Online Appendix for *A Short-Run View of What Computers Do: Evidence from a U.K. Tax Incentive*[1]

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In this Appendix, we provide auxiliary specifications and sensitivity analyses mentioned in the main text. The structure of the appendix largely follows the structure of the main text.

1. Validity of the Research Design

Table 1 presents point estimates (based on Calonico, Cattaneo and Titiunik, 2014) corresponding to the linear RD graphs in the main text for age, land and buildings, as well as vehicles. Columns 1, 4, and 7, report results for the optimal bandwidth based on Calonico et al. (2014) while the remaining columns vary the bandwidth around the Calonico et al. (2014) optimum. Note that other non-ICT capital investment will be included in the main results tables below (Table 3), together with software and hardware investment. Figures 1 and 2 present quadratic versions of the linear graphical RD representations in the main text.

Table 1: Discontinuity at 50 Employees: Firm Age & Non-ICT Investment

	Firm Age			Land & Buildings			Vehicles		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A. Treatment (2000-2004), Local Linear									
RD	-0.491	-0.5267	-0.3021	-70.8312	-66.7919	-58.3798	-16.9968	-21.596	-25.656
	(0.4985)	(0.5584)	(0.461)	(78.9952)	(62.3235)	(89.8526)	(50.3869)	(52.1278)	(48.235)
Obs.	91	71	106	118	108	128	127	117	137
Bw.	45	35	55	67	57	77	76	66	86

Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variables are firm age, investment in land and buildings, as well as vehicle investment based on the QCES. The optimal bandwidth (columns 1, 3, and 7) is determined according to Calonico et al. (2014) and the data are aggregated to the optimal firm-size bin level. The remaining columns show symmetric perturbations of the bandwidth around the Calonico et al. (2014) optimum. Robust standard errors based on Calonico et al. (2014) are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

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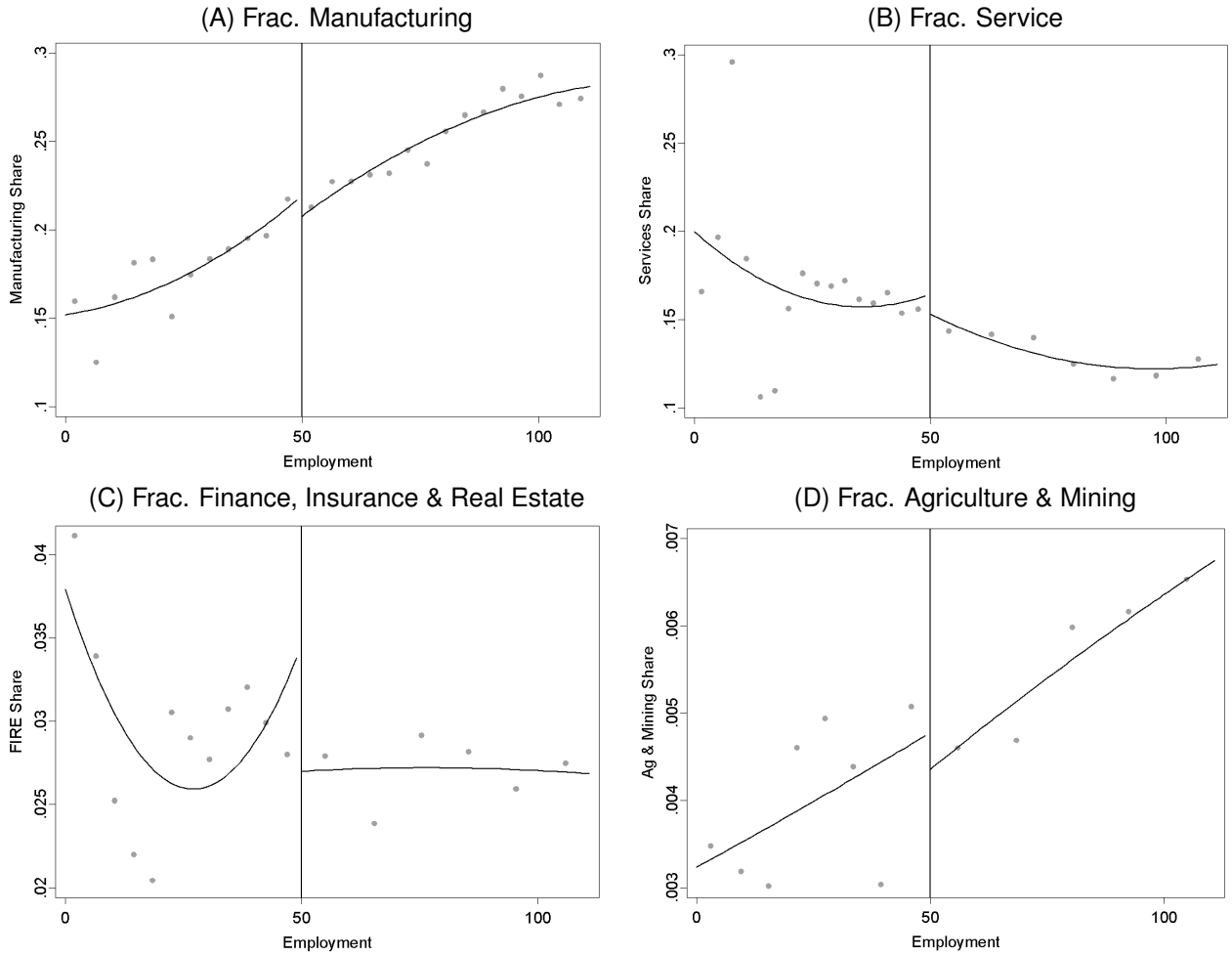
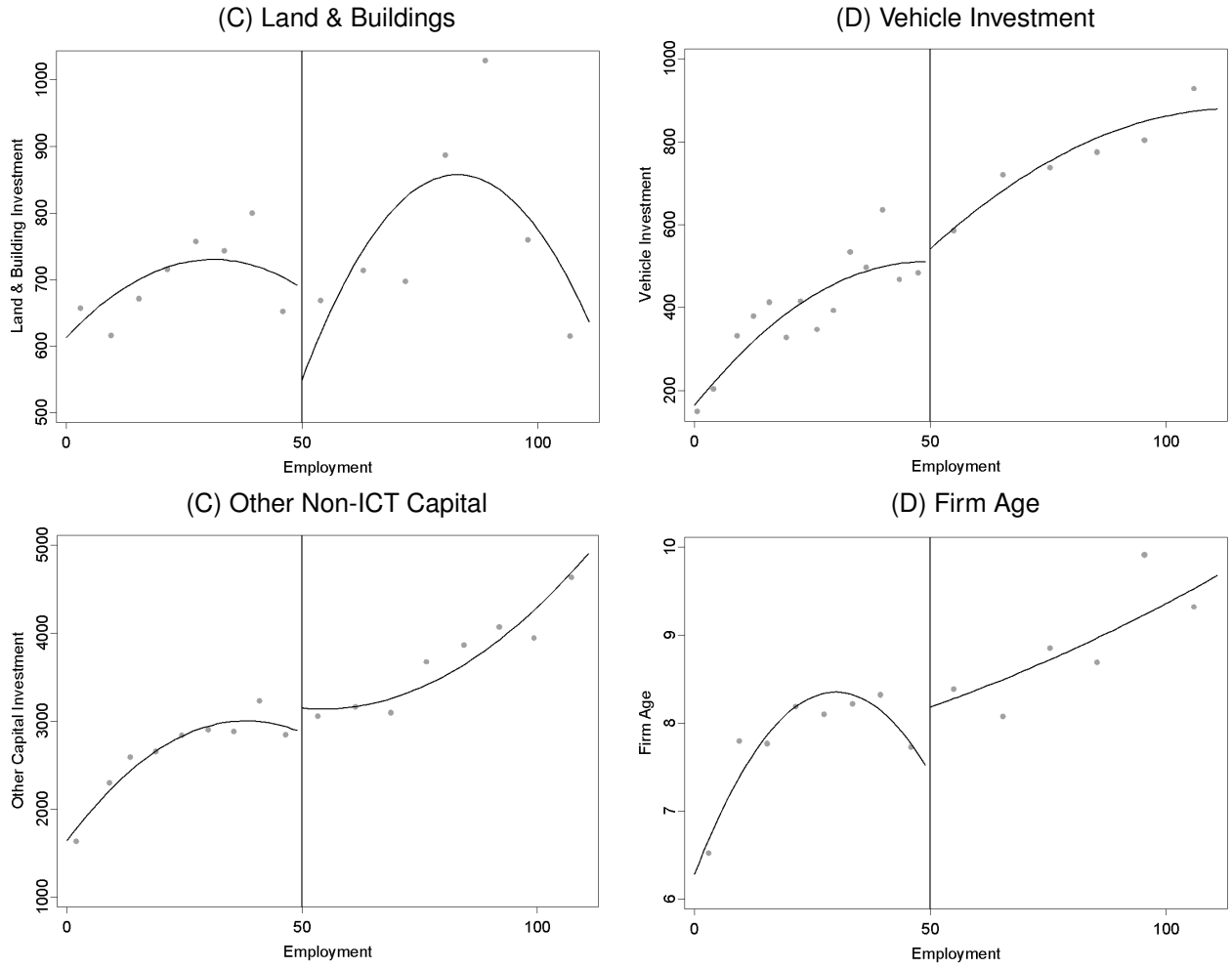
Figure 1: Industry Composition (Quadratic)



