A: Occupational Choice</b>					
Percentage	100	3.48	<b>2.30</b>	93.3	3.23
No. of prior job switches	4.66	5.87	<b>6.23</b>	4.61	5.64
No. prior task switches	2.05	2.00	<b>2.19</b>	2.06	1.91
Job switches w/o task switch	2.61	3.87	<b>4.04</b>	2.55	3.73
Average no. of times laid off	2.50	3.09	<b>3.18</b>	2.46	3.10
Average no. of periods unemployed	0.37	0.53	<b>0.49</b>	0.28	3.01
Average ability	0.48	0.48	<b>0.49</b>	0.49	0.17
Fraction with mean ability $>.66$	23.4	36.0	<b>33.8</b>	23.8	0.00
Fraction with mean ability $<.33$	28.0	38.2	<b>57.9</b>	25.3	94.8
<b>Panel B: Earnings</b>					
Average earnings	0.35	<b>0.31</b>	0.29	0.37	0.00
Job switches $<$ mean	0.33	<b>0.26</b>	0.26	0.35	0.00
Job switches $>$ mean	0.37	<b>0.36</b>	0.35	0.38	0.00
Task switches $<$ mean	0.32	<b>0.23</b>	0.23	0.34	0.00
Task switches $>$ mean	0.35	<b>0.32</b>	0.32	0.36	0.00
New entrants from unemployment	–	–	0.03	0.11	–
New entrants from wage employment	–	–	0.32	–	–
New entrants from self-employment	–	–	–	0.38	–

## Appendix B. Supplement to Empirical Section

**Table B.1.** *Ability Sorting Into Self-Employment*  
(Full Results for Table 4)

	Dept Var = 1 if Becoming Self-Employed in the Current Period		
	Logit Regressions		
	(1)	(2)	(3)
Group_1 (Years of School ≤ 6)	-0.204** (-2.41)	-0.170** (-2.01)	-0.178** (-2.06)
Group_2 (6 < Years of School ≤ 12)	0.086 (1.60)	0.091* (1.69)	-0.016 (-0.29)
Group_4 (Years of School > 16)	0.320** (2.44)	0.351*** (2.67)	0.270** (2.03)
Tenure in previous job <sup>a</sup>		-0.011*** (-3.13)	-0.033*** (-6.64)
Married = 1			0.611*** (6.64)
Male = 1			0.360*** (6.62)
Metropolitan = 1			-0.075 (-1.59)
Controls for industry	No	No	Yes
Controls for year	No	No	Yes
Ave Log Pseudolikelihood	-0.104	-0.104	-0.101
No. Of Obs	87,514	87,207	86,967

Z-scores are in parentheses. Standard errors are clustered within individuals. Significance levels: \*\*\* 0.01, \*\* 0.05, \* 0.1. <sup>a</sup> Set equal to zero for unemployed and economically inactive observations.

**Table B.2.** *Ability Sorting into Self-Employment*  
*(Marginal Effects from Probit Regressions)*

	Dept Var = 1 if Becoming Self-Employed in the Current Period		
	Probit Regression (Marginal Effects)		
	(1)	(2)	(3)
Group_1 (Years of School <= 6)	-0.004** (-2.42)	-0.003** (-1.97)	-0.003** (-1.98)
Group_2 (6 < Years of School <= 12)	0.002 (1.60)	0.002* (1.70)	0.000 (-0.41)
Group_4 (Years of School > 16)	0.008** (2.40)	0.009*** (2.61)	0.006** (2.15)
Tenure in Prev. Wage Job		-0.000*** (-3.11)	-0.001*** (-6.78)
Married = 1			0.011*** (9.88)
Male = 1			0.007*** (6.51)
Metropolitan City = 1			-0.001 (-1.52)
Prev. Unemployed = 1			0.033*** (7.72)
Prev. Econ Inactive = 1			-0.001 (-0.40)
Controls for Industry	No	No	Yes
Controls for Year	No	No	Yes
Ave Log Pseudolikelihood	-0.104	-0.104	-0.101
No. Of Obs	87,514	87,207	86,967

Z-scores are in parentheses. Standard errors are clustered within individuals. Previous liquidity assets and properties are measured in 10,000 KRW. Significance levels: \*\*\* 0.01, \*\* 0.05, \* 0.1.

