

# ONLINE APPENDIX

## A Individual Earnings Inequality, Dynamics, and Mobility

### A.1 Data and background

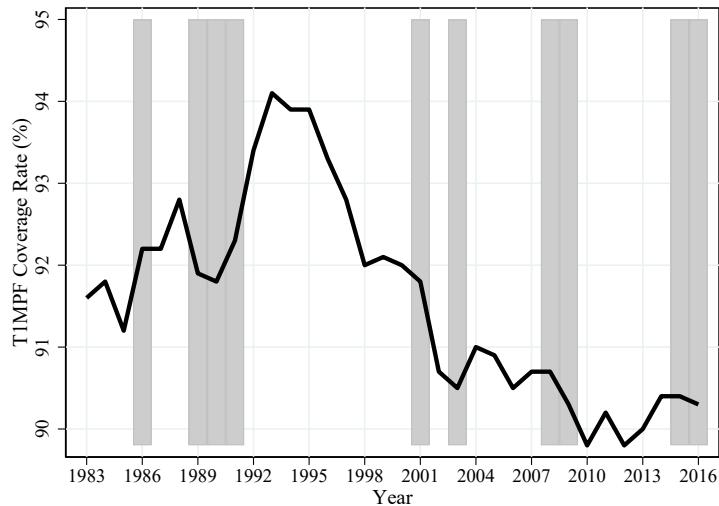


Figure A1: T1PMF coverage rates for 25–55 year old Canadians, 1983–2016

*Notes:* Figure reports the ratio of T1PMF filers (in %) to annual population estimates based on Canadian Censuses (from Statistics Canada Table 17-10-0005-01).

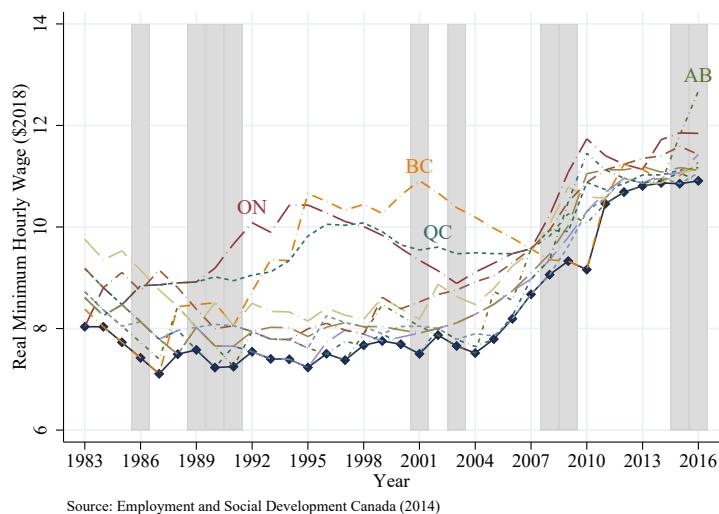


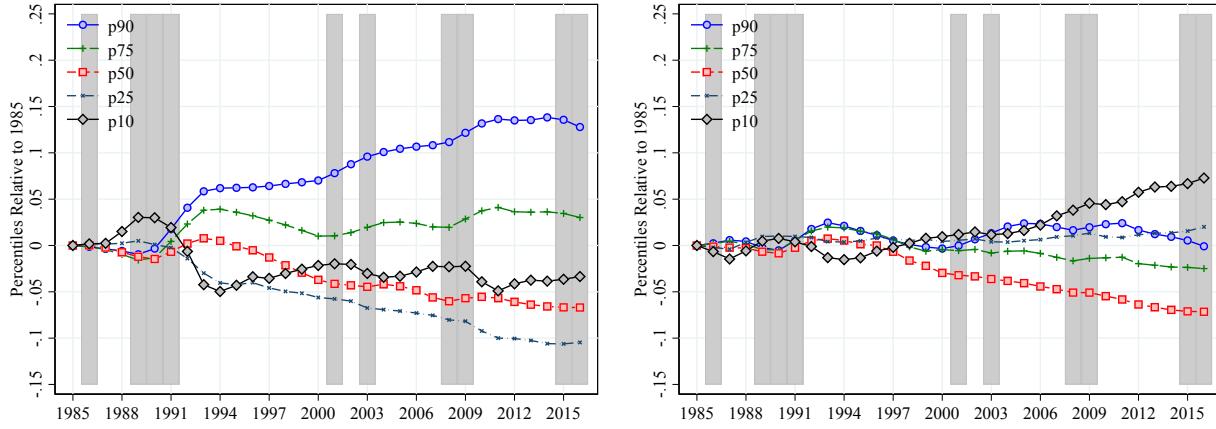
Figure A2: Real minimum wages in Canada, 1983–2016

## A.2 Earnings inequality

Table A1: Percentiles of  $\varepsilon_{i,t}$ , and  $\varepsilon_{i,t}^P$  for Men and Women, 1985 and 2015

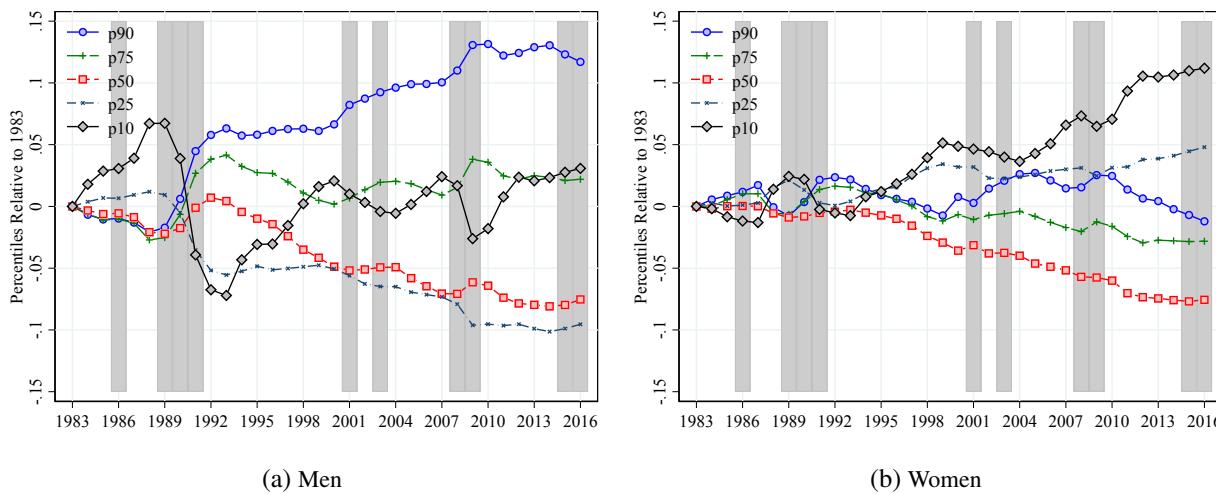
	$\varepsilon_{i,t}$				$\varepsilon_{i,t}^P$			
	Men		Women		Men		Women	
	1985	2015	1985	2015	1985	2015	1985	2015
$P5$	-1.62	-1.58	-1.71	-1.60	-1.26	-1.25	-1.31	-1.22
$P10$	-1.09	-1.09	-1.26	-1.14	-0.87	-0.90	-0.97	-0.90
$P25$	-0.30	-0.41	-0.49	-0.45	-0.28	-0.39	-0.41	-0.40
$P50$	0.19	0.12	0.20	0.12	0.15	0.09	0.16	0.09
$P75$	0.50	0.53	0.61	0.58	0.45	0.49	0.54	0.52
$P90$	0.73	0.87	0.92	0.90	0.68	0.82	0.84	0.84
$P95$	0.88	1.10	1.07	1.08	0.82	1.04	0.99	1.01
$P99$	1.26	1.68	1.33	1.50	1.18	1.61	1.24	1.43
$P99.9$	2.19	2.86	1.81	2.31	2.05	2.74	1.67	2.22
$P90-P10$	1.82	1.96	2.18	2.04	1.55	1.72	1.80	1.74
$P90-P50$	0.55	0.75	0.72	0.78	0.53	0.73	0.68	0.76
$P50-P10$	1.28	1.20	1.45	1.26	1.02	0.99	1.13	0.99

Notes: This table reports percentiles and percentile differences for the distributions of log earnings residuals,  $\varepsilon_{i,t}$ , and residualized permanent earnings,  $\varepsilon_{i,t}^P$ , by gender and year.



(a) Men

(b) Women

Figure A3: Changes in percentiles of  $\varepsilon_{i,t}^P$  (1985=0)

(a) Men

(b) Women

Figure A4: Changes in percentiles of  $\varepsilon_{i,t}$  (1983=0)

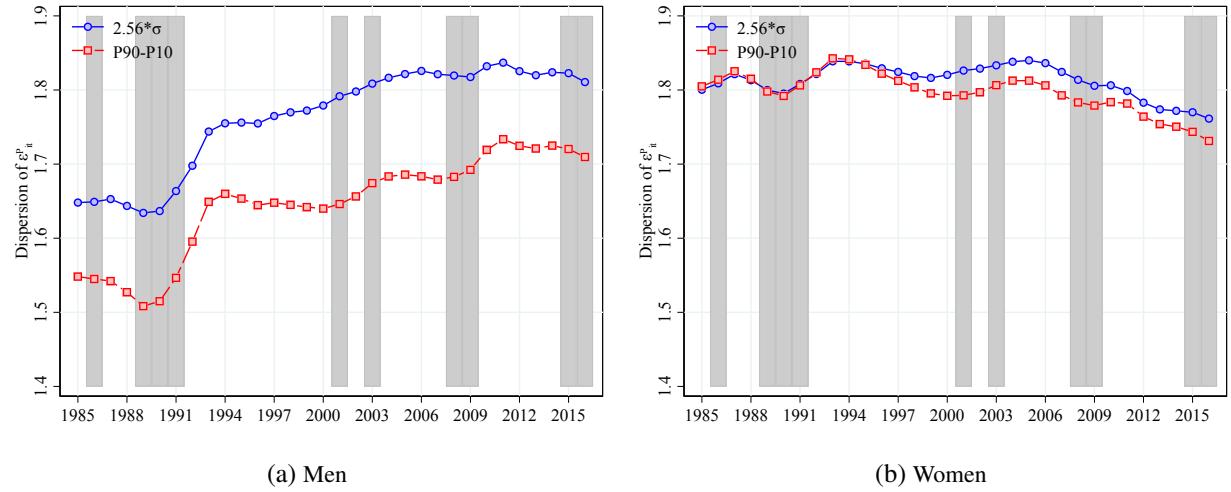


Figure A5: Changes in  $\varepsilon_{i,t}^P$  dispersion (1985=0)

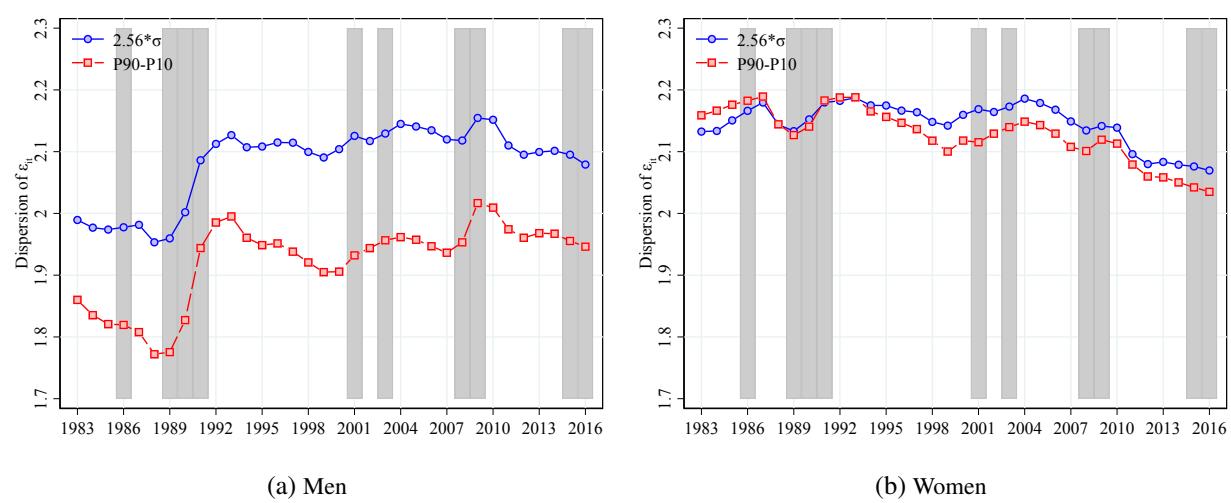


Figure A6: Changes  $\varepsilon_{i,t}$  dispersion (1983=0)