Notes: The figures illustrate the average fraction of manufacturing (panel A), service (panel B), finance, insurance, and real estate (panel C), and agriculture and mining firms (panel D) by firm employment. For these figures we choose the optimal bin size to the left and the right of the 50 employee cutoff based on the methods described in Calonico, Cattaneo and Titiunik (2015). The lines are fitted quadratic polynomials. The graphs are based on the UK Quarterly Capital Expenditure Survey (QCES).

Figure 2: Non-ICT Investment & Firm Age: 2001-2004 (quadratic)



Notes: The figures illustrate investment in land and buildings (panel A), vehicles (panel B), and other non-ICT capital (panel C) by firm employment. Panel (D) illustrates firm age along the employment distribution. For these figures we choose the optimal bin size to the left and the right of the 50 employee cutoff based on the methods described in Calonico et al. (2015). The lines are fitted quadratic polynomials. The graphs are based on the UK Quarterly Capital Expenditure Survey (QCES).

Table 2: Discontinuity in Investment: Controlling for Covariates

	Software (1)	Hardware (2)	Other Capital (3)
Local Linear: Treatment Period (2000-2004)			
RD Estimate	108.0964***	23.1870**	-42.9716
	(30.1744)	(9.0823)	(210.0873)
Covariates	age, turnover	age, turnover	age, turnover
Observations	75	79	107
Bandwidth	33	35	49

Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text, including age and turnover (revenue) as additional covariates, based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variables are investment in software, hardware, and other capital. The optimal bandwidth is determined according to Calonico et al. (2014) and the data are aggregated to the optimal firm-size bin level. Robust standard errors based on Calonico et al. (2014) are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

2. Results

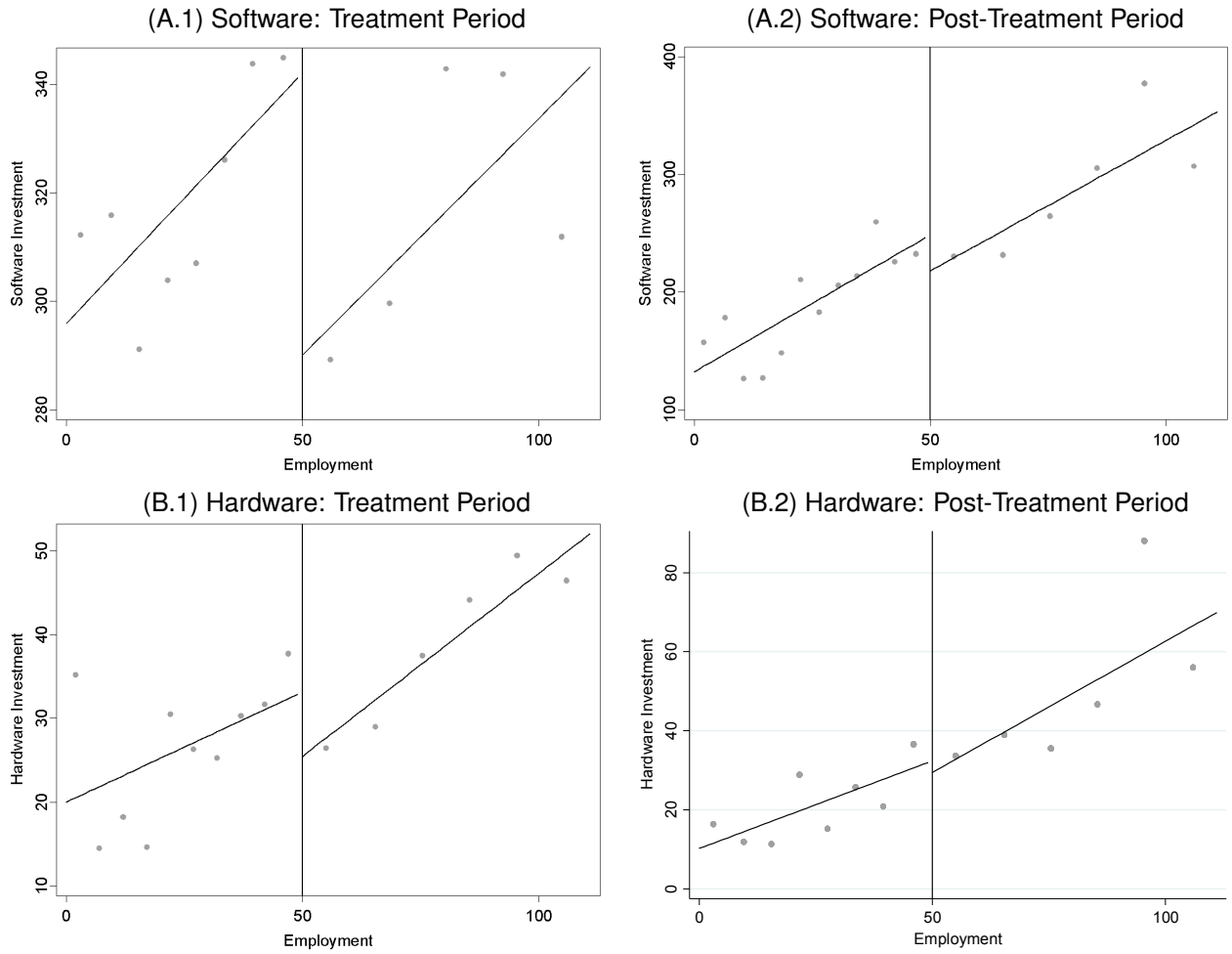
2.1. Firm Response to the Tax Incentive

Figures 3 and 4 display linear and quadratic representations of the RD during the treatment (2001-2004) and the post-treatment (2005-2007) periods. Table 3 reports the corresponding point estimates based on Calonico et al. (2014).

Moreover, panel A.2 of the table reports a set of specifications in which we drop firms with 48-50 employees, those just below the eligibility threshold. As mentioned in the main text, theres are the firms that are most likely to have strategically selected their firm size (either by firing workers or delaying hiring decisions). Reassuringly, the point estimates for this specification are very close to the ones of our main specification, suggesting that strategic size manipulation is likely not a major concern for our main results.

