

Table 1: Earnings Function Estimates, using Sample up to 64-year-old, including Non-regular Workers and Specialists, Variables of Occupation Tenure are not Controlled.

| | OLS | | | | | |
|------------------------------|------------------------|------------------------|----------------------|------------------------|---------------------|---------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Employer tenure | 0.0117*** (0.0018) | 0.0116*** (0.0040) | 0.0193** (0.0076) | 0.0061 (0.0051) | 0.0009 (0.0082) | 0.0086 (0.0129) |
| Emp.ten. ² × 100 | -0.0083* (0.0046) | -0.0073 (0.0235) | -0.0967 (0.0745) | -0.0197 (0.0136) | 0.0217 (0.0526) | -0.0805 (0.1374) |
| Emp.ten. ³ × 100 | | -0.0000 (0.0004) | 0.0034 (0.0027) | | -0.0008 (0.0009) | 0.0034 (0.0052) |
| Emp.ten. ⁴ × 1000 | | | -0.0000 (0.0000) | | | -0.0000 (0.0000) |
| Old job | 0.0824*** (0.0252) | 0.0878*** (0.0273) | 0.0739** (0.0304) | 0.0529 (0.0392) | 0.0650 (0.0402) | 0.0542 (0.0429) |
| Total experience | 0.0257*** (0.0024) | 0.0032 (0.0061) | 0.0002 (0.0126) | 0.0458*** (0.0072) | 0.0220 (0.0152) | 0.0261 (0.0284) |
| Experience ² | -0.0004*** (0.0000) | 0.0006** (0.0003) | 0.0009 (0.0009) | -0.0007*** (0.0001) | 0.0003 (0.0006) | 0.0001 (0.0020) |
| Exp. ³ × 100 | | -0.0014*** (0.0003) | -0.0024 (0.0027) | | -0.0013 (0.0008) | -0.0009 (0.0058) |
| <i>N</i> | 9529 | 9529 | 9529 | 9529 | 9529 | 9529 |

Notes: Robust standard errors are in parentheses.

*, ** and *** Denote statistical significance at the 10%, 5% and 1% level, respectively.

The dependent variable is log real hourly wages. Other covariates include an intercept, education dummies, occupation and industry dummies, a union member dummy, a marital status dummy, firm size dummies, and regular employee dummy. Columns (1) and (2) denote the coefficients of earnings function (??) which is estimated by the OLS, and columns (3) and (4) denote those by AS's IV method.

Table 2: Earnings Function Estimates, using Sample up to 64-year-old, including Non-regular Workers and Specialists, Variables of Occupation Tenure are Controlled.

| | OLS | | | | | |
|------------------------------|------------------------|------------------------|-----------------------|------------------------|---------------------|---------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Employer tenure | 0.0117*** (0.0018) | 0.0118*** (0.0040) | 0.0198*** (0.0076) | 0.0066 (0.0051) | 0.0006 (0.0082) | 0.0083 (0.0129) |
| Emp.ten. ² × 100 | -0.0083* (0.0046) | -0.0080 (0.0235) | -0.1015 (0.0742) | -0.0211 (0.0138) | 0.0260 (0.0527) | -0.0756 (0.1381) |
| Emp.ten. ³ × 100 | | -0.0000 (0.0004) | 0.0036 (0.0027) | | -0.0009 (0.0009) | 0.0033 (0.0053) |
| Emp.ten. ⁴ × 1000 | | | -0.0000 (0.0000) | | | -0.0000 (0.0000) |
| Occupation tenure | -0.0025* (0.0015) | -0.0051 (0.0031) | 0.0034 (0.0050) | -0.0069** (0.0034) | -0.0069 (0.0064) | -0.0114 (0.0095) |
| Occ.ten. ² × 100 | 0.0064 (0.0039) | 0.0251 (0.0197) | -0.0924* (0.0561) | 0.0165* (0.0087) | 0.0200 (0.0439) | 0.0844 (0.1154) |
| Occ.ten. ³ × 100 | | -0.0003 (0.0003) | 0.0044** (0.0021) | | -0.0001 (0.0008) | -0.0027 (0.0045) |
| Old job | 0.0843*** (0.0253) | 0.0900*** (0.0274) | 0.0736** (0.0305) | 0.0562 (0.0391) | 0.0683* (0.0401) | 0.0583 (0.0430) |
| Total experience | 0.0267*** (0.0024) | 0.0051 (0.0063) | -0.0001 (0.0128) | 0.0429*** (0.0076) | 0.0254 (0.0156) | 0.0303 (0.0292) |
| Experience ² | -0.0005*** (0.0000) | 0.0005* (0.0003) | 0.0012 (0.0010) | -0.0007*** (0.0002) | 0.0000 (0.0007) | -0.0003 (0.0021) |
| Exp. ³ × 100 | | -0.0013*** (0.0004) | -0.0039 (0.0029) | | -0.0009 (0.0009) | -0.0001 (0.0059) |
| <i>N</i> | 9529 | 9529 | 9529 | 9529 | 9529 | 9529 |

Notes: Robust standard errors are in parentheses.