**Table B.3.** *Job Matching and Employment Choice (Wage Workers)*  
(Full Results for Table 5)

	Dept Var: Employment Choice in the Current Year			
	Multinomial Logit Regressions (Base Outcome: Wage Sector)			
		(1)		(2)
	SE	Not Working	SE	Not Working
=1 if previously mismatched in skills	0.291*** (3.35)	0.500*** (10.70)		
=1 if previously mismatched in education			0.268*** (3.11)	0.515*** (11.15)
Male = 1	0.181** (2.17)	-0.724*** (-15.4)	0.178** (2.14)	-0.726*** (-15.4)
Age	0.008* (1.91)	-0.006** (-2.39)	0.008* (1.92)	-0.006** (-2.39)
Married = 1	0.230** (2.34)	-0.342*** (-6.80)	0.233** (2.37)	-0.340*** (-6.76)
Metropolitan = 1	-0.105 (-1.39)	-0.053 (-1.23)	-0.109 (-1.45)	-0.051 (-1.19)
Years of school	0.027* (1.90)	-0.066*** (-7.68)	0.027* (1.88)	-0.067*** (-7.77)
Prior liquid assets	-0.000*** (-3.44)	-0.000 (-0.14)	-0.000*** (-3.46)	-0.000 (-0.08)
Prior property assets	-0.000 (-1.21)	0.000 (1.01)	0.000 (-1.22)	0.000 (1.01)
Controls for industry	Yes	Yes	Yes	Yes
Controls for year	Yes	Yes	Yes	Yes
Ave log pseudolikelihood		-0.458		-0.457
No. of observations		28,531		28,595

Z-scores are in parentheses. Standard errors are clustered within individuals. Previous liquidity assets and properties are measured in 10,000 KRW. Significance levels: \*\*\* 0.01, \*\* 0.05, \* 0.1.

**Table B.4.** *Mismatching and Employment Choice (Wage Workers)*

	Dept Var: Employment Choice in the Current Year			
	Multinomial Logit Regressions (Base Outcome: Wage Sector)			
		(1)		(2)
	SE	Not Working	SE	Not Working
=1 if Prev. Mismatched in Skills	0.252*** (3.38)	0.463*** (12.1)		
=1 if Prev. Mismatched in Edu.			0.242*** (3.25)	0.476*** (12.5)
Controls for Industry		No		No
Controls for Year		No		No
Ave Log Pseudolikelihood		-0.480		-0.479
No. Of Obs		29,050		29,114

Z-scores are in parentheses. Standard errors are clustered within individuals. Significance levels: \*\*\* 0.01, \*\* 0.05, \* 0.1.



**Table B.5.** *Job Matching and Entry into Self-Employment*

	Dept Var =1 if Becoming Self-Employed in the Current Period			
	Logit Regressions			
	(1)	(2)	(3)	(4)
=1 if Prev. Mismatched in Skills	0.264*** (4.00)		0.240*** (3.01)	
=1 if Prev. Mismatched in Edu.		0.265*** (4.04)		0.236*** (3.01)
Male = 1			0.034 (0.48)	0.033 (0.46)
Age			-0.001 (-0.39)	-0.001 (-0.39)
Married = 1			0.127 (1.45)	0.129 (1.47)
Metropolitan = 1			-0.129** (-1.99)	-0.132** (-2.04)
Years of School			0.026** (2.09)	0.026** (2.07)
Prev. Liquid Assets			0.000 (-0.67)	0.000 (-0.71)
Prev. Properties			-0.000* (-1.95)	-0.000* (-1.95)
Controls for Industry			Yes	Yes
Controls for Year			Yes	Yes
Ave Log Pseudolikelihood	-0.101	-0.101	-0.107	-0.107
No. Of Obs	48,657	48,753	42,968	43,058

Z-scores are in parentheses. Standard errors are clustered within individuals. Previous liquidity assets and properties are measured in 10,000 KRW. Significance levels: \*\*\* 0.01, \*\* 0.05, \* 0.1.