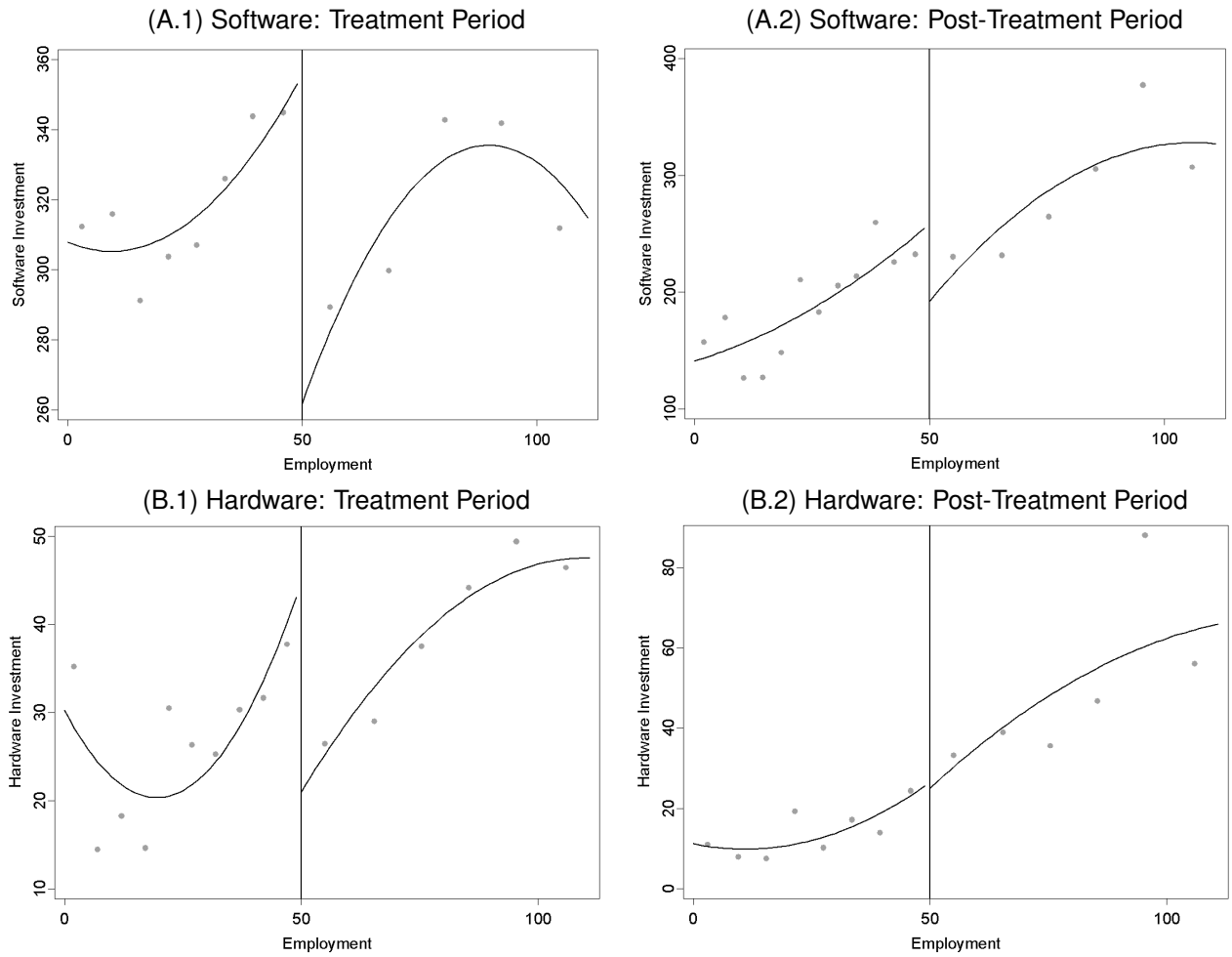
Finally, Table 2 reports results when we re-estimates the main specification including age and turnover (revenue) as additional covariates. Again, the results are virtually unaffected.

Figure 3: ICT Investment by Firm-Level Employment (linear)



Notes: Panel A illustrates software investment along the firm size distribution for both the Treatment period (2001-2004, panel A.1) and the post-treatment period (2004-2008, panel A.2). Panel B shows analogous figures for hardware investment. For these figures we choose the optimal bin size to the left and the right of the 50 employee cutoff based on the methods described in Calonico et al. (2015). The lines are fitted linear regressions. The graphs are based on the UK Quarterly Capital Expenditure Survey (QCES).

Figure 4: ICT Investment by Firm-Level Employment (quadratic)



Notes: Panel A illustrates software investment along the firm size distribution for both the Treatment period (2001-2004, panel A.1) and the post-treatment period (2004-2008, panel A.2). Panel B shows analogous figures for hardware investment. For these figures we choose the optimal bin size to the left and the right of the 50 employee cutoff based on the methods described in Calonico et al. (2015). The lines are fitted quadratic polynomials. The graphs are based on the UK Quarterly Capital Expenditure Survey (QCES).

Table 3: Discontinuity at 50 Employees: Investment

	Software			Hardware			Other Capital		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A Treatment (2000-2004)									
A.1. Local Linear									
RD	70.9158***	92.3127***	100.8518***	13.2712**	14.9085**	12.5614*	-14.5403	-46.3163	49.3793
	(24.2217)	(25.9303)	(21.7622)	(6.0726)	(6.8051)	(7.8807)	(233.4556)	(253.4105)	(233.1887)
Obs.	75	55	95	81	61	201	107	93	117
Bw.	37	27	47	40	30	50	56	46	66
A.2. Local Linear (omitting firm sizes 48-50)									
RD	65.4152***	106.4651***	88.8663***	14.7030**	16.8313**	9.464	-56.136	-14.2496	5.5548
	(24.8503)	(24.3542)	(22.0888)	(6.706)	(7.613)	(5.7892)	(256.5461)	(294.2663)	(255.3492)
Obs.	74	54	94	78	58	98	102	86	112
Bw.	38	28	48	40	30	50	54	44	64
A.3. Quadratic									
RD	146.8715***	80.5625**	132.1849***	20.4208**	17.2867*	22.0102**	118.4594	278.8933	235.6719
	(30.2024)	(34.699)	(30.0628)	(8.5897)	(10.0678)	(8.9464)	(339.6055)	(382.8383)	(328.4223)
Obs.	85	65	103	89	69	105	79	59	99
Bw.	42	32	52	44	34	54	39	29	49
B Post-Treatment (2005-2007)									
B.1. Local Linear									
RD	-27.6205	-19.1638	-22.5977	-10.442	-6.6003	-16.3032	-208.0195	127.9816	-182.6364
	(25.7599)	(28.5065)	(23.5721)	(9.5774)	(10.2133)	(18.937)	(153.9913)	(154.9679)	(141.5974)
Obs.	75	55	95	123	113	133	81	61	101
Bw.	37	27	47	72	62	82	40	30	50
B.2. Quadratic									
RD	24.2258	19.2279	36.4061	-1.4089	-10.7476	7.3493	177.2742	240.0632	271.5503
	(31.1736)	(31.7917)	(30.3512)	(14.1003)	(14.8259)	(13.6929)	(182.077)	(202.4648)	(225.2189)
Obs.	111	101	121	121	111	131	89	69	105
Bw.	60	50	70	70	60	80	44	34	54

Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variables are software, hardware, and other (non-ICT, non-vehicle, non-land/building) investment. Panel A reports estimates for 2000-2004 (treatment) while panel B shows those for 2005-2007 (post-treatment). Panels A.1 and B.1 show local linear estimates, panel A.1 drops firms of sizes 48-50, while panels A.3 and B.2 show estimates based on quadratic polynomials. The optimal bandwidth (columns 1, 3, and 7) is determined according to Calonico et al. (2014) and the data are aggregated to the optimal firm-size bin level. The remaining columns show symmetric perturbations of the bandwidth around the Calonico et al. (2014) optimum. Robust standard errors based on Calonico et al. (2014) are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

3. The Short-Run Effect of ICT on Labor Demand within the Firm

Table 4 shows average worker effects for earnings and hours based on the ASHE during the treatment period (2000-2004). Panel A reports the main specification, while panels B an C report specifications excluding firm sizes 48-50 and quadratic specifications, respectively. Reassuringly, the results are very robust across specifications.

Table 5 shows average effects based on linear specifications for the pre-treatment, treatment, and post-treatment periods, respectively. Figures 5 and 6 display the corresponding linear and quadratic graphical illustrations.