*, ** and *** Denote statistical significance at the 10%, 5% and 1% level, respectively.

The dependent variable is log real hourly wages. Other covariates include an intercept, education dummies, occupation and industry dummies, a union member dummy, a marital status dummy, firm size dummies, and regular employee dummy. Columns (1) and (2) denote the coefficients of earnings function (??) which is estimated by the OLS, and columns (3) and (4) denote those by AS's IV method.

Table 3: Earnings Function Estimates, using Sample up to 64-year-old, including Non-regular Workers and Specialists.

| | OLS | | | |
|-----------------------------|------------------------|------------------------|------------------------|------------------------|
| | (1) | (2) | (3) | (4) |
| Employer tenure | 0.0117*** (0.0018) | 0.0117*** (0.0018) | 0.0061 (0.0051) | 0.0066 (0.0051) |
| Emp.ten. ² × 100 | -0.0083* (0.0046) | -0.0083* (0.0046) | -0.0197 (0.0136) | -0.0211 (0.0138) |
| Occupation tenure | | -0.0025* (0.0015) | | -0.0069** (0.0034) |
| Occ.ten. ² × 100 | | 0.0064 (0.0039) | | 0.0165* (0.0087) |
| Occ.ten. ³ × 100 | | | | |
| Old job | 0.0824*** (0.0252) | 0.0843*** (0.0253) | 0.0529 (0.0392) | 0.0562 (0.0391) |
| Total experience | 0.0257*** (0.0024) | 0.0267*** (0.0024) | 0.0458*** (0.0072) | 0.0429*** (0.0076) |
| Experience ² | -0.0004*** (0.0000) | -0.0005*** (0.0000) | -0.0007*** (0.0001) | -0.0007*** (0.0002) |
| Exp. ³ × 100 | | | | |
| <i>N</i> | 9529 | 9529 | 9529 | 9529 |

Notes: Robust standard errors are in parentheses.

*, ** and *** Denote statistical significance at the 10%, 5% and 1% level, respectively.

The dependent variable is log real hourly wages. Other covariates include an intercept, education dummies, occupation and industry dummies, a union member dummy, a marital status dummy, firm size dummies, and regular employee dummy. Columns (1) and (2) denote the coefficients of earnings function (??) which is estimated by the OLS, and columns (3) and (4) denote those by AS's IV method.

Table 4: Estimated Returns to Employer Tenure, using Sample up to 64-year-old, including Non-regular Workers and Specialists.

| | OLS | | | |
|----------|-----------------------|-----------------------|----------------------|----------------------|
| | (1) | (2) | (3) | (4) |
| 2 Years | 0.1054*** (0.0242) | 0.1074*** (0.0243) | 0.0642* (0.0363) | 0.0685* (0.0363) |
| 5 Years | 0.1386*** (0.0235) | 0.1408*** (0.0236) | 0.0783** (0.0362) | 0.0838** (0.0364) |
| 10 Years | 0.1907*** (0.0237) | 0.1932*** (0.0238) | 0.0938** (0.0427) | 0.1008** (0.0430) |
| 15 Years | 0.2387*** (0.0245) | 0.2413*** (0.0246) | 0.0995* (0.0511) | 0.1073** (0.0515) |
| 20 Years | 0.2825*** (0.0250) | 0.2853*** (0.0252) | 0.0953 (0.0591) | 0.1032* (0.0595) |
| 25 Years | 0.3222*** (0.0253) | 0.3251*** (0.0255) | 0.0813 (0.0678) | 0.0886 (0.0679) |
| <i>N</i> | 9529 | 9529 | 9529 | 9529 |

Notes: Robust standard errors are in parentheses.

*, ** and *** Denote statistical significance at the 10%, 5% and 1% level, respectively.