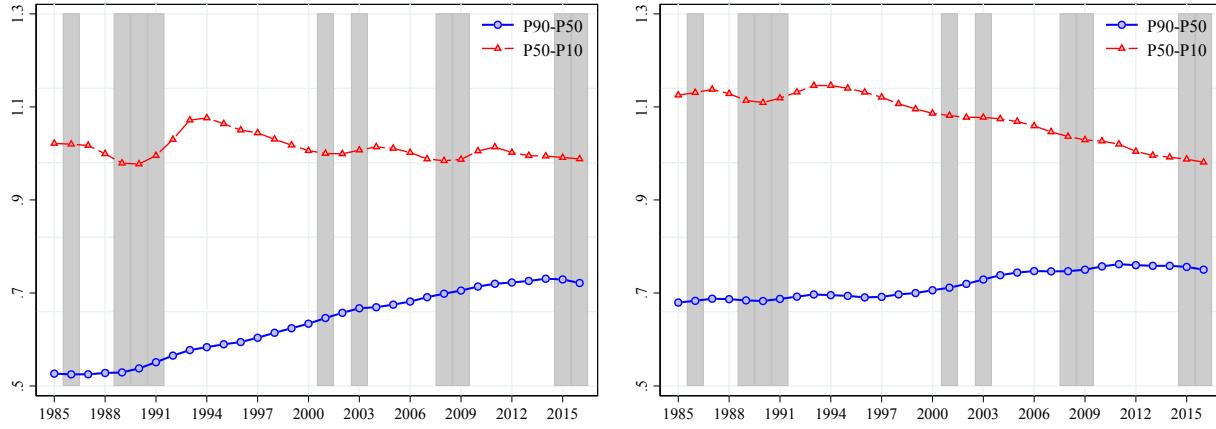


Figure A7: 90–50 and 50–10 percentile differences for  $\varepsilon_{i,t}^P$

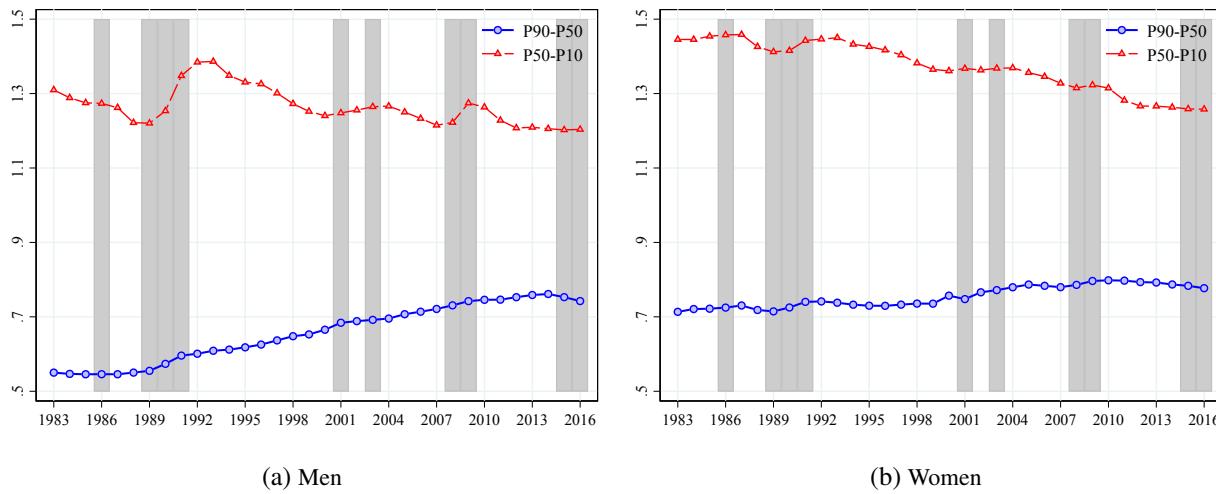


Figure A8: 90–50 and 50–10 percentile differences for  $\varepsilon_{i,t}$

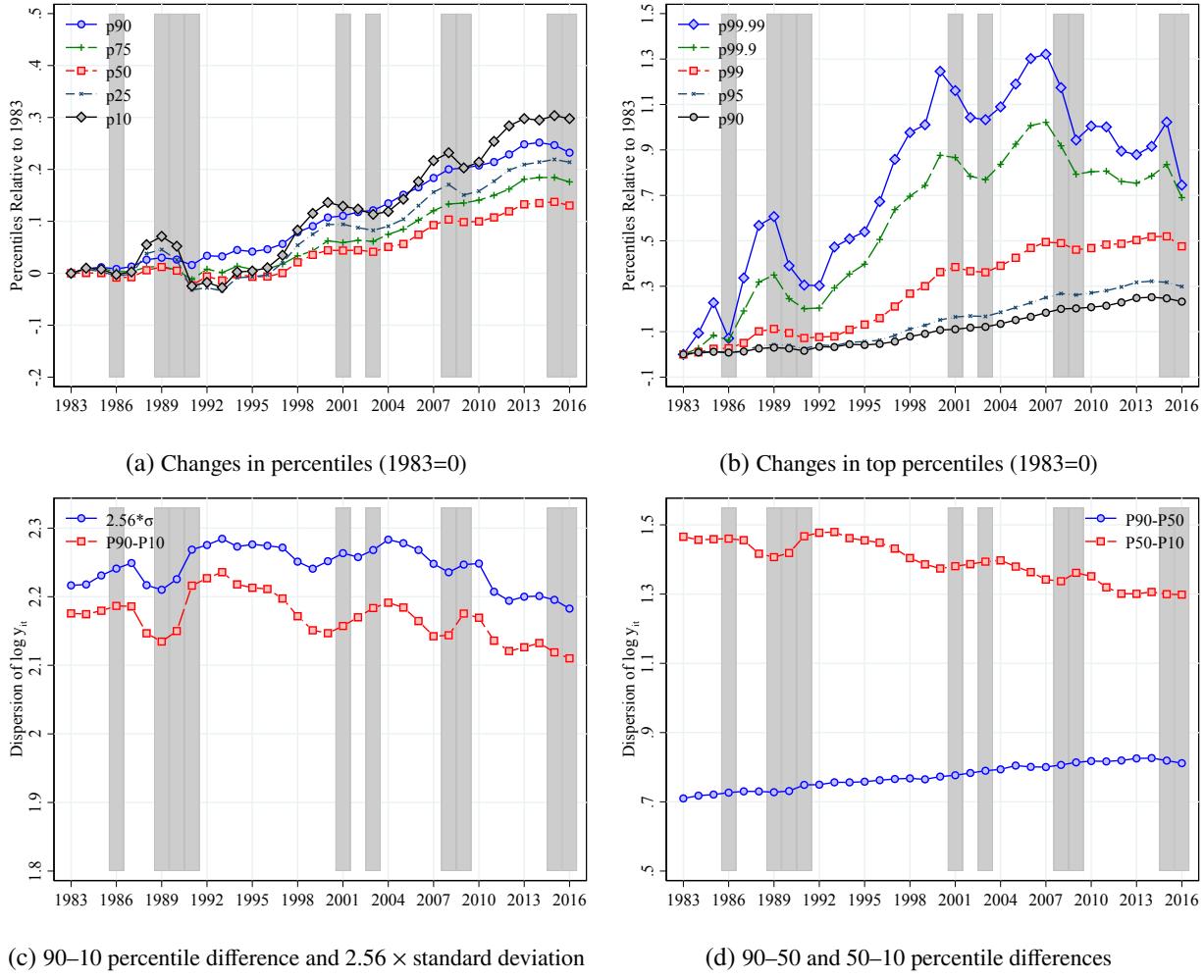


Figure A9: Distribution of  $\log(y_{i,t})$  for men and women combined

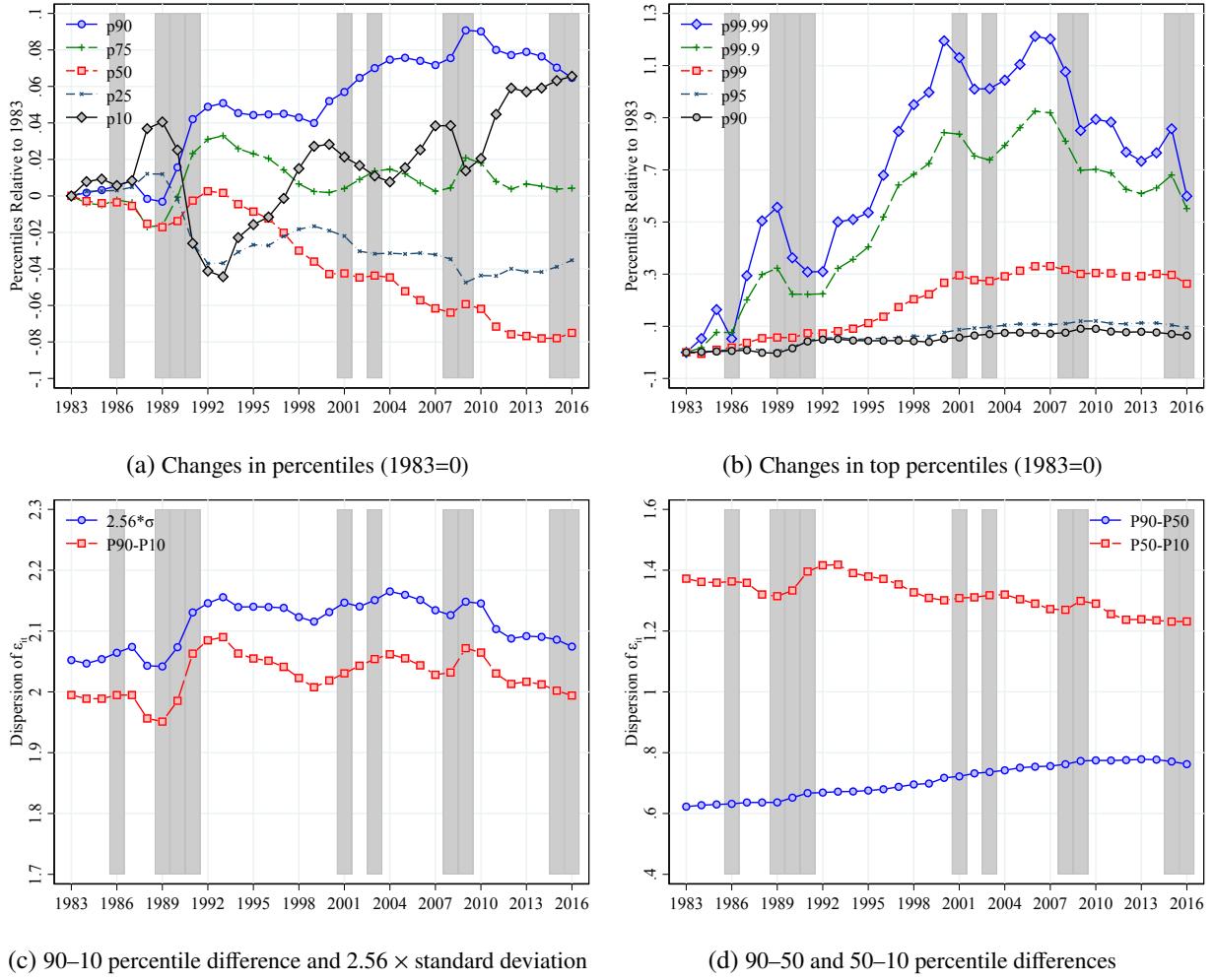


Figure A10: Distribution of  $\varepsilon_{i,t}$  for men and women combined

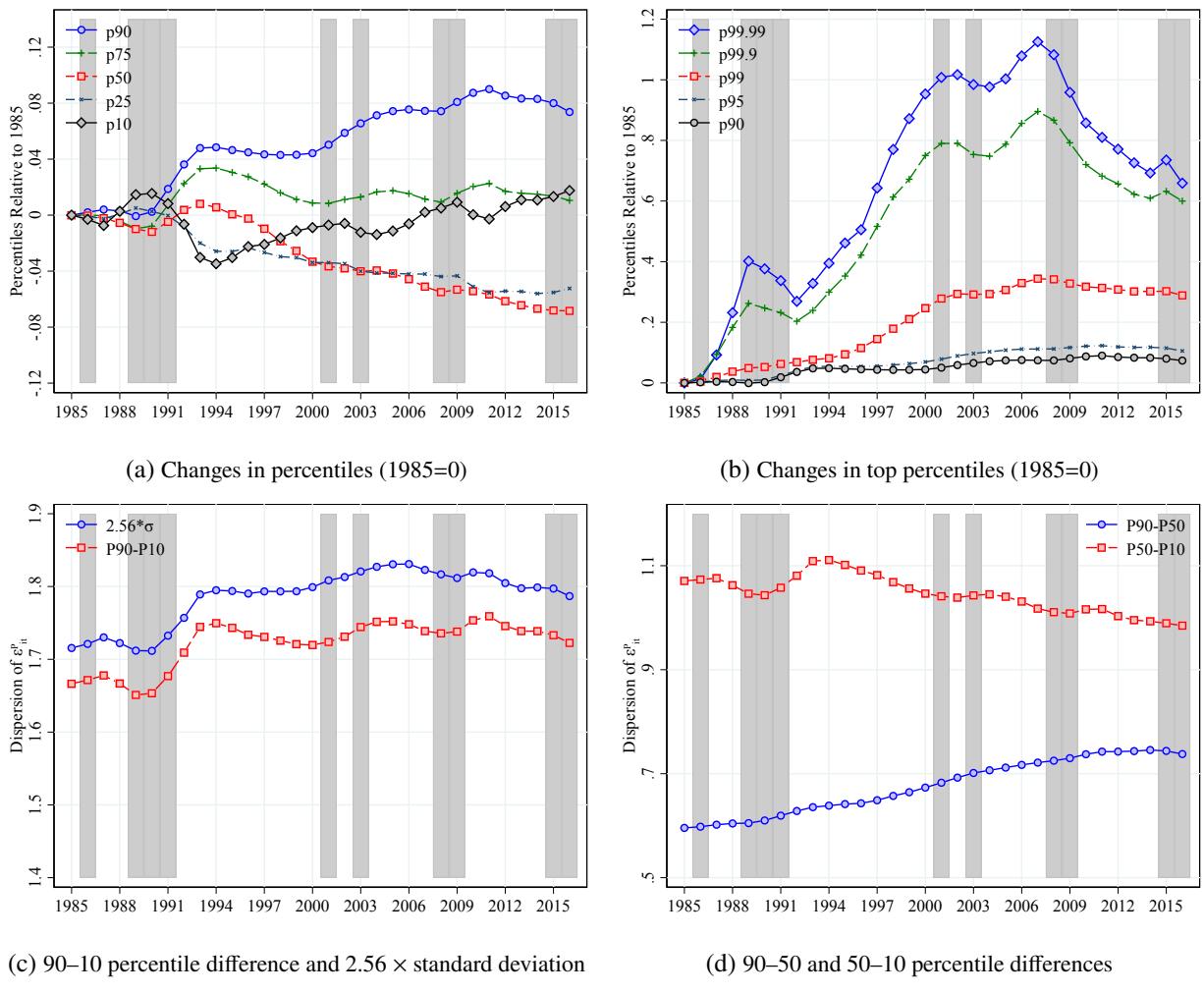