**Table B.6.** *Job Matching and Entry into Self-Employment (Marginal Effects)*

	Dept Var =1 if Becoming Self-Employed in the Current Period			
	Logit Regressions (Marginal Effects)			
	(1)	(2)	(3)	(4)
=1 if Prev. Mismatched in Skills	0.006*** (3.98)		0.005*** (3.04)	
=1 if Prev. Mismatched in Edu.		0.006*** (4.02)		0.005*** (3.02)
Male = 1			0.001 (0.57)	0.001 (0.55)
Age			0.000 (-0.48)	0.000 (-0.49)
Married = 1			0.003 (1.48)	0.003 (1.51)
Metropolitan = 1			-0.003** (-1.96)	-0.003** (-2.00)
Years of School			0.001** (2.10)	0.001** (2.07)
Prev. Liquid Assets			-0.000 (-0.65)	-0.000 (-0.69)
Prev. Properties			-0.000** (-2.00)	-0.000** (-2.00)
Controls for Industry			Yes	Yes
Controls for Year			Yes	Yes
Ave Log Pseudolikelihood	-0.101	-0.101	-0.107	-0.107
No. Of Obs	48,657	48,753	42,968	43,058

Z-scores are in parentheses. Standard errors are clustered within individuals. Previous liquidity assets and properties are measured in 10,000 KRW. Significance levels: \*\*\* 0.01, \*\* 0.05, \* 0.1.

**Table B.7.** *Correlation between Match Quality and Job Satisfaction*

	Satisfaction with Earnings		Satisfaction with Work Content	
	Matched in Edu	Mismatched in Edu	Matched in Edu	Mismatched in Edu
Mean	1.729	1.512	2.311	2.029
Std	0.004	0.005	0.003	0.006
Obs	33,336	15,378	33,320	15,371
t-statistics	33.21		42.54	
	Satisfaction with Earnings		Satisfaction with Work Content	
	Matched in Skills	Mismatched in Skills	Matched in Skills	Mismatched in Skills
Mean	1.725	1.513	2.307	2.028
Std	1.725	0.005	0.003	0.006
Obs	33,799	14,819	33,782	14,813
t-statistics	32.14		41.50	

**Table B.8.** *Mismatching and Employment Choice – Pre-program Regressions*  
*(Full Results for Table 6)*

	Dept Var: Employment Choice in the Current Year			
	Multinomial Logit Regressions (Base Outcome: Wage Sector)			
	(1)		(2)	
	SE	Not Working	SE	Not Working
=1 if subsequently mismatched in skills	-0.114 (-1.16)	0.710*** (3.28)		
=1 if subsequently mismatched in education			-0.136 (-1.42)	0.630*** (2.92)
Male = 1	0.171** (2.04)	-1.374*** (-5.58)	0.171** (2.04)	-1.373*** (-5.58)
Age	0.009** (2.14)	-0.006 (-0.50)	0.009** (2.15)	-0.006 (-0.49)
Married = 1	0.206** (2.11)	1.02*** (3.82)	0.205** (2.09)	1.022*** (3.85)
Metropolitan = 1	-0.098 (-1.31)	-0.600*** (-2.95)	-0.097 (-1.30)	-0.588*** (-2.92)
Years of school	0.030** (2.07)	-0.088*** (-2.20)	0.029** (2.07)	-0.089** (-2.20)
Prior liquid assets	-0.000*** (-3.70)	-0.000** (-1.93)	-0.000*** (-3.71)	-0.000** (-1.97)
Prior property assets	-0.000 (-1.37)	0.000 (0.55)	0.000 (-1.38)	0.000 (0.52)
Controls for industry	Yes	Yes	Yes	Yes
Controls for year	Yes	Yes	Yes	Yes
Ave log pseudolikelihood		-0.162		-0.169
No. of observations		25,392		25,447

Z-scores are in parentheses. Standard errors are clustered within individuals. Significance levels: \*\*\* 0.01, \*\* 0.05, \* 0.1.