The dependent variable is log real hourly wages. Other covariates include an intercept, education dummies, occupation and industry dummies, a union member dummy, a marital status dummy, firm size dummies, and regular employee dummy. Columns (1) and (2) denote the coefficients of earnings function (??) which is estimated by the OLS, and columns (3) and (4) denote those by AS's IV method.

Table 5: Estimated Returns to Employer Tenure, Employer Tenure is Treated as Dummy Variables

| | OLS | |
|-------------------------|------------------------|------------------------|
| | (1) | (2) |
| $1 \leq T_{ij} < 2$ | 0.0079 (0.0304) | 0.0199 (0.0364) |
| $2 \leq T_{ij} < 5$ | 0.0299** (0.0127) | 0.0198 (0.0175) |
| $5 \leq T_{ij} < 10$ | 0.0226*** (0.0051) | 0.0124 (0.0079) |
| $10 \leq T_{ij} < 15$ | 0.0161*** (0.0026) | 0.0084* (0.0046) |
| $15 \leq T_{ij} < 20$ | 0.0123*** (0.0017) | 0.0054 (0.0035) |
| $20 \leq T_{ij} < 25$ | 0.0103*** (0.0013) | 0.0035 (0.0030) |
| $25 \leq T_{ij} < 30$ | 0.0127*** (0.0012) | 0.0057** (0.0027) |
| $30 \leq T_{ij}$ | 0.0095*** (0.0009) | 0.0044* (0.0025) |
| Total experience | 0.0248*** (0.0024) | 0.0453*** (0.0069) |
| Experience ² | -0.0004*** (0.0000) | -0.0008*** (0.0001) |
| N | 9892 | 9892 |

Notes: Robust standard errors are in parentheses.

*, ** and *** Denote statistical significance at the 10%, 5% and 1% level, respectively.

The dependent variable is log real hourly wages. Other covariates include an intercept, education dummies, occupation and industry dummies, a union member dummy, a marital status dummy, firm size dummies, and regular employee dummy. Columns (1) and (2) denote the coefficients of earnings function (??) which is estimated by the OLS, and columns (3) and (4) denote those by AS's IV method.

Table 6: Earnings Function Estimates, using Sample up to 64-year-old, including Non-regular Workers and Specialists, the Interaction of Employer Tenure and Proxies of Ability are Added to e.q. (1).

| | (1) | (2) | (3) | (4) | (5) | (6) |
|-----------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Employer tenure | 0.0083*** (0.0023) | 0.0058 (0.0142) | 0.0065*** (0.0021) | 0.0090* (0.0052) | 0.0092*** (0.0028) | 0.0195*** (0.0097) |
| Emp.ten. ² × 100 | -0.0082* (0.0047) | -0.0198 (0.0136) | -0.0063 (0.0046) | -0.0227 (0.0140) | -0.0113** (0.0048) | -0.0001 (0.0146) |
| Old job | 0.0841*** (0.0252) | 0.0526 (0.0393) | 0.0907*** (0.0254) | 0.0508 (0.0392) | 0.0849*** (0.0253) | 0.0499 (0.0411) |
| Total experience | 0.0258*** (0.0024) | 0.0456*** (0.0073) | 0.0247*** (0.0024) | 0.0467*** (0.0073) | 0.0247*** (0.0024) | 0.0490*** (0.0078) |
| Experience ² | -0.0004*** (0.0000) | -0.0007*** (0.0001) | -0.0004*** (0.0000) | -0.0007*** (0.0001) | -0.0004*** (0.0000) | -0.0008*** (0.0001) |
| Employer Tenure × | | | | | | |
| High School | 0.0035** (0.0016) | -0.0006 (0.0145) | | | | |
| Some College | 0.0064*** (0.0020) | 0.0071 (0.0155) | | | | |
| Undergraduate | 0.0033* (0.0017) | -0.0004 (0.0147) | | | | |
| Above Undergraduate | -0.0033 (0.0029) | 0.0045 (0.0177) | | | | |
| Regular Employee | | | 0.0052*** (0.0012) | -0.0025 (0.0024) | | |
| 5 ≤ size < 30 | | | | | 0.0020 (0.0026) | -0.0086 (0.0085) |
| 30 ≤ size < 100 | | | | | 0.0024 (0.0026) | -0.0085 (0.0095) |
| 100 ≤ size < 500 | | | | | 0.0027 (0.0025) | -0.0133 (0.0096) |
| 500 ≤ size | | | | | 0.0055** (0.0024) | -0.0324*** (0.0097) |
| N | 9529 | 9529 | 9529 | 9529 | 9529 | 9529 |

Notes: Robust standard errors are in parentheses.
 *, ** and *** Denote statistical significance at the 10%, 5% and 1% level, respectively.
 The dependent variable is log real hourly wages. Other covariates include an intercept, education dummies, occupation and industry dummies, union member dummy, a marital status dummy, firm size dummies, and regular employee dummy. Columns (1) and (2) denote the coefficient estimates of the earnings function (??) which is estimated by the OLS, and columns (3) and (4) denote those by AS's IV method.