Figure A11: Distribution of  $\varepsilon_{i,t}^P$  for men and women combined

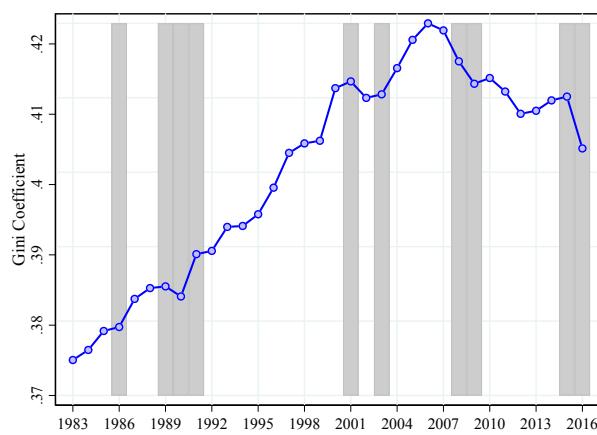


Figure A12: Gini coefficient for  $y_{i,t}$  (men and women combined)

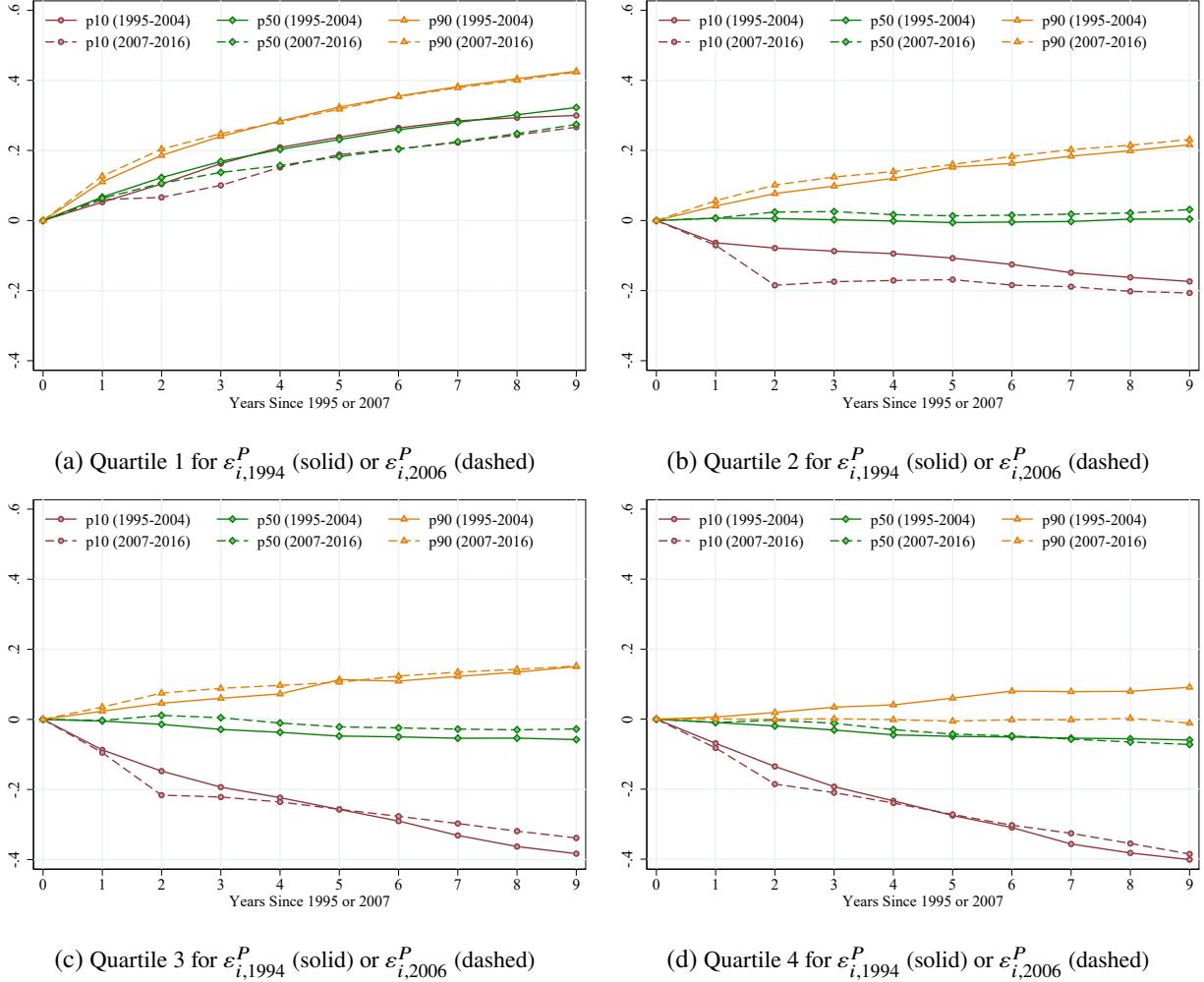


Figure A13: Changes in percentiles of  $\varepsilon_{i,t}$  over 1995–2005 and 2007–2016 by residualized permanent earnings quartile in 1994 or 2006, respectively

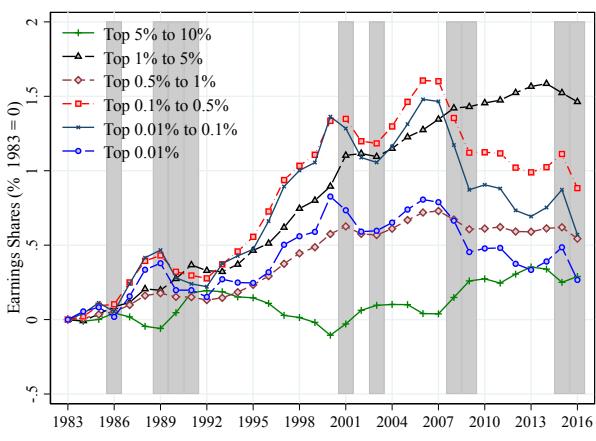
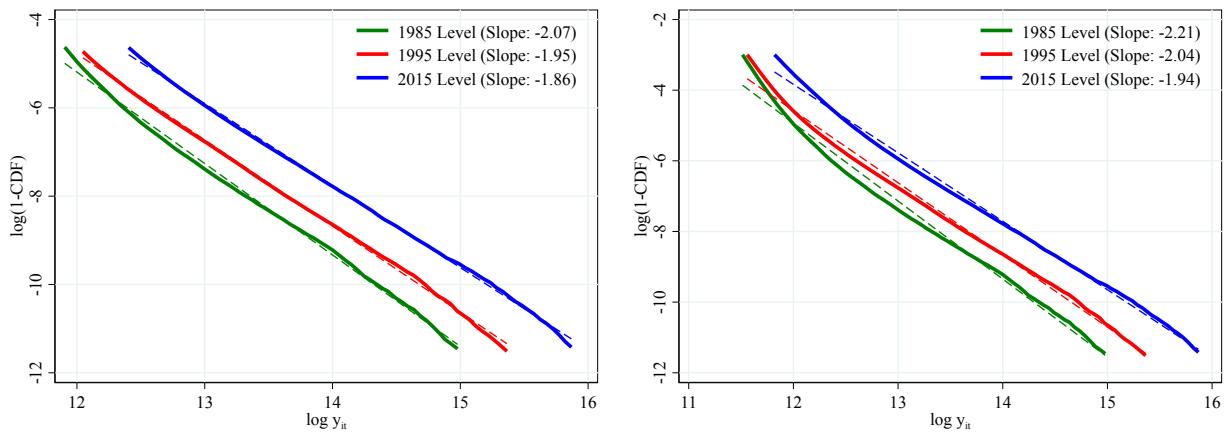