Table 4: Discontinuity in Weekly Earnings and Hours at 50 Employees (Treatment)

	Weekly Earnings			Weekly Hours		
	(1)	(2)	(3)	(4)	(5)	(6)
A. Treatment (2000-2004): Local Linear						
RD Estimate	23.0448***	19.8807***	25.1278***	0.8879***	0.8003***	1.0139***
	(4.5754)	(4.7904)	(4.405)	(0.2576)	(0.2763)	(0.243)
Observations	101	91	106	95	85	103
Bandwidth	50	45	55	47	42	52
B. Treatment (2000-2004): Local Linear, excluding firm size 48-50						
RD Estimate	31.9102***	29.6329***	32.7238***	1.2618***	1.1839***	1.3825***
	(5.2868)	(5.5939)	(5.0897)	(0.2273)	0.2416	(0.2196)
Observations	102	96	107	94	84	101
Bandwidth	54	49	59	48	43	53
C. Treatment (2000-2004): Quadratic						
RD Estimate	28.6883***	26.9989***	29.8362***	1.1981**	1.2011**	1.1990**
	(9.5467)	(10.0207)	(9.1907)	(0.562)	0.2416	(0.5319)
Observations	112	107	117	103	95	108
Bandwidth	61	56	66	52	47	57

Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variables are weekly earnings and weekly hours based on the ASHE. Panel A reports the baseline specification, panel B reports specifications that exclude firms with 48-50 employees, and panel C reports a quadratic specification structured in analogy to panel A. The optimal bandwidth (columns 1 and 4) is determined according to Calonico et al. (2014) and the data are aggregated to the optimal firm-size bin level. The remaining columns show symmetric perturbations of the bandwidth around the Calonico et al. (2014) optimum. Robust standard errors based on Calonico et al. (2014) are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

Table 5: Discontinuity in Weekly Earnings and Hours at 50 Employees (Pre/Treat/Post)

	Weekly Earnings			Weekly Hours		
	(1)	(2)	(3)	(4)	(5)	(6)
A. Pre Treatment (1997-1999): Local Linear						
RD Estimate	-1.5544	-1.4386	-1.9278	0.1725	0.1122	0.133
	(4.9608)	(4.9971)	(4.9537)	(0.235)	0.2416	(0.2297)
Observations	118	113	123	124	119	129
Bandwidth	67	62	72	73	68	78
B. Treatment (2000-2004): Local Linear						
RD Estimate	23.0448***	19.8807***	25.1278***	0.8879***	0.8003***	1.0139***
	(4.5754)	(4.7904)	(4.405)	(0.2576)	(0.2763)	(0.243)
Observations	101	91	106	95	85	103
Bandwidth	50	45	55	47	42	52
C. Post Treatment (2005-2007): Local Linear						
RD Estimate	4.6277	3.9461	5.1422	0.1901	0.143	0.1559
	(6.3052)	(6.328)	(6.303)	(0.2387)	0.2416	(0.228)
Observations	112	107	117	81	71	91
Bandwidth	61	56	66	40	35	45

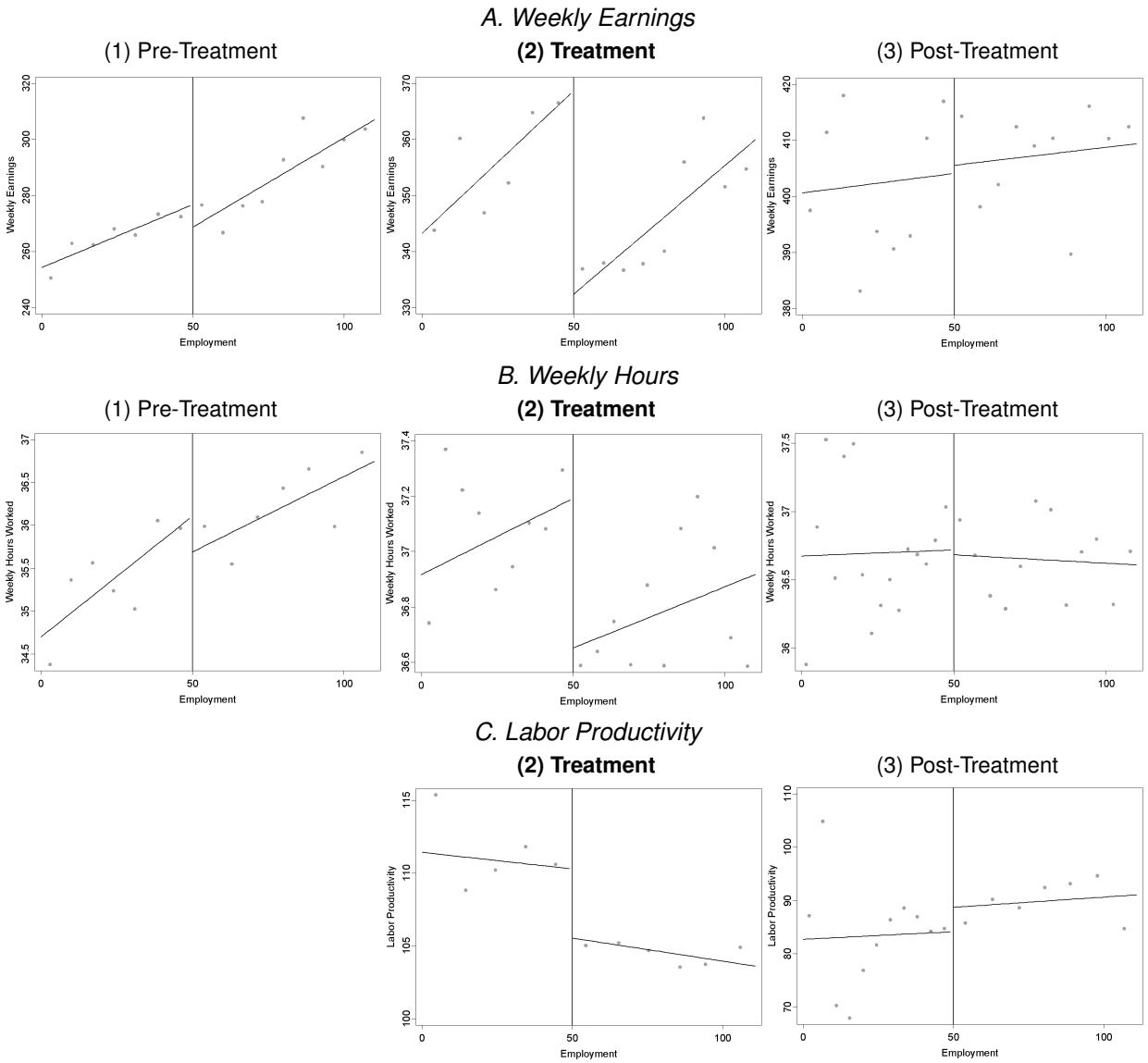
Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variables are weekly earnings and weekly hours based on the ASHE. Panel A reports estimates for the three-year pre-treatment period (1997-1999), panel B for the treatment period (2000-2004), and panel C for the three-year post-treatment period (2005-2007). The optimal bandwidth (columns 1 and 4) is determined according to Calonico et al. (2014) and the data are aggregated to the optimal firm-size bin level. The remaining columns show symmetric perturbations of the bandwidth around the Calonico et al. (2014) optimum. Robust standard errors based on Calonico et al. (2014) are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

Table 6: Discontinuity in Labor Productivity

	Treatment Period (2000-2004)			Post-Treatment Period (2005-2007)		
	(1)	(2)	(3)	(4)	(5)	(6)
A. Local Linear						
RD Estimate	11.3953***	10.7662**	10.4029***	0.2638	1.6113	0.2041
	(3.4231)	(4.1948)	(2.944)	(2.8218)	(2.9775)	(2.6173)
Observations	67	47	87	67	47	87
Bandwidth	33	23	43	33	23	43
B. Quadratic						
RD Estimate	4.5675**			4.273		
	(2.0532)			(3.7831)		
Observations	66			87		
Bandwidth	48.26			43.21		