Table 7: Estimated Returns to Employer Tenure, using Sample up to 64-year-old, including Non-regular Workers and Specialists, the Interactions of Employer Tenure and Proxies of Ability are Added to e.q. (1).

| | Years of Education | | | | | |
|----------|-----------------------|--------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| 2 Years | 0.1005*** (0.0243) | 0.0634 (0.0457) | 0.1036*** (0.0241) | 0.0680* (0.0365) | 0.1028*** (0.0246) | 0.0890** (0.0410) |
| 5 Years | 0.1238*** (0.0245) | 0.0766 (0.0769) | 0.1219*** (0.0235) | 0.0903** (0.0368) | 0.1280*** (0.0258) | 0.1475*** (0.0551) |
| 10 Years | 0.1593*** (0.0278) | 0.0907 (0.1415) | 0.1499*** (0.0249) | 0.1184*** (0.0435) | 0.1654*** (0.0320) | 0.2451*** (0.0926) |
| 15 Years | 0.1908*** (0.0327) | 0.0948 (0.2087) | 0.1748*** (0.0278) | 0.1351*** (0.0513) | 0.1971*** (0.0408) | 0.3425** (0.1338) |
| 20 Years | 0.2182*** (0.0380) | 0.0891 (0.2767) | 0.1965*** (0.0310) | 0.1405** (0.0579) | 0.2232*** (0.0505) | 0.4400** (0.1758) |
| 25 Years | 0.2415*** (0.0435) | 0.0734 (0.3453) | 0.2150*** (0.0344) | 0.1346** (0.0642) | 0.2437*** (0.0606) | 0.5374** (0.2185) |
| <i>N</i> | 9529 | 9529 | 9529 | 9529 | 9529 | 9529 |

Notes: Robust standard errors are in parentheses.

*, ** and *** Denote statistical significance at the 10%, 5% and 1% level, respectively.

The dependent variable is log real hourly wages. Other covariates include an intercept, education dummies, occupation and industry dummies, a union member dummy, a marital status dummy, firm size dummies, and regular employee dummy. Columns (1) and (2) denote the coefficients of earnings function (??) which is estimated by the OLS, and columns (3) and (4) denote those by AS's IV method.

Table 8: Earnings Function Estimates, using Various Subsamples.

| | Under 59-year-old (1) | (2) | Large firms (≥ 500) (3) | (4) | Small Firms (< 500) (5) | (6) | Non-Professional (7) | (8) |
|------------------------------------|--------------------------|------------------------|-----------------------------------|------------------------|--------------------------------|------------------------|-------------------------|------------------------|
| Employer tenure | 0.0098*** (0.0020) | 0.0020 (0.0057) | 0.0156*** (0.0031) | 0.0145 (0.0089) | 0.0106*** (0.0022) | 0.0049 (0.0068) | 0.0162*** (0.0018) | 0.0066 (0.0057) |
| Emp.ten. ² \times 100 | 0.0000 (0.0055) | -0.0064 (0.0163) | -0.0151** (0.0075) | -0.0421* (0.0239) | -0.0088 (0.0062) | -0.0055 (0.0185) | -0.0185*** (0.0048) | -0.0206 (0.0148) |
| Old job | 0.0983*** (0.0283) | 0.0585 (0.0449) | 0.0212 (0.0506) | 0.0293 (0.0672) | 0.1130*** (0.0294) | 0.0521 (0.0475) | 0.0540** (0.0274) | 0.0366 (0.0437) |
| Total experience | 0.0227*** (0.0028) | 0.0411*** (0.0081) | 0.0248*** (0.0040) | 0.0545*** (0.0123) | 0.0250*** (0.0030) | 0.0401*** (0.0101) | 0.0205*** (0.0026) | 0.0447*** (0.0081) |
| Experience ² | -0.0004*** (0.0001) | -0.0006*** (0.0002) | -0.0004*** (0.0001) | -0.0008*** (0.0002) | -0.0004*** (0.0001) | -0.0007*** (0.0002) | -0.0003*** (0.0000) | -0.0007*** (0.0001) |
| <i>N</i> | 8579 | 8579 | 3646 | 3646 | 5883 | 5883 | 8090 | 8090 |

Notes: Robust standard errors are in parentheses.