Figure A14: Changes in earnings shares going to different top earnings ranges (1983=0)



(a) Pareto tail at top 1%

(b) Pareto tail at top 5%

Figure A15: Top earnings inequality for men and women combined

### A.3 Earnings growth and volatility

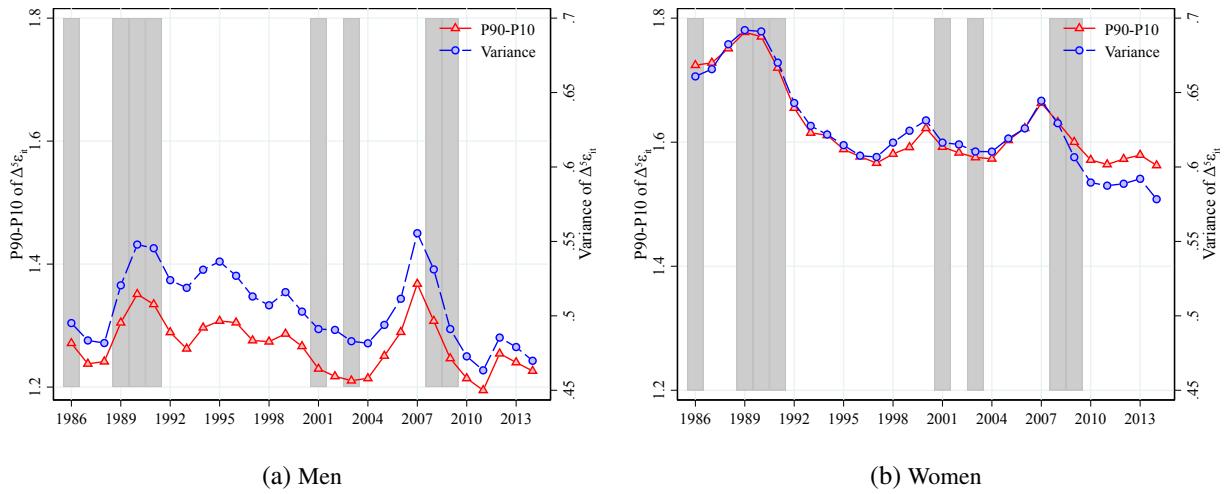


Figure A16: Dispersion in  $\Delta^5 \varepsilon_{i,t}$

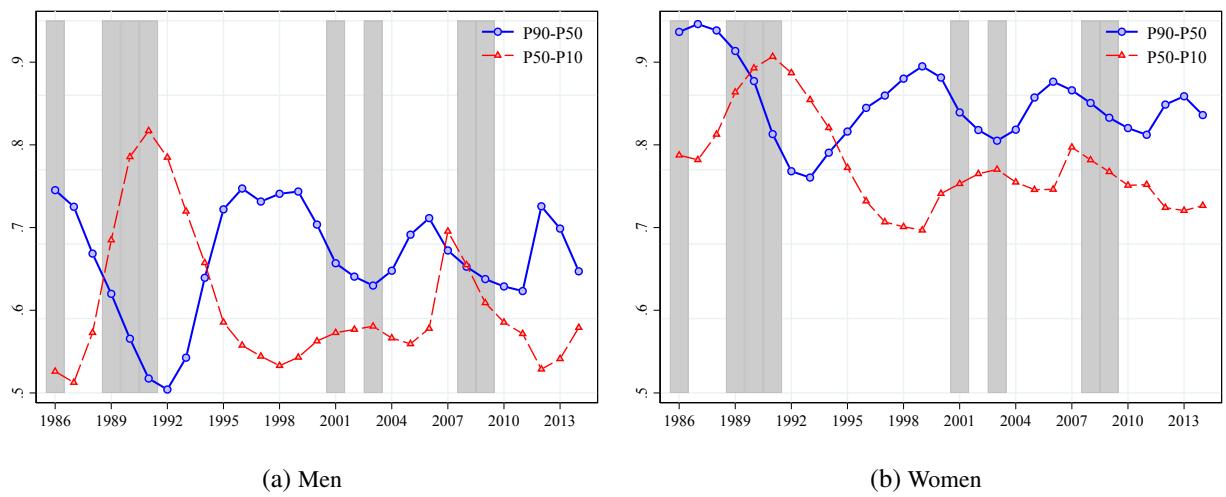
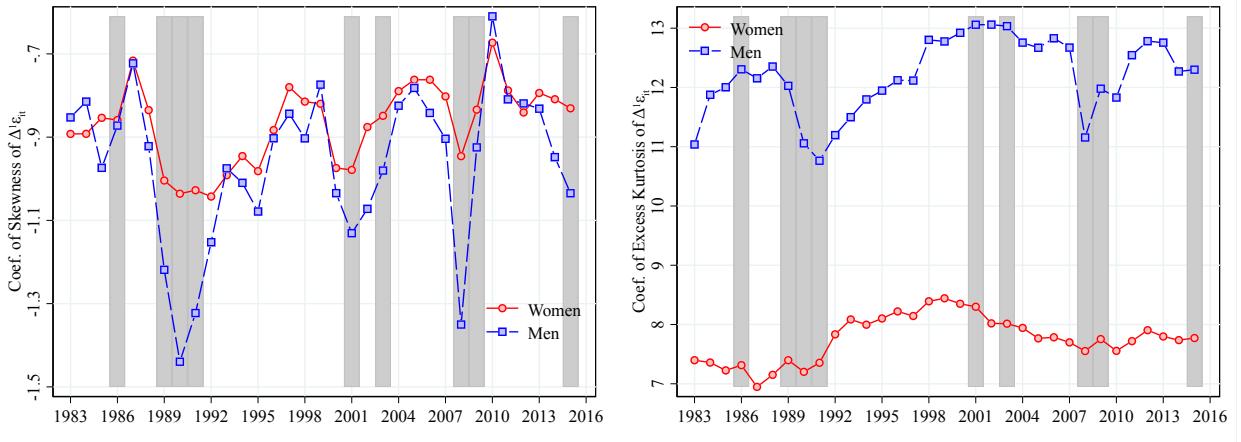
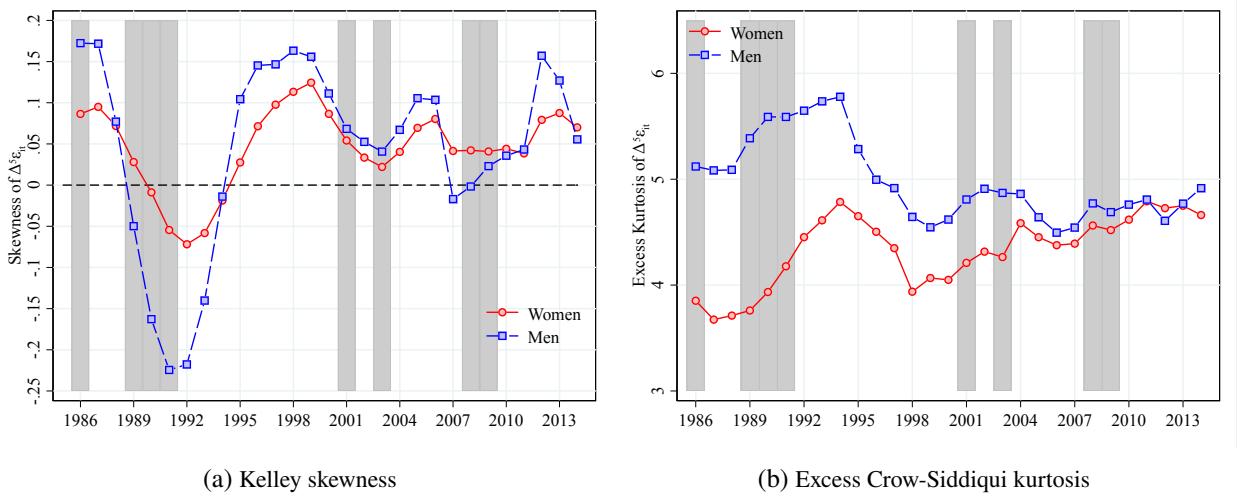


Figure A17: 90–50 and 50–10 percentile differences for  $\Delta^5 \varepsilon_{i,t}$



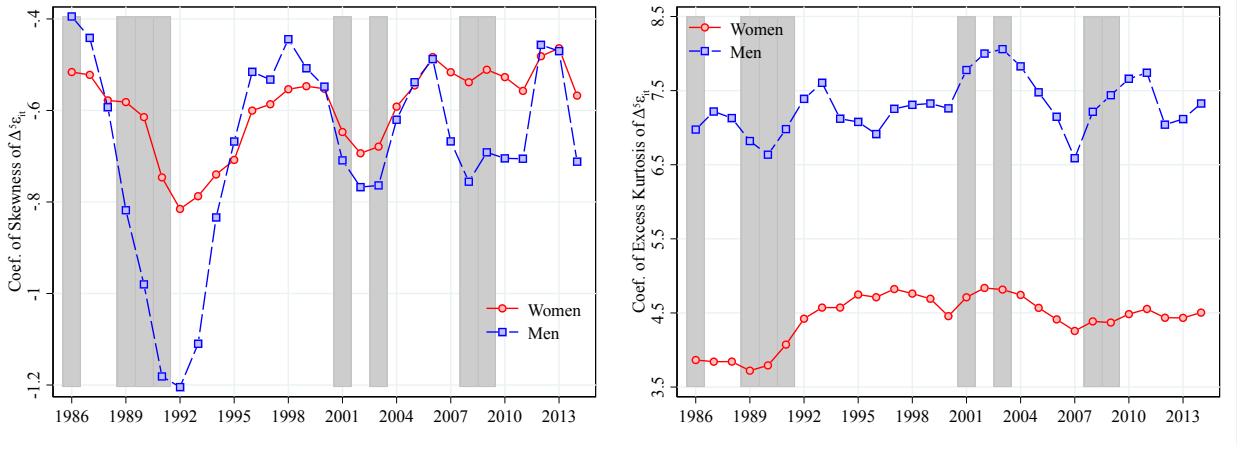
(a) Coefficient of skewness

(b) Coefficient of excess kurtosis

Figure A18: Central moment-based skewness and excess kurtosis of  $\Delta^1 \varepsilon_{i,t}$ 

(a) Kelley skewness

(b) Excess Crow-Siddiqui kurtosis

Figure A19: Quantile-based skewness and excess kurtosis of  $\Delta^5 \varepsilon_{i,t}$ 

(a) Coefficient of skewness

(b) Coefficient of excess kurtosis

Figure A20: Central moment-based skewness and excess kurtosis of  $\Delta^5 \varepsilon_{i,t}$