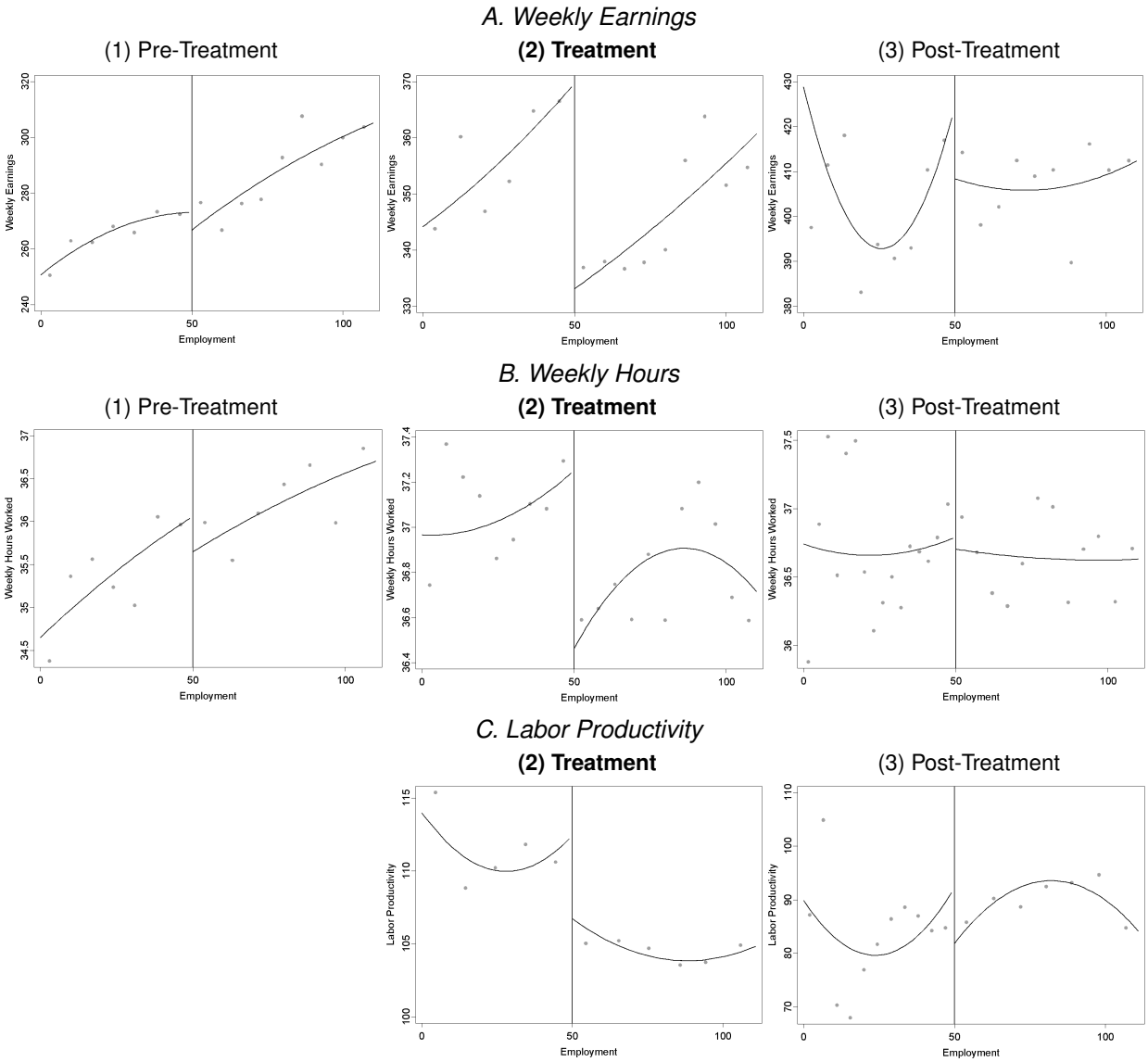
Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variable is labor productivity (revenue per worker) as reported in the QCES. Panel A reports local linear estimates while panel B reports quadratic estimates for the optimal bandwidth. The optimal bandwidth (columns 1 and 4) is determined according to Calonico et al. (2014) and the data are aggregated to the optimal firm-size bin level. For the linear specifications, the remaining columns show symmetric perturbations of the bandwidth around the Calonico et al. (2014) optimum. Robust standard errors based on Calonico et al. (2014) are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

Figure 5: Average Earnings, Hours, & Labor Productivity (linear)



Notes: The figures display RD plots for the pre-treatment period (1, 1997-1999), the treatment period (2, 2001-2004) and the post-treatment period (3, 2005-2008). Panel A and B are based on the ASHE and display weekly earnings and hours, respectively. Panel C shows labor productivity (revenue per worker) drawn from the QCES. Our QCES sample starts in 2001 so we cannot report estimates for the pre-treatment period. Also, while we have ASHE data for 2000 we chose to display 2001-2004 for consistency with our QCES sample. For these figures we choose the optimal bin size to the left and the right of the 50 employee cutoff based on the methods described in Calonico et al. (2015). The lines are fitted linear regressions.

Figure 6: Average Earnings, Hours, & Labor Productivity (quadratic)



Notes: The figures display RD plots for the pre-treatment period (1, 1997-1999), the treatment period (2, 2001-2004) and the post-treatment period (3,2005-2008). Panel A and B are based on the ASHE and display weekly earnings and hours, respectively. Panel C shows labor productivity (revenue per worker) drawn from the QCES. Our QCES sample starts in 2001 so we cannot report estimates for the pre-treatment period. Also, while we have ASHE data for 2000 we chose to display 2001-2004 for consistency with our QCES sample. For these figures we choose the optimal bin size to the left and the right of the 50 employee cutoff based on the methods described in Calonico et al. (2015). The lines are fitted quadratic polynomials.

3.1. The Impact of ICT Investments on Workplace Tasks

Tables 7 through 10 display point estimates for weekly earnings and hours in Non-Routine Cognitive/Manual and Routine Cognitive/Manual occupations. As in the previous sections, we report a host of specifications to illustrate the robustness of our main results: linear vs. quadratic specifications; optimal vs. alternative bandwidths; pre-treatment, treatment, and post-treatment. Figures 7 through 10 show the corresponding graphical illustrations.

Table 7: Discontinuity at 50 Employees: Non-Routine Cognitive Workers

	Weekly Earnings			Weekly Hours		
	(1)	(2)	(3)	(4)	(5)	(6)
A Pre Treatment (1997-1999)						
A.1. Local Linear						
RD Estimate	10.6103	10.9169	10.0972	0.4607	0.4841	0.4799
	(10.4049)	(10.3712)	(10.4925)	(0.3513)	(0.3613)	(0.3421)
Observations	110	105	115	109	104	114
Bandwidth	59	54	64	58	53	63
A.2. Quadratic						
RD Estimate	10.6008	10.9169	10.0972	0.4607	0.4841	0.4799
	(10.4049)	(10.3712)	(10.4925)	(0.3513)	(0.3613)	(0.3421)
Observations	110	105	115	109	104	114
Bandwidth	59.71	54.71	64.71	58.63	53.63	63.63
B Treatment (2000-2004)						
B.1. Local Linear						
RD Estimate	42.3821***	42.3080***	42.3636***	0.5285**	0.4942**	0.5531**
	(11.6154)	(12.11)	(11.2113)	(0.2215)	(0.2288)	(0.2164)
Observations	114	109	119	117	112	122
Bandwidth	63	58	68	66	61	71
B.2. Quadratic						
RD Estimate	53.1045**	46.2357*	58.6402**	0.6728*	0.6797*	0.7071**
	(26.1762)	(27.8213)	(24.8781)	(0.3312)	(0.3485)	(0.3148)
Observations	107	102	112	110	105	115
Bandwidth	56.7	51.7	61.7	59.56	54.56	64.56
C. Post Treatment (2005-2007)						
C.1. Local Linear						
RD Estimate	8.9044	8.5758	9.0559	0.1378	0.1158	0.1344
	(14.0963)	(14.261)	(13.9613)	(0.2866)	(0.2962)	(0.279)
Observations	115	110	120	106	101	111
Bandwidth	64	59	69	55	50	60
C.2. Quadratic						
RD Estimate	2.1823	1.9229	2.6672	-0.0697	-0.0618	-0.052
	(21.0708)	(21.4131)	(20.856)	(0.3935)	(0.405)	(0.3875)
Observations	111	106	116	105	99	110
Bandwidth	60.22	55.22	65.22	54.58	49.58	59.58

Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variables are weekly earnings and hours for non-routine, cognitive workers in the ASHE. The optimal bandwidth (columns 1 and 4) is determined according to Calonico et al. (2014) and the data are aggregated to the optimal firm-size bin level. For the linear specifications, the remaining columns show symmetric perturbations of the bandwidth around the Calonico et al. (2014) optimum. Robust standard errors based on Calonico et al. (2014) are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

Table 8: Discontinuity at 50 Employees: Routine Cognitive Workers

	Weekly Earnings			Weekly Hours		
	(1)	(2)	(3)	(4)	(5)	(6)
A Pre Treatment (1997-1999)						
A.1. Local Linear						
RD Estimate	1.3272	2.1007	0.5317	-0.3766	-0.3221	-0.4362
	(4.8991)	(4.9741)	(4.8577)	(0.4881)	(0.5059)	(0.4745)
Observations	111	106	116	112	107	117
Bandwidth	60	55	65	61	56	66
A.2. Quadratic						
RD Estimate	9.7838	10.283	9.6253	-0.5557	-0.4892	-0.5992
	(8.1635)	(8.3106)	(8.0597)	(0.9543)	(1.0084)	(0.9105)
Observations	110	105	115	109	104	114
Bandwidth	59.31	54.31	64.31	58.06	53.06	63.06
B Treatment (2000-2004)						
B.1. Local Linear						
RD Estimate	-8.6142*	-11.2969**	-7.9248*	-0.5259*	-0.6751**	-0.5598*
	(4.797)	(5.0502)	(4.9782)	(0.307)	(0.3219)	(0.2929)
Observations	95	85	103	93	83	102
Bandwidth	47	42	52	46	41	51
B.2. Quadratic						
RD Estimate	-11.3290***	-12.0648***	-10.2958***	-0.8440**	-0.7140***	-0.6646**
	(3.1986)	(3.2898)	(2.1174)	(0.3084)	(0.2111)	(0.2643)
Observations	112	107	117	113	108	118
Bandwidth	61.28	56.28	66.28	62.75	57.75	67.75
C. Post Treatment (2005-2007)						
C.1. Local Linear						
RD Estimate	4.021	3.9724	4.0785	0.2714	0.2288	0.4168
	(6.985)	(7.2275)	(6.7938)	(0.3422)	(0.3578)	(0.3298)
Observations	113	108	118	95	85	103
Bandwidth	62	57	67	47	42	52
C.2. Quadratic						
RD Estimate	3.6901	4.6759	3.1543	-0.1574	-0.0348	-0.2951
	(11.7407)	(12.2401)	(11.3375)	(0.4563)	(0.4615)	(0.4577)
Observations	110	105	115	106	101	111
Bandwidth	59.43	54.43	64.43	55.13	50.13	60.13

Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variables are weekly earnings and hours for routine, cognitive workers in the ASHE. The optimal bandwidth (columns 1 and 4) is determined according to Calonico et al. (2014) and the data are aggregated to the optimal firm-size bin level. For the linear specifications, the remaining columns show symmetric perturbations of the bandwidth around the Calonico et al. (2014) optimum. Robust standard errors based on Calonico et al. (2014) are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

Table 9: Discontinuity at 50 Employees: Routine Manual Workers

	Weekly Earnings			Weekly Hours		
	(1)	(2)	(3)	(4)	(5)	(6)
A Pre Treatment (1997-1999)						
A.1. Local Linear						
RD Estimate	-5.9948	-5.7845	-5.9217	0.1175	0.113	0.1044
	(3.8093)	(3.9516)	(3.6938)	(0.1576)	(0.1752)	(0.1429)
Observations	115	110	120	120	115	125
Bandwidth	64	59	69	69	64	74
A.2. Quadratic						
RD Estimate	-2.7503	-2.4147	-3.2676	-1.1185	-1.0262	-1.1684
	(6.1749)	(6.3704)	(6.0081)	(1.031)	(1.0493)	(1.0145)
Observations	113	108	118	121	116	126
Bandwidth	62.25	57.25	67.25	70.2	65.2	75.2
B Treatment (2000-2004)						
B.1. Local Linear						
RD Estimate	-6.3721	-5.4125	-5.7742	-0.1107	-0.1729	-0.1737
	(4.7223)	(4.8945)	(4.5762)	(0.5353)	(0.5569)	(0.5178)
Observations	116	111	121	111	106	116
Bandwidth	65	60	70	60	55	65
B.2. Quadratic						
RD Estimate	-13.2326*	-13.1253	-12.6186	-0.5795	-0.5	-0.6009
	(7.1006)	(8.254)	(8.9699)	(0.8565)	(0.8814)	(0.8366)
Observations	116	111	121	113	108	118
Bandwidth	65.38	60.38	70.38	62.38	57.38	67.38
C. Post Treatment (2005-2007)						
C.1. Local Linear						
RD Estimate	2.9715	4.049	1.7887	-0.1731	-0.2397	-0.2054
	(4.9241)	(4.9646)	(4.8872)	(0.5301)	(0.5535)	(0.5198)
Observations	116	111	121	105	99	110
Bandwidth	65	60	70	54	49	59
C.2. Quadratic						
RD Estimate	5.8097	5.088	6.6273	-0.5675	-0.4995	-0.6194
	(7.7878)	(7.906)	(7.687)	(0.7825)	(0.7894)	(0.776)
Observations	112	107	117	113	108	118
Bandwidth	61.33	56.33	66.33	62.24	57.24	67.24

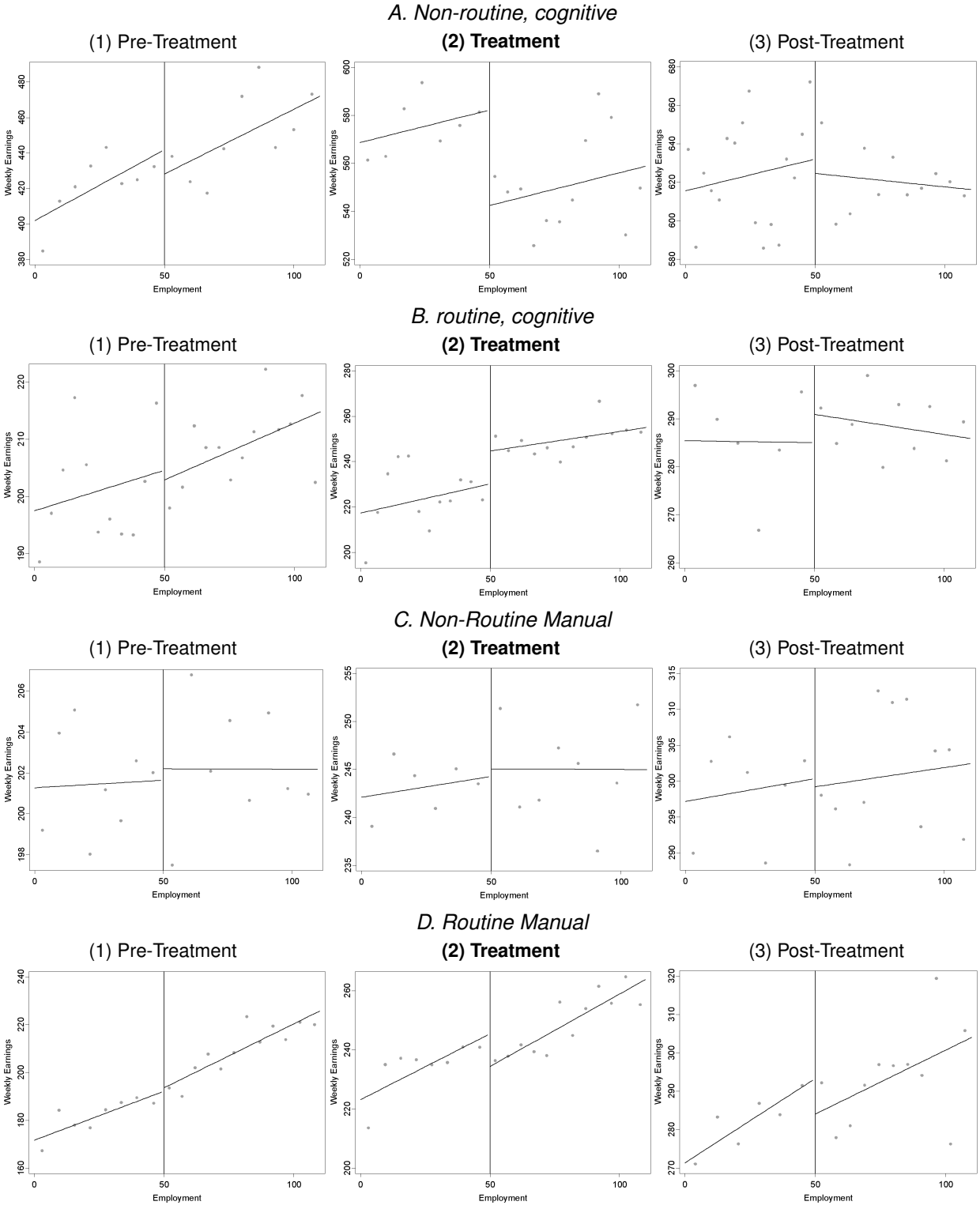
Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variables are weekly earnings and hours for routine, manual workers in the ASHE. The optimal bandwidth (columns 1 and 4) is determined according to Calonico et al. (2014) and the data are aggregated to the optimal firm-size bin level. For the linear specifications, the remaining columns show symmetric perturbations of the bandwidth around the Calonico et al. (2014) optimum. Robust standard errors based on Calonico et al. (2014) are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