*, ** and *** Denote statistical significance at the 10%, 5% and 1% level, respectively.

The dependent variable is log real hourly wages. Other covariates include an intercept, education dummies, occupation and industry dummies, a union member dummy, a marital status dummy, firm size dummies, and regular employee dummy. Columns (1) and (2) denote the coefficients of earnings function (??) which is estimated by the OLS, and columns (3) and (4) denote those by AS's IV method.

Table 9: Estimated Returns to Employer Tenure, using Various Subsamples.

| | Under 59-year-old | | Large firms (≥ 500) | | Small Firms (< 500) | | Non-Professional | |
|----------|-----------------------|--------------------|----------------------------|---------------------|-------------------------|---------------------|-----------------------|---------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 2 Years | 0.1179*** (0.0271) | 0.0622 (0.0417) | 0.0518 (0.0493) | 0.0566 (0.0633) | 0.1338*** (0.0280) | 0.0616 (0.0441) | 0.0856*** (0.0264) | 0.0489 (0.0404) |
| 5 Years | 0.1472*** (0.0263) | 0.0668 (0.0416) | 0.0953** (0.0485) | 0.0914 (0.0647) | 0.1637*** (0.0270) | 0.0751* (0.0455) | 0.1303*** (0.0258) | 0.0642 (0.0403) |
| 10 Years | 0.1961*** (0.0266) | 0.0718 (0.0489) | 0.1617*** (0.0493) | 0.1325* (0.0766) | 0.2099*** (0.0273) | 0.0954* (0.0575) | 0.1973*** (0.0261) | 0.0816* (0.0479) |
| 15 Years | 0.2451*** (0.0274) | 0.0737 (0.0591) | 0.2207*** (0.0510) | 0.1526* (0.0892) | 0.2518*** (0.0282) | 0.1130 (0.0730) | 0.2552*** (0.0269) | 0.0886 (0.0581) |
| 20 Years | 0.2940*** (0.0281) | 0.0723 (0.0702) | 0.2720*** (0.0523) | 0.1516 (0.0983) | 0.2893*** (0.0287) | 0.1278 (0.0894) | 0.3037*** (0.0275) | 0.0854 (0.0682) |
| 25 Years | 0.3430*** (0.0285) | 0.0678 (0.0836) | 0.3158*** (0.0530) | 0.1296 (0.1055) | 0.3225*** (0.0289) | 0.1398 (0.1080) | 0.3431*** (0.0278) | 0.0718 (0.0787) |
| <i>N</i> | 8579 | 8579 | 3646 | 3646 | 5883 | 5883 | 8090 | 8090 |

Notes: Robust standard errors are in parentheses.

*, **, and *** Denote statistical significance at the 10%, 5% and 1% level, respectively.

The dependent variable is log real hourly wages. Other covariates include an intercept, education dummies, occupation and industry dummies, a union member dummy, a marital status dummy, firm size dummies, and regular employee dummy. Columns (1) and (2) denote the coefficients of earnings function (??) which is estimated by the OLS, and columns (3) and (4) denote those by AS's IV method.

Table 10: Estimation Results, using the Method of 2SFD Estimation.

| | (1) | (2) | (3) |
|--------------------------------|-----------------------|------------------------|-----------------------|
| _cons | 0.1084*** (0.0213) | 0.1584*** (0.0247) | 0.1407*** (0.0354) |
| Emp.ten. ² × 100 | | -0.0098 (0.0272) | 0.0468 (0.0953) |
| Emp.ten. ³ × 1000 | | | -0.0114 (0.0174) |
| Experience ² × 100 | | -0.0982*** (0.0285) | -0.0485 (0.1357) |
| Experience ³ × 1000 | | | -0.0055 (0.0176) |
| <i>N</i> | 6942 | 6696 | 6696 |

Notes: Robust standard errors are in parentheses.

*, ** and *** Denote statistical significance at the 10%, 5% and 1% level, respectively.

The dependent variable is log real hourly wages. Other covariates include an intercept, education dummies, occupation and industry dummies, a union member dummy, a marital status dummy, firm size dummies, and regular employee dummy. Columns (1) and (2) denote the coefficients of earnings function (??) which is estimated by the OLS, and columns (3) and (4) denote those by AS's IV method.