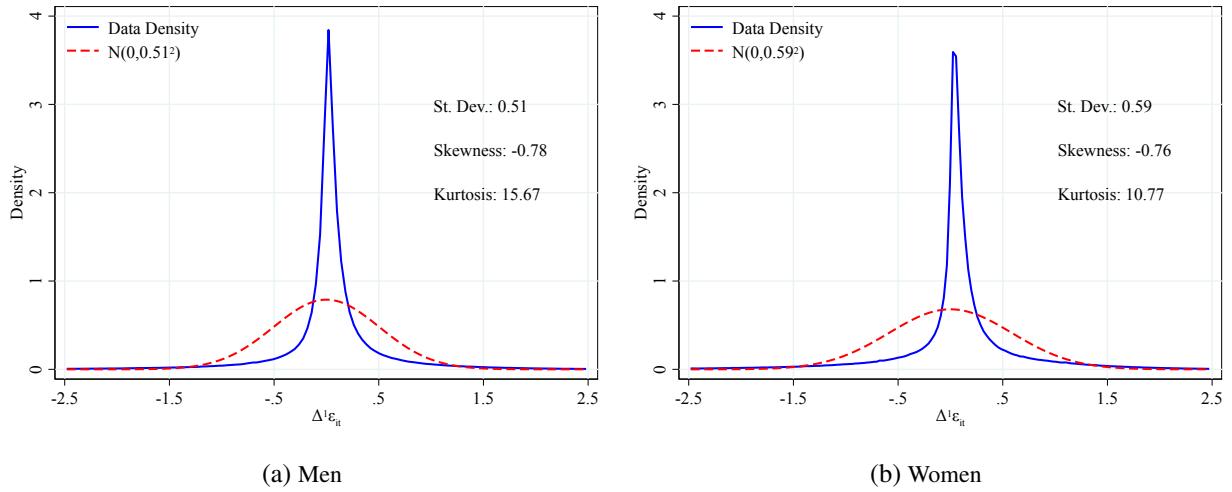


Figure A21: Empirical densities of  $\Delta^1 \varepsilon_{i,t}$  for 2005

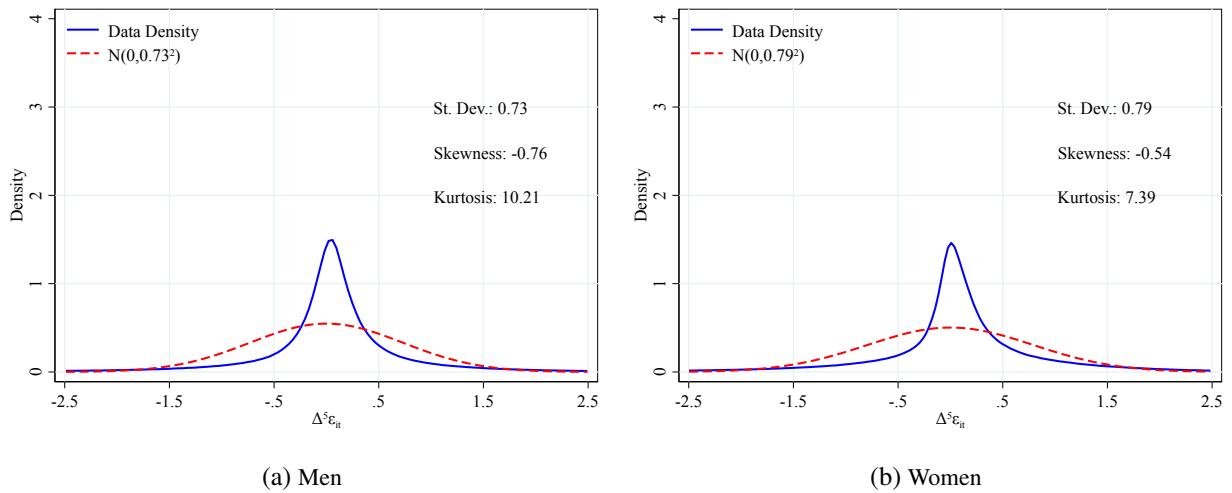


Figure A22: Empirical densities of  $\Delta^5 \varepsilon_{i,t}$  for 2005

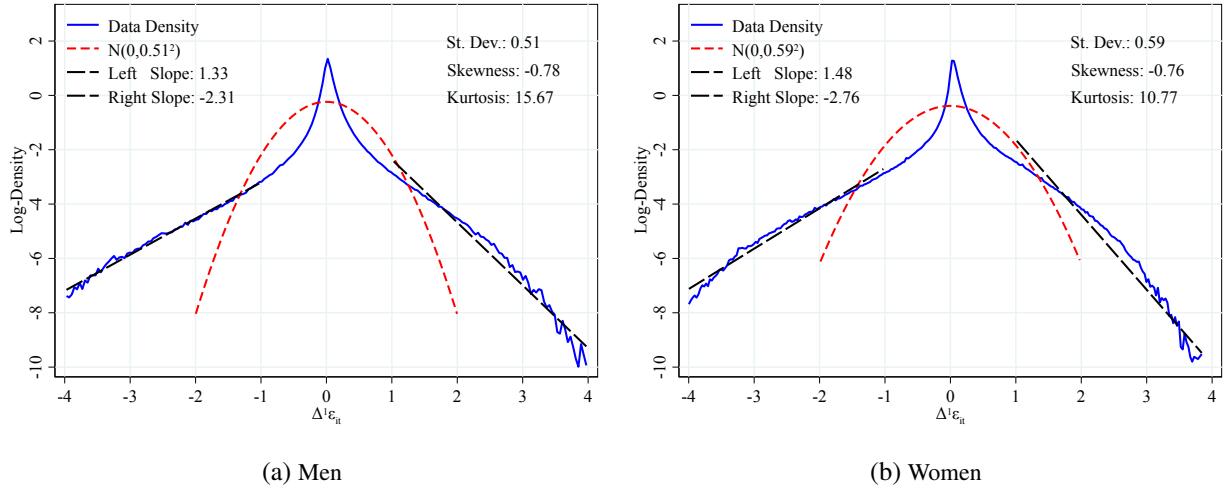


Figure A23: Empirical log-density of  $\Delta^1 \varepsilon_{i,t}$  in 2005

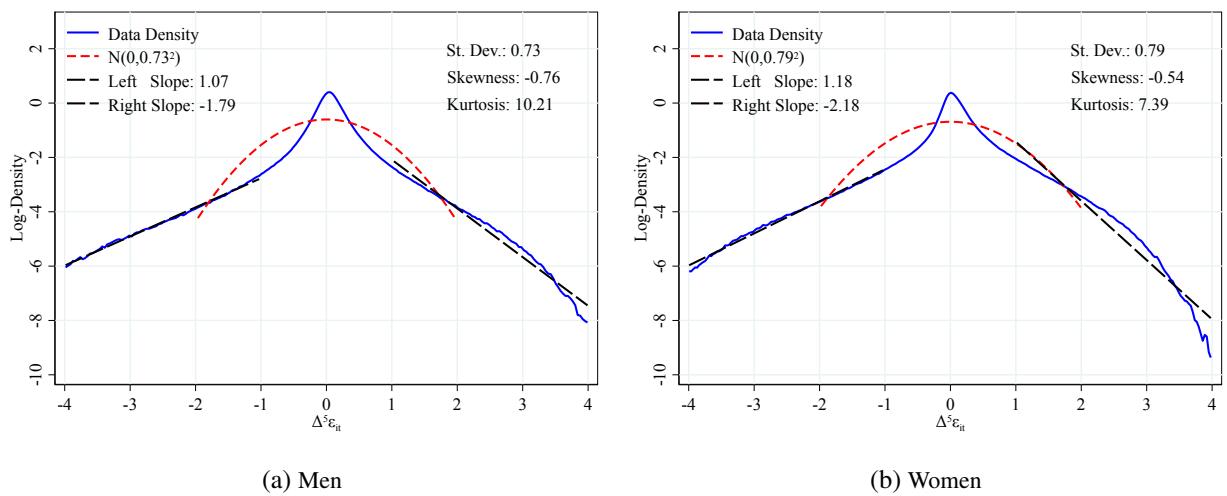


Figure A24: Empirical log-density of  $\Delta^5 \varepsilon_{i,t}$  in 2005

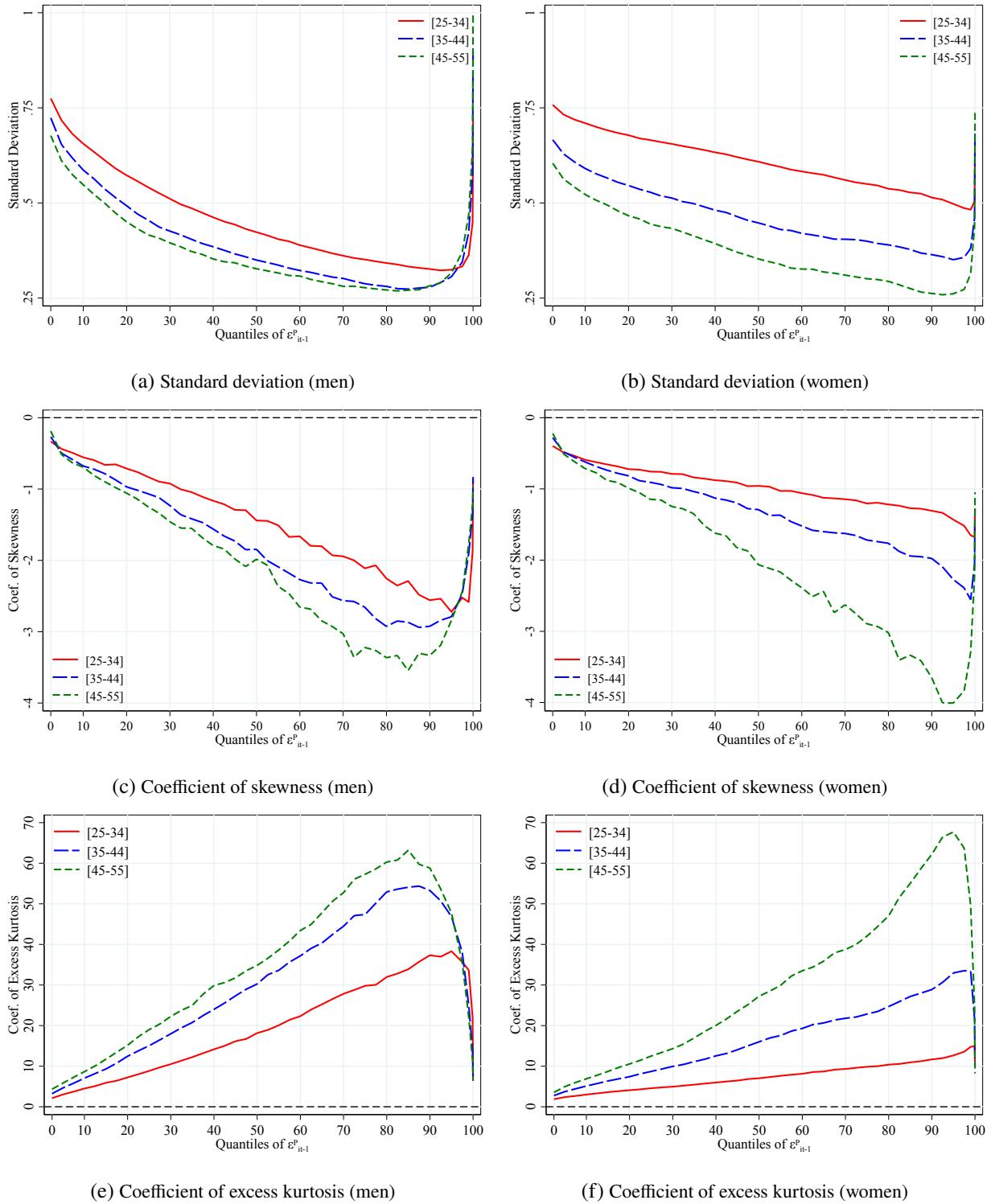


Figure A25: Central moment-based measures of dispersion, skewness, and excess kurtosis of  $\Delta^1 \epsilon_{i,t}$  by permanent earnings and age group