Table 10: Discontinuity at 50 Employees: Non-Routine Manual Workers

	Weekly Earnings			Weekly Hours		
	(1)	(2)	(3)	(4)	(5)	(6)
A Pre Treatment (1997-1999)						
A.1. Local Linear						
RD Estimate	-5.3487	-4.6773	-5.9059	-0.4897	-0.4637	-0.5406
	(4.1619)	(4.2355)	(4.1039)	(0.4882)	(0.4988)	(0.4817)
Observations	128	123	133	114	109	119
Bandwidth	77	72	82	63	58	68
A.2. Quadratic						
RD Estimate	-1.7351	-1.5225	-2.0279	-1.4223	-1.385	-1.4514
	(6.6504)	(6.8438)	(6.4869)	(1.2919)	(1.1155)	(1.2738)
Observations	112	107	117	114	109	119
Bandwidth	61.15	56.15	66.15	63.89	58.89	68.89
B Treatment (2000-2004)						
B.1. Local Linear						
RD Estimate	4.5329	3.9947	4.7772	0.247	0.2046	0.2611
	(4.3347)	(4.4978)	(4.2034)	(0.3536)	(0.3583)	(0.3508)
Observations	110	105	115	107	102	112
Bandwidth	59	54	64	56	51	61
B.2. Quadratic						
RD Estimate	1.3677	2.4197	0.9188	-0.4372	-0.4406	-0.4348
	(6.3019)	(6.5372)	(6.1185)	(0.4363)	(0.4419)	(0.4317)
Observations	108	103	113	108	103	113
Bandwidth	57.13	52.13	62.13	57.24	52.24	62.24
C. Post Treatment (2005-2007)						
C.1. Local Linear						
RD Estimate	8.1211	8.0243	8.2445	-0.4452	-0.534	-0.2824
	(6.3848)	(6.6469)	(6.1886)	(0.5535)	(0.5934)	(0.5231)
Observations	436	416	456	332	292	372
Bandwidth	58	53	63	41	36	46
C.2. Quadratic						
RD Estimate	2.8455	1.9201	3.0339	-1.281	-1.1246	-1.2282
	(10.043)	(10.388)	(9.7939)	(0.9385)	(0.9808)	(0.9081)
Observations	432	412	452	412	380	432
Bandwidth	57.72	52.72	62.72	52.38	47.38	57.38

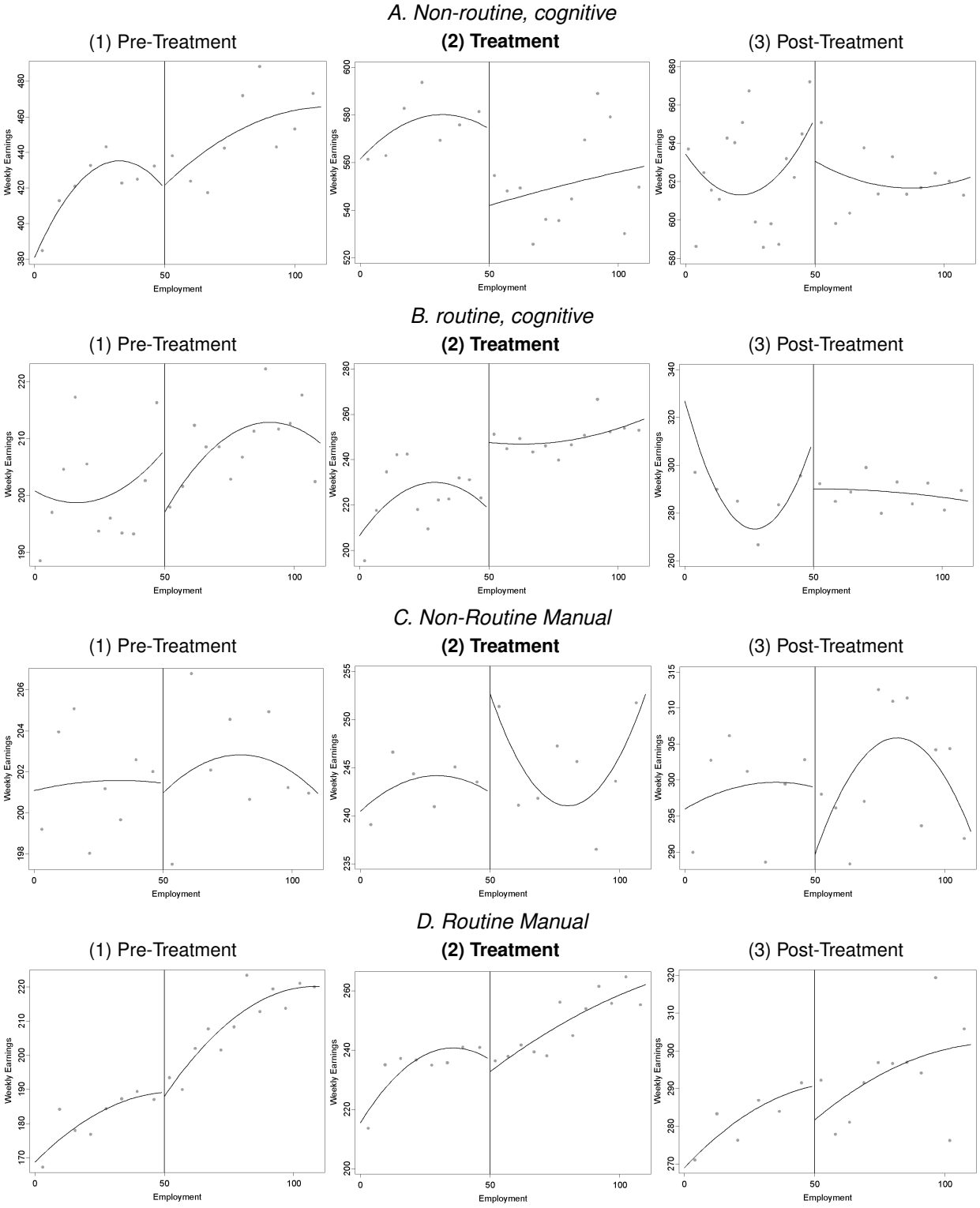
Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variables are weekly earnings and hours for non-routine, manual workers in the ASHE. The optimal bandwidth (columns 1 and 4) is determined according to Calonico et al. (2014) and the data are aggregated to the optimal firm-size bin level. For the linear specifications, the remaining columns show symmetric perturbations of the bandwidth around the Calonico et al. (2014) optimum. Robust standard errors based on Calonico et al. (2014) are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

Figure 7: Weekly Earnings: Routine, Non-Routine, Cognitive & Manual Jobs (linear)