**Table B.9.** *Entry into Self-Employment and Prior Job Hopping*  
(Full Results for Table 7)

	Dept Var =1 if Becoming Self-Employed in the Current Period			
	Logit Regressions			
	(1)	(2)	(4)	(5)
No. of prior job changes	0.295*** (14.06)	0.243*** (9.25)	0.174*** (5.96)	0.253*** (7.81)
Previously unemployed = 1		0.871*** (8.44)	0.889*** (7.99)	0.749*** (3.81)
Previously inactive = 1		-0.295*** (-4.47)	-0.205** (-2.42)	-0.307* (-1.69)
Male = 1			0.322*** (5.38)	0.313*** (5.18)
Age			0.003 (1.26)	0.003 (1.37)
Married = 1			0.518*** (6.71)	0.514*** (6.66)
Metropolitan = 1			-0.062 (-1.21)	-0.073 (-1.42)
Years of school			0.034*** (3.75)	0.043*** (4.62)
Prior liquid assets			-0.000 (-0.31)	-0.000 (-0.04)
Prior property assets			-0.000* (-1.70)	-0.000 (-1.32)
Tenure in previous wage job			-0.029*** (-4.96)	-0.023*** (-4.03)
Controls for industry	No	No	No	Yes
Controls for year	No	No	No	Yes
Ave log pseudolikelihood	-0.088	-0.088	-0.098	-0.097
No. of observations	91,798	91,798	76,729	76,717

Z-scores are in parentheses. Standard errors are clustered within individuals. Previous liquidity assets and properties are measured in 10,000 KRW. Significance levels: \*\*\* 0.01, \*\* 0.05, \* 0.1.

**Table B.10.** *Job Hopping and Transition into Self-Employment (Marginal Effects)*

	Dept Var =1 if Becoming Self-Employed in the Current Period			
	Probit Regressions (Marginal Effects)			
	(1)	(2)	(3)	(4)
No. Of Prev. Job Changes	0.005*** (13.52)	0.004*** (9.22)	0.003*** (6.09)	0.005*** (7.93)
Prev. Unemployed = 1		0.022*** (8.04)	0.026*** (7.65)	0.019*** (3.78)
Prev. Econ Inactive = 1		-0.005*** (-4.51)	-0.004*** (-2.62)	-0.006*** (-1.83)
Male = 1			0.006*** (5.16)	0.005 (5.10)
Age			0.000* (1.67)	0.000* (1.80)
Married = 1			0.009*** (6.72)	0.008*** (6.74)
Metropolitan = 1			-0.001 (-1.27)	-0.001 (-1.42)
Years of School			0.001*** (3.72)	0.001*** (4.74)
Prev. Liquid Assets			-0.000 (-0.35)	-0.000 (-0.06)
Prev. Properties			-0.000** (-2.02)	-0.000 (-1.54)
Tenure in Prev. Wage Job			-0.000*** (-4.79)	-0.000*** (-3.93)
Controls for Industry	No	No	No	Yes
Controls for Year	No	No	No	Yes
Ave Log Pseudolikelihood	-0.088	-0.088	-0.098	-0.097
No. Of Obs	91798	91798	76729	76717

Z-scores are in parentheses. Standard errors are clustered within individuals. Previous liquidity assets and properties are measured in 10,000 KRW. Significance levels: \*\*\* 0.01, \*\* 0.05, \* 0.1.

**Table B.11.** *Employment Choice and Prior Job Hopping*

	Dept Var: Employment Choice in the Current Year)			
	Multinomial Logit Regressions (Base Outcome: Wage Sector)			
		(1)		(2)
	SE	Not Working	SE	Not Working
No. Of Prev. Job Changes	0.155*** (4.37)	0.177*** (9.99)	0.084* (1.69)	0.010 (0.36)
Male = 1			0.258*** (3.06)	-0.624*** (-13.57)
Age			0.016*** (3.97)	0.005* (1.78)
Married = 1			0.310*** (3.15)	-0.244*** (-4.97)
Metropolitan = 1			-0.103 (-1.37)	-0.038 (-0.90)
Years of School			0.042*** (2.90)	-0.043*** (-5.02)
Prev. Liquid Assets			-0.000*** (-2.70)	0.000 (1.11)
Prev. Properties			-0.000 (-0.54)	0.000** (2.35)
Tenure in Prev. Wage Job			-0.048*** (-5.60)	-0.092*** (-11.51)
Controls for Industry		No		Yes
Controls for Year		No		Yes
Ave Log Pseudolikelihood		-0.480		-0.451
No. Of Obs		29187		28540

Z-scores are in parentheses. Standard errors are clustered within individuals. Previous liquidity assets and properties are measured in 10,000 KRW. Significance levels: \*\*\* 0.01, \*\* 0.05, \* 0.1.