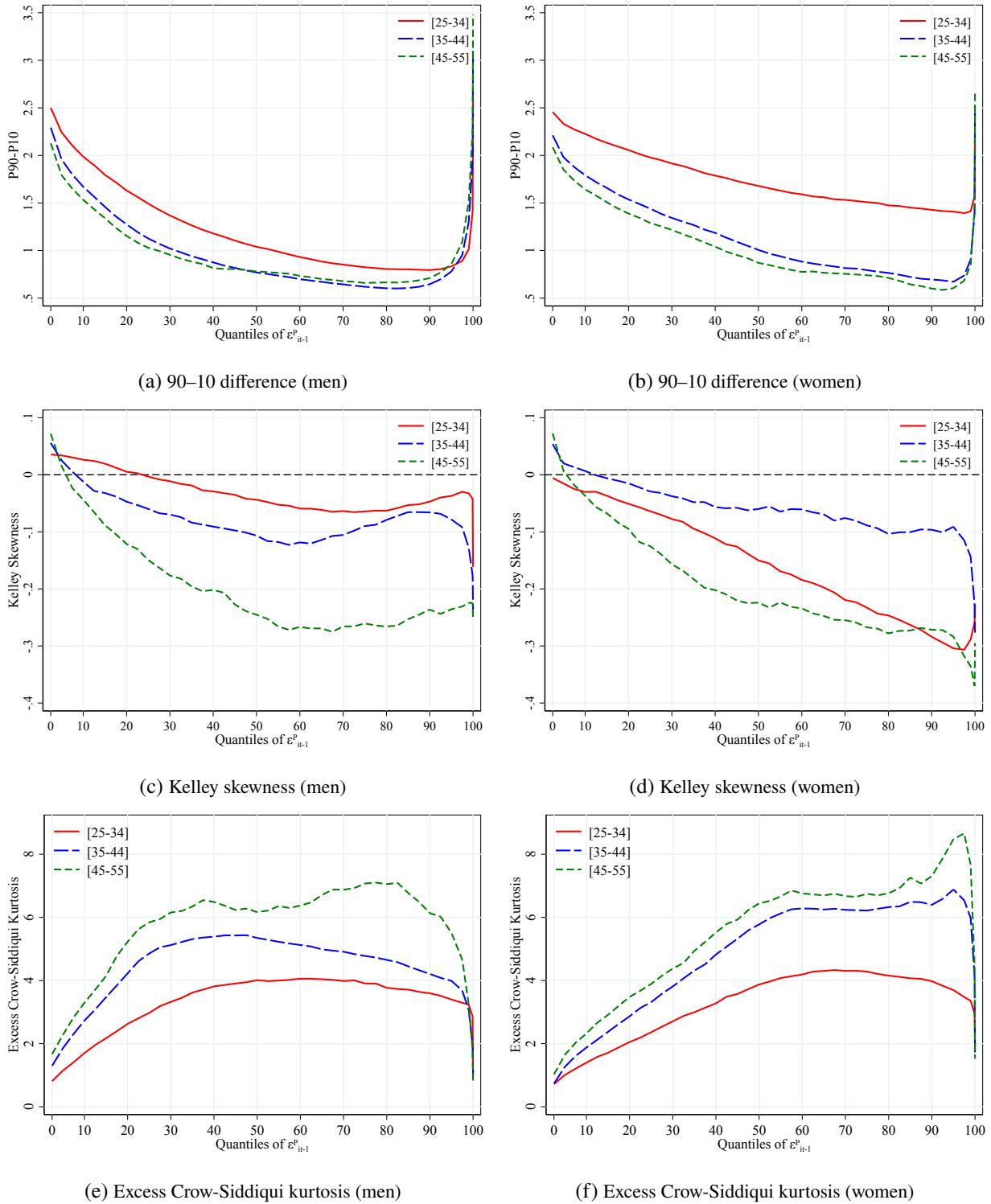


Figure A26: Quantile-based measures of dispersion, skewness, and excess kurtosis of  $\Delta^5 \varepsilon_{i,t}$  by permanent earnings and age group

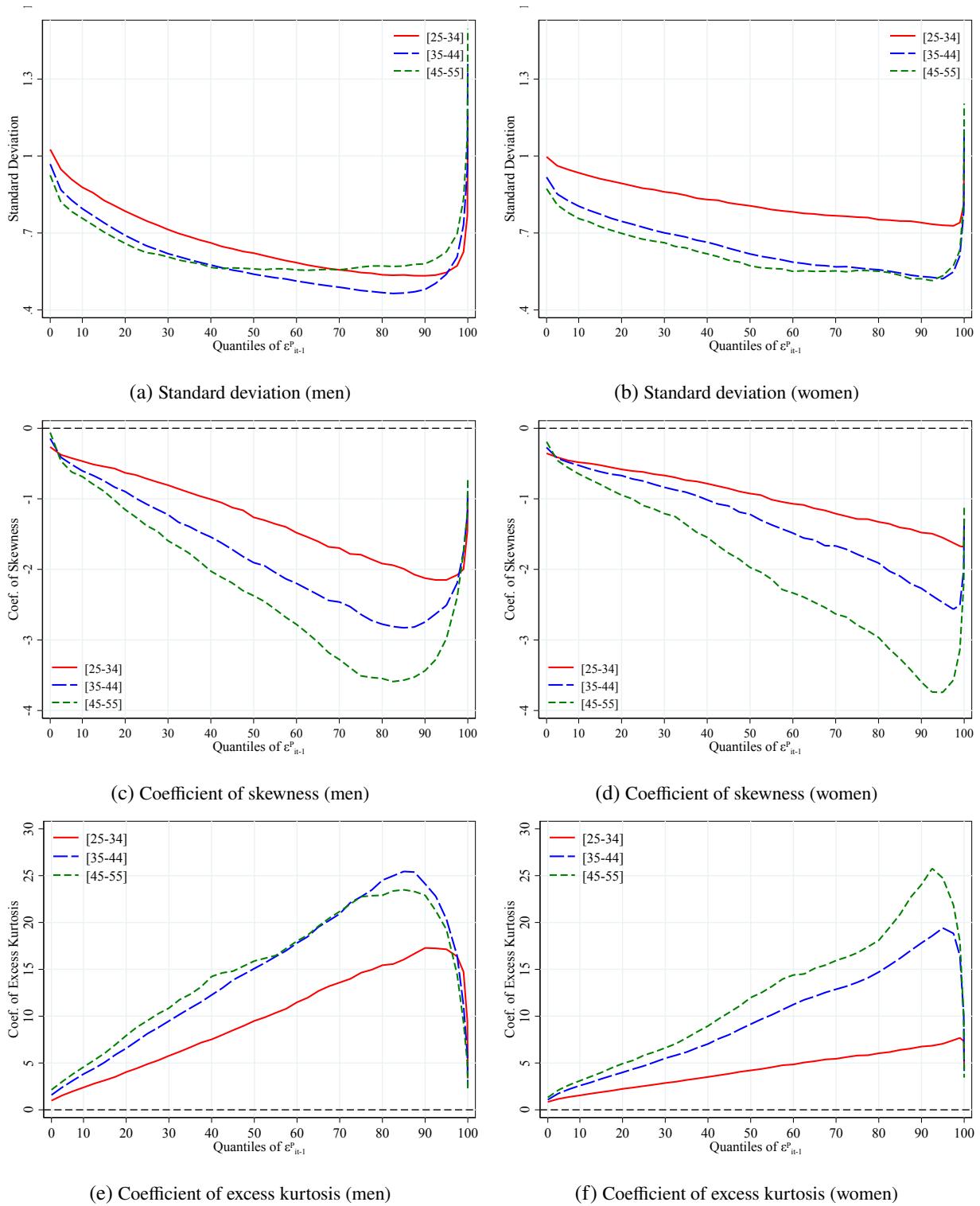


Figure A27: Central moment-based measures of dispersion, skewness, and excess kurtosis of  $\Delta^5 \varepsilon_{it}$  by permanent earnings and age group

## A.4 Mobility

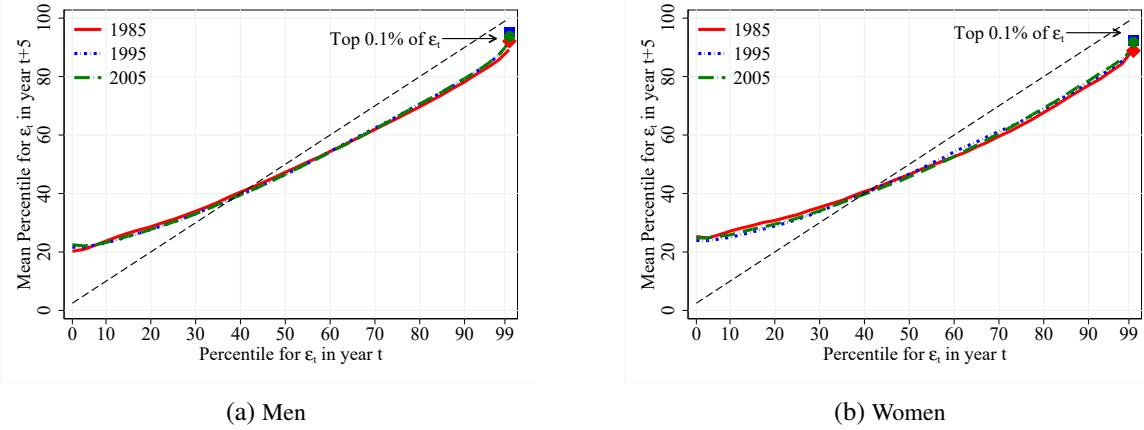


Figure A28: Evolution of five-year mobility of residuals  $\varepsilon_{i,t}$  over time

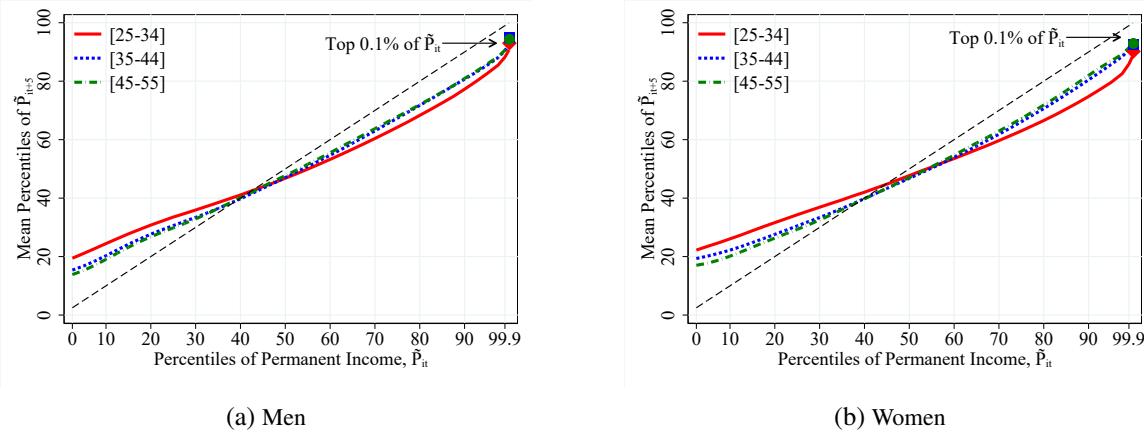


Figure A29: Five-year mobility in alternative permanent earnings,  $\tilde{P}_{i,t}$ , by age

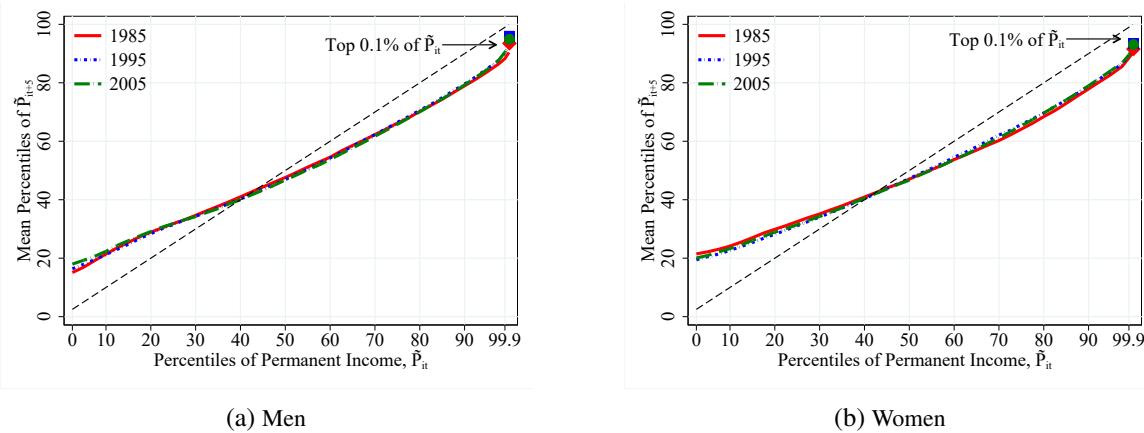


Figure A30: Evolution of five-year mobility in alternative permanent earnings,  $\tilde{P}_{i,t}$ , over time

Table A2: Transitions Across Deciles for  $\tilde{P}_{i,t}$  Over 5 and 10 Years Starting in 1985

(A) Five-year mobility		$t + 5$										
		$t$	decile 1	decile 2	decile 3	decile 4	decile 5	decile 6	decile 7	decile 8	decile 9	decile 10
decile 1	<b>40.5</b>		24.4	14.8	8.7	4.7	2.9	1.8	1.1	0.6	0.5	
decile 2	22.4		<b>26.6</b>	19.0	12.6	7.7	4.8	3.1	2.0	1.1	0.7	
decile 3	12.9		18.7	<b>23.1</b>	16.9	11.0	7.2	4.5	3.0	1.7	1.0	
decile 4	8.3		10.8	17.5	<b>22.8</b>	16.0	10.3	6.4	4.1	2.3	1.4	
decile 5	5.5		7.0	9.6	18.2	<b>25.1</b>	15.6	8.9	5.5	3.0	1.6	
decile 6	3.8		4.8	6.0	8.8	20.2	<b>26.3</b>	14.8	8.5	4.5	2.2	
decile 7	2.7		3.4	4.1	5.3	7.6	20.3	<b>27.8</b>	16.9	8.3	3.6	
decile 8	1.8		2.1	2.9	3.1	4.3	7.3	23.2	<b>31.7</b>	17.3	6.2	
decile 9	1.2		1.3	2.0	2.0	2.2	3.7	7.0	22.4	<b>40.5</b>	17.7	
decile 10	0.9		0.8	1.0	1.4	1.2	1.6	2.5	4.8	20.6	<b>65.2</b>	

(B) Ten-year mobility		$t + 10$										
		$t$	decile 1	decile 2	decile 3	decile 4	decile 5	decile 6	decile 7	decile 8	decile 9	decile 10
decile 1	<b>30.6</b>		22.3	16.0	11.1	7.2	4.8	3.1	2.4	1.5	1.0	
decile 2	20.2		<b>21.8</b>	17.5	13.3	9.3	6.6	4.4	3.4	2.2	1.4	
decile 3	13.8		16.8	<b>18.6</b>	15.6	11.7	8.6	5.9	4.4	2.9	1.8	
decile 4	10.1		11.7	15.1	<b>18.0</b>	15.0	11.1	7.5	5.5	3.6	2.3	
decile 5	7.5		8.4	10.3	16.0	<b>19.7</b>	14.8	9.8	6.6	4.3	2.6	
decile 6	5.6		6.3	7.4	9.7	<b>17.7</b>	<b>20.0</b>	14.3	9.6	5.9	3.5	
decile 7	4.5		4.9	5.7	6.5	8.8	17.7	<b>21.1</b>	15.7	9.9	5.3	
decile 8	3.3		3.5	4.3	4.6	5.2	9.1	21.1	<b>23.5</b>	16.8	8.6	
decile 9	2.4		2.4	3.0	3.1	3.2	4.7	9.3	22.1	<b>30.6</b>	19.2	
decile 10	2.0		1.8	2.0	2.2	2.1	2.5	3.5	6.9	22.4	<b>54.4</b>	

Notes: Each entry reflects the probability of moving from the decile reported for that row to the decile reported for the column.

## A.5 Inequality by age and cohort

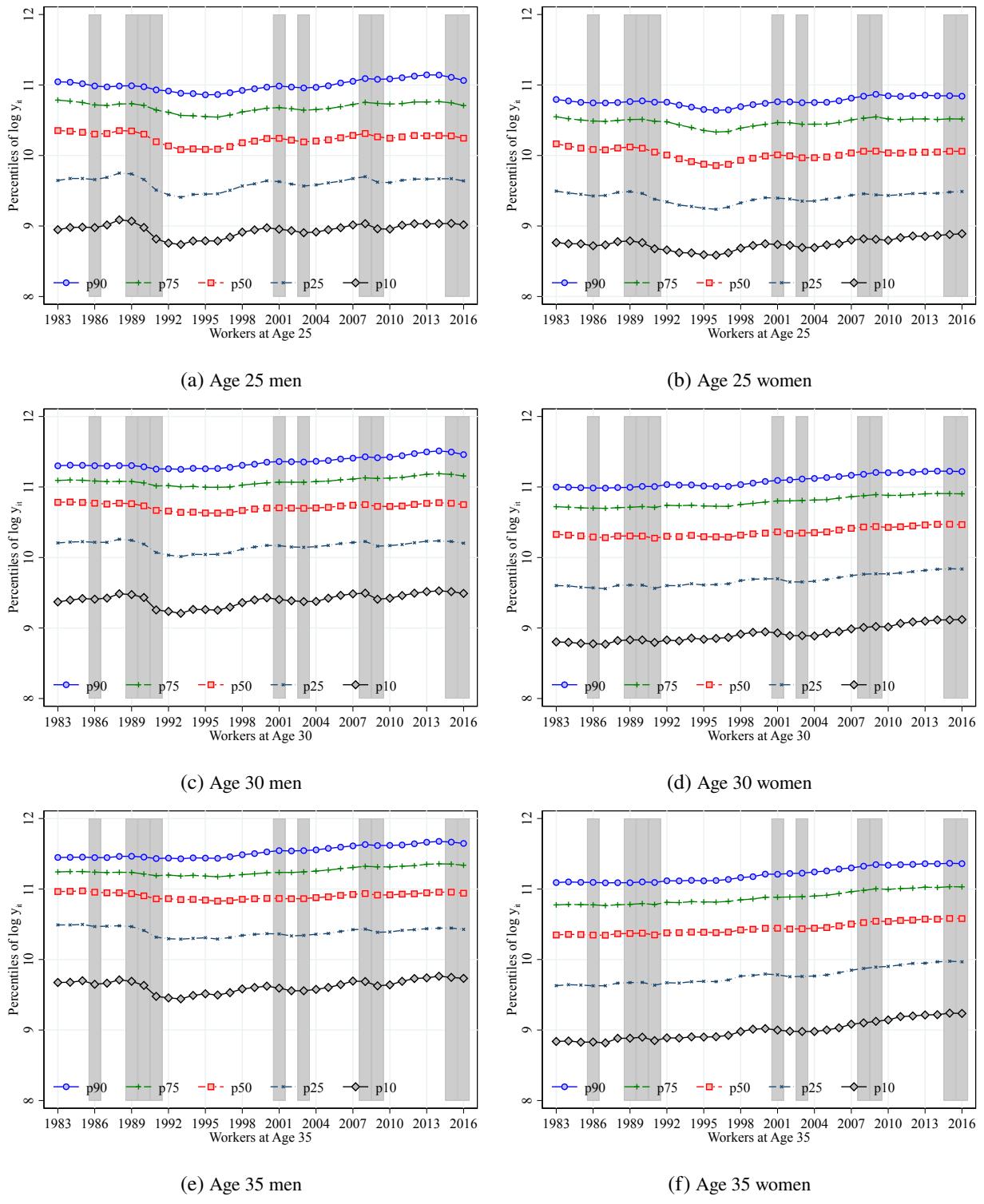


Figure A31: Percentiles of  $\log(y_{i,t})$  for workers by age

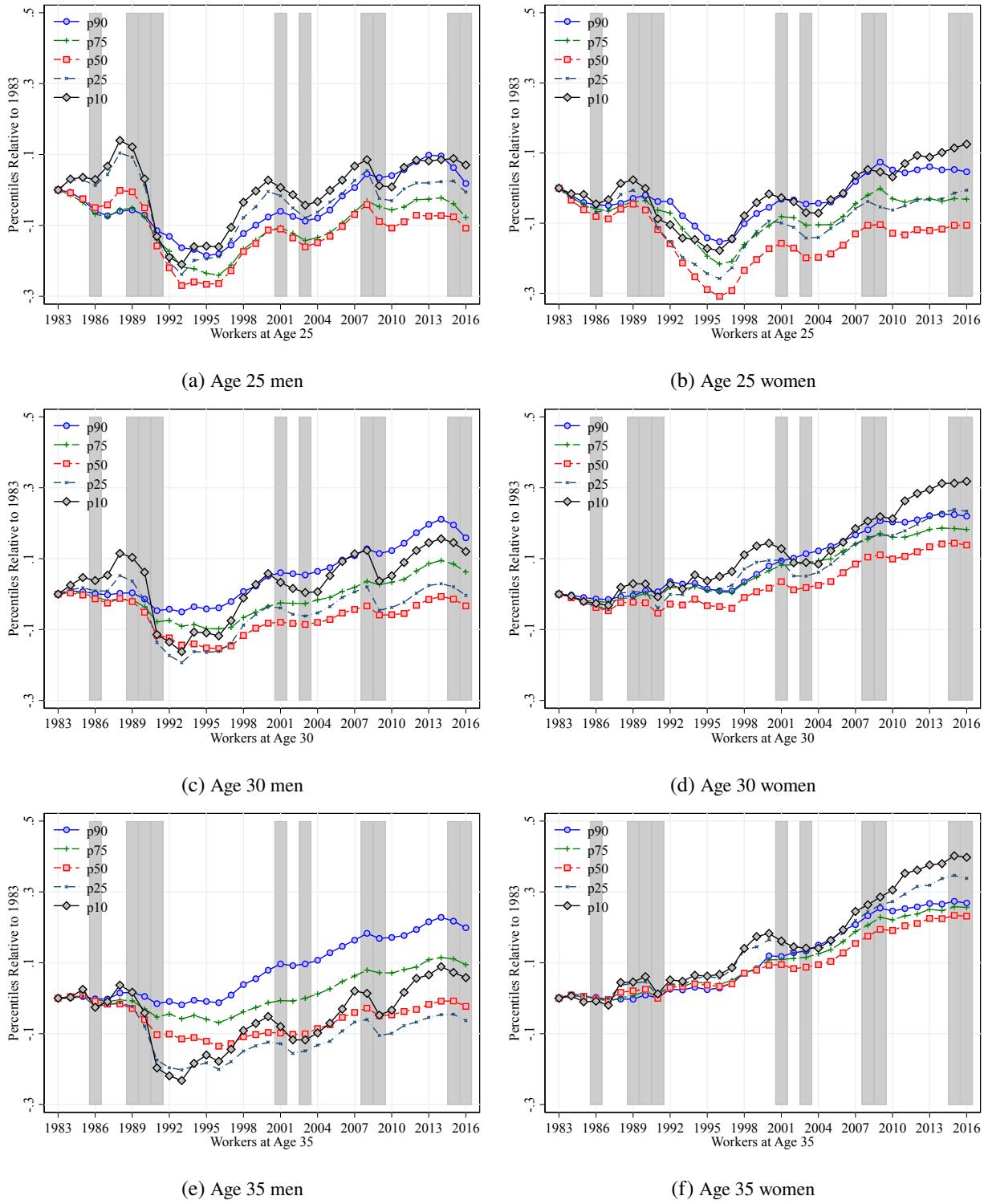


Figure A32: Changes in percentiles of  $\log(y_{i,t})$  for workers by age (1983=0)