**Table B.12.** *Entry into Self-Employment and Different Job Hopping Patterns*  
(Full Results for Table 8)

	Dept Var =1 if Becoming Self-Employed in the Current Period			
	Logit Regressions			
	(1)	(2)	(4)	(5)
No. of prior occupation changes (same employer)	0.223*** (3.10)	0.148* (1.92)	0.084 (1.05)	0.224*** (2.79)
No. of prior employer changes (same occupation)	0.264*** (8.22)	0.223*** (6.39)	0.167*** (4.32)	0.226*** (5.56)
No. of prior simultaneous changes of employer and occupation	0.352*** (9.53)	0.287*** (7.07)	0.214*** (4.90)	0.312*** (6.60)
Previously unemployed = 1		0.871*** (8.44)	0.889*** (7.99)	0.749*** (3.81)
Previously economically inactive = 1		- 0.295*** (-4.47)	-0.205** (-2.42)	-0.307* (-1.69)
Male = 1			0.322*** (5.38)	0.313*** (5.18)
Age			0.003 (1.26)	0.003 (1.37)
Married = 1			0.518*** (6.71)	0.514*** (6.66)
Metropolitan = 1			-0.062 (-1.21)	-0.073 (-1.42)
Years of school			0.034*** (3.75)	0.043*** (4.62)
Prior liquid assets			-0.000 (-0.31)	-0.000 (-0.04)
Prior property assets			-0.000* (-1.70)	-0.000 (-1.32)
Tenure in previous wage job			-0.029*** (-4.96)	-0.023*** (-4.03)
Controls for industry	No	No	No	Yes
Controls for year	No	No	No	Yes
Ave log pseudolikelihood	-0.088	-0.088	-0.098	-0.097
No. of observations	91,798	91,798	76,729	76,717

Z-scores are in parentheses. Standard errors are clustered within individuals. Previous liquidity assets and properties are measured in 10,000 KRW. Significance levels: \*\*\* 0.01, \*\* 0.05, \* 0.1.

**Table B.13.** *Entry into Self-Employment and Different Job Hopping Patterns (Marginal Effects)*

	Dept Var =1 if Becoming Self-Employed in the Current Period			
	Logit Regressions (Marginal Effects)			
	(1)	(2)	(3)	(4)
No. Of Prev. Job Changes Regarding Occupation (Same Employer)	0.004*** (3.05)	0.003* (1.94)	0.001 (0.96)	0.004*** (2.80)
No. Of Prev. Job Changes Regarding Employer (Same Occupation)	0.005*** (8.01)	0.004*** (6.31)	0.003*** (4.42)	0.004*** (5.62)
No. Of Prev. Job Changes Regarding both Employer and Occupation	0.006*** (9.31)	0.005*** (7.06)	0.004*** (5.03)	0.006*** (6.68)
Prev. Unemployed = 1		0.022*** (7.95)	0.026*** (7.71)	0.046*** (8.75)
Prev. Econ Inactive = 1		-0.005*** (-4.53)	-0.004** (-2.42)	0.006** (2.37)
Male = 1			0.006*** (5.26)	0.005*** (5.10)
Age			0.000* (1.73)	0.000* (1.92)
Married = 1			0.009*** (6.79)	0.008*** (6.76)
Metropolitan = 1			-0.001 (-1.27)	-0.001 (-1.42)
Years of School			0.001*** (3.72)	0.001*** (4.67)
Prev. Liquid Assets			-0.000 (-0.35)	-0.000 (-0.06)
Prev. Properties			-0.000** (-2.01)	-0.000 (-1.52)
Tenure in Prev. Wage Job			-0.000*** (-4.17)	-0.000*** (-3.49)
Controls for Industry	No	No	No	Yes
Controls for Year	No	No	No	Yes
Ave Log Pseudolikelihood	-0.088	-0.088	-0.098	-0.097
No. Of Obs	91798	91798	76729	76717

Z-scores are in parentheses. Standard errors are clustered within individuals. Previous liquidity assets and properties are measured in 10,000 KRW. Significance levels: \*\*\* 0.01, \*\* 0.05, \* 0.1.