## B Worker and firm dynamics

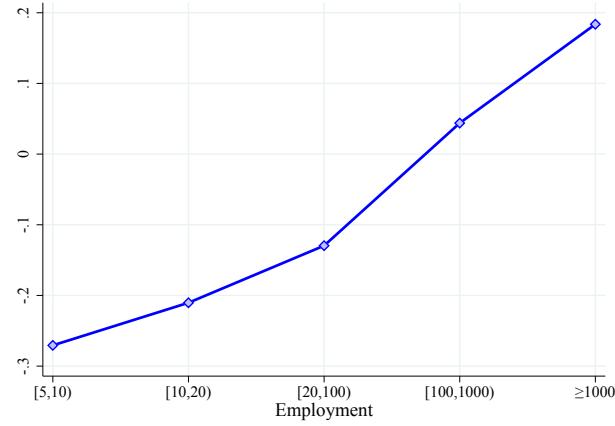


Figure B1: Average residual earnings by firm size groups

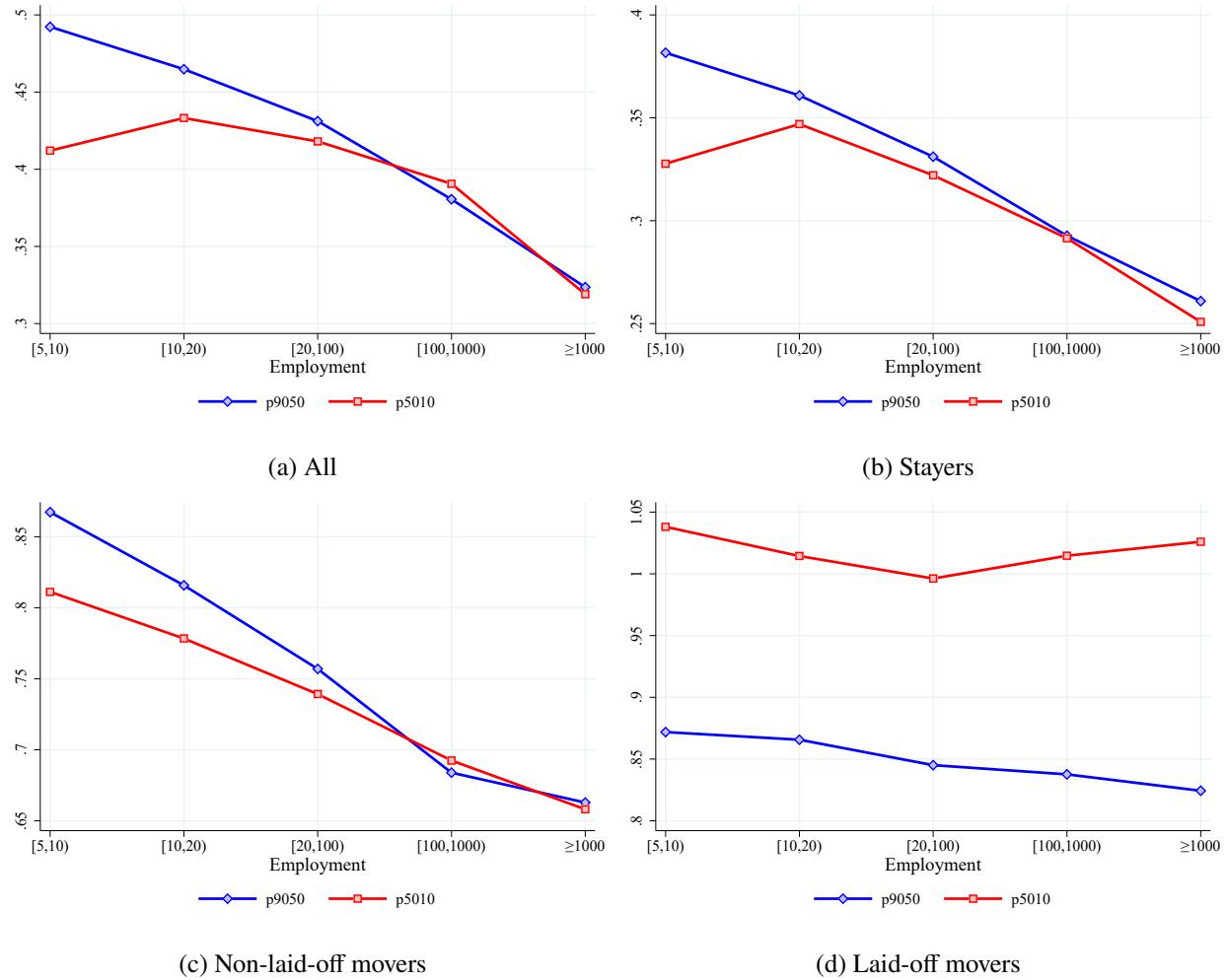


Figure B2: Residual earnings growth dispersion by initial firm size groups and mobility status

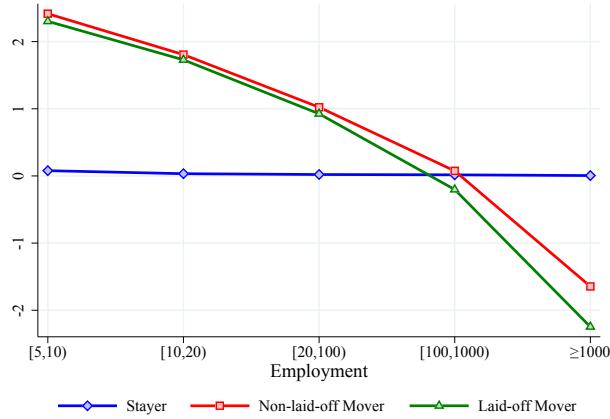


Figure B3: Average log change in firm size by initial firm size groups and mobility status

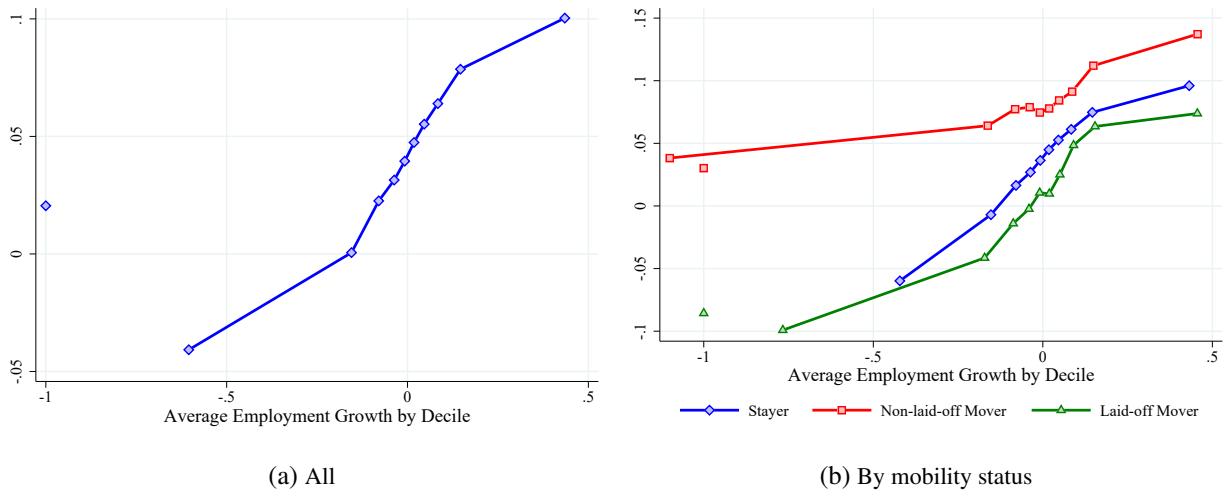


Figure B4: Average earnings growth by employment growth groups: including exiting firms

*Notes:* Connected dots represent individuals whose employer is in the sample in both periods  $t$  and  $t + 1$  (i.e., same as Figure 23). Unconnected dots represent individuals whose employer exits from the sample between periods  $t$  and  $t + 1$ . Because log change in the number of employees between periods  $t$  and  $t + 1$  is not defined for firms with zero employment in period  $t + 1$ , a value of -1 is assigned to the employment growth of exiting firms.

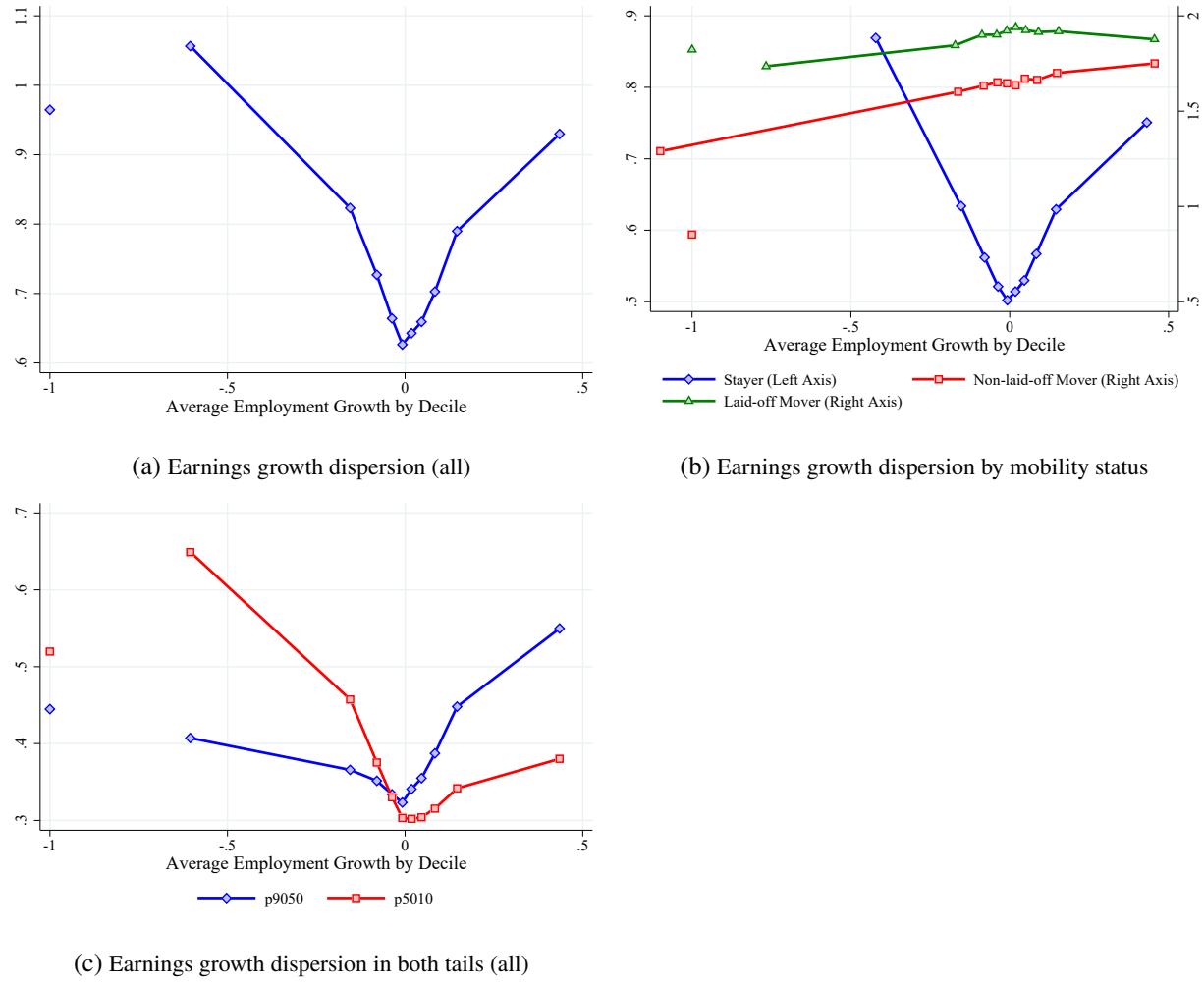


Figure B5: Residual earnings growth dispersion by employment growth groups: including exiting firms

*Notes:* Connected dots represent individuals whose employer is in the sample in both periods  $t$  and  $t + 1$  (i.e., same as Figure 25). Unconnected dots represent individuals whose employer exits from the sample between periods  $t$  and  $t + 1$ . Because log change in the number of employees between periods  $t$  and  $t + 1$  is not defined for firms with zero employment in period  $t + 1$ , a value of -1 is assigned to the employment growth of exiting firms.