**Table B.14.** *Employment Choice and Different Job Hopping Patterns (Wage Workers)*

	Dept Var: Employment Choice in the Current Year			
	Multinomial Logit Regressions (Base Outcome: Wage Sector)			
	(1)		(2)	
	SE	Not Working	SE	Not Working
No. Of Prev. Job Changes Regarding Occupation (Same Employer)	-0.020 (-0.20)	-0.497*** (-7.46)	0.124 (1.18)	-0.121* (-1.74)
No. Of Prev. Job Changes Regarding Employer (Same Occupation)	0.129*** (2.75)	0.175*** (7.15)	0.050 (0.83)	-0.012 (-0.36)
No. Of Prev. Job Changes Regarding both Employer and Occupation	0.220*** (4.20)	0.265*** (9.47)	0.136* (1.94)	0.117*** (2.90)
Male = 1			0.255*** (3.02)	-0.622*** (-13.53)
Age			0.016*** (4.06)	0.005 (2.07)
Married = 1			0.309*** (3.14)	-0.245 (-5.00)
Metropolitan = 1			-0.101 (-1.36)	-0.041 (-0.97)
Years of School			0.041*** (2.81)	-0.043*** (-5.08)
Prev. Liquid Assets			-0.000*** (-2.73)	0.000 (1.14)
Prev. Properties			-0.000 (-0.56)	0.000** (2.36)
Tenure in Prev. Wage Job			-0.048*** (-4.96)	-0.085*** (-10.35)
Controls for Industry		No		Yes
Controls for Year		No		Yes
Ave Log Pseudolikelihood	-0.477		-0.451	
No. Of Obs	29187		28540	

Z-scores are in parentheses. Standard errors are clustered within individuals. Previous liquidity assets and properties are measured in 10,000 KRW. Significance levels: \*\*\* 0.01, \*\* 0.05, \* 0.1.

**Table B.15.** *Self-Employment Earnings and Prior Job Hopping (results for Table 9)*

	Dept Var: Log of Earnings in the Current Period			
	OLS Regressions			FE
	(1)	(2)	(3)	(4)
No. of prior job changes if currently <i>Self-Employed</i>	0.085*** (6.34)	0.085*** (6.07)		0.018 (0.99)
No. of prior job changes if currently a <i>Wage Worker</i>	-0.030*** (-4.54)	-0.050*** (-6.71)		0.008 (0.65)
No. of prior occupation changes (same employer) if currently <i>Self-Employed</i>			0.092*** (2.82)	
No. of prior occupation changes (same employer) if currently <i>Wage Worker</i>			0.071*** (4.96)	
No. of prior employer changes (same occupation) if currently <i>Self-Employed</i>			0.102*** (4.61)	
No. of prior employer changes (same occupation) if currently <i>Wage Worker</i>			-0.042*** (-4.58)	
No. of prior simultaneous changes of employer and occupation if currently <i>Self-Employed</i>			0.040* (1.64)	
No. of prior simultaneous changes of employer and occupation if currently <i>Wage Worker</i>			-0.114 (-10.50)	
Previously unemployed = 1	-0.147*** (-3.73)	-0.165*** (-3.92)	-0.175*** (-4.16)	0.075 (1.37)
Previously economically inactive = 1	-0.284*** (-11.36)	-0.308*** (-10.81)	-0.325*** (-11.39)	0.041 (0.98)
Male = 1	0.370*** (26.48)	0.388*** (26.66)	0.383*** (26.38)	
Age	-0.008*** (-9.81)	-0.008*** (-9.94)	-0.008*** (-10.41)	0.051 (0.71)
Married = 1	0.271*** (17.57)	0.256*** (16.87)	0.249*** (16.50)	0.138*** (5.81)
Metropolitan = 1	0.038*** (3.08)	0.011 (0.94)	0.012 (1.02)	0.033 (0.90)
Years of school	0.069*** (27.20)	0.060*** (22.77)	0.060*** (22.71)	0.007 (0.99)
Prior liquid assets	0.000 (0.30)	0.000 (0.10)	-0.000 (-0.02)	-0.000 (-0.29)
Prior property assets	0.000*** (8.41)	0.000*** (8.21)	0.000*** (8.17)	-0.000 (-0.12)
Tenure in previous wage job	0.009*** (6.42)	0.013*** (10.08)	0.011*** (8.19)	0.013*** (4.35)
Controls for industry and year	No	Yes	Yes	Yes
R-squared	0.174	0.191	0.194	0.0191
No. of observations	39,565	39,556	39,556	39,556

*t*-statistics are in parentheses. Standard errors are clustered within individuals. Previous liquidity assets and properties are measured in 10,000 KRW. Significance levels: \*\*\* 0.01, \*\* 0.05, \* 0.1.