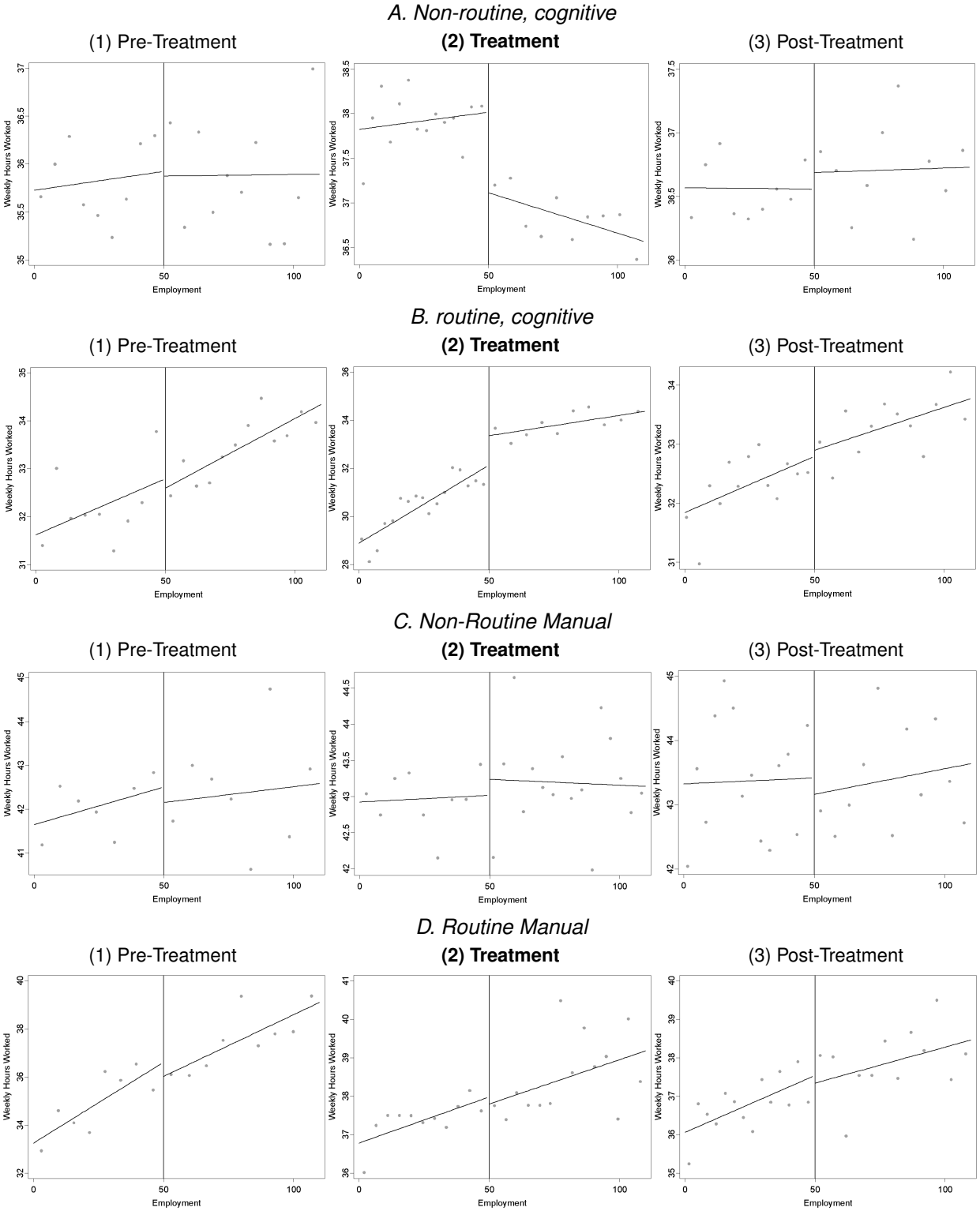
Notes: The figures decompose the earnings results from Figure 5 into the four occupation groups defined in Acemoglu and Autor (2011): non-routine, cognitive (panel A), routine, cognitive (panel B), non-routine manual (panel C), and routine manual (panel D). For all figures we choose the optimal bin size based on Calonico et al. (2015). The lines are fitted linear regressions.

Figure 8: Weekly Earnings: Routine, Non-Routine, Cognitive & Manual Jobs (quadratic)



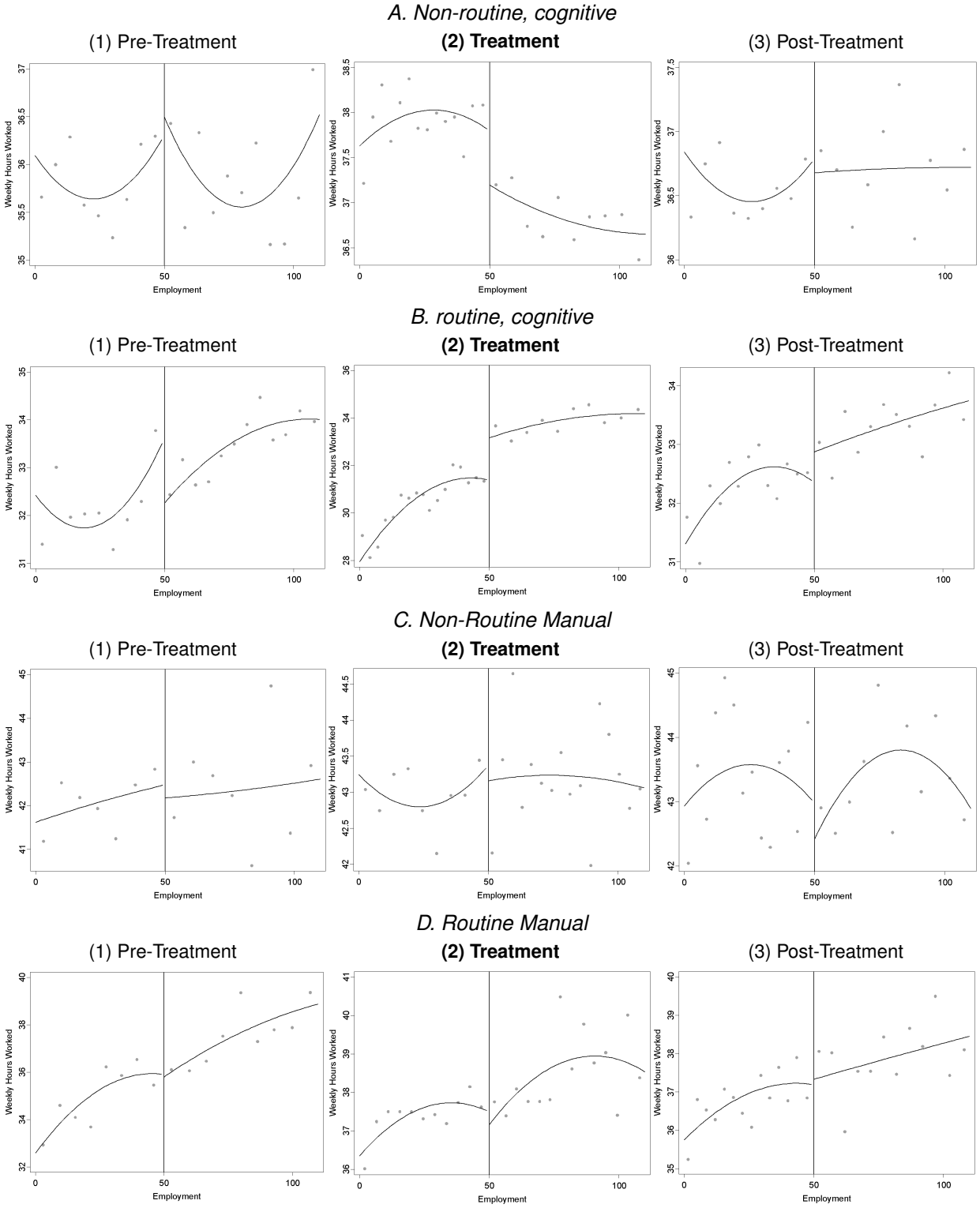
Notes: The figures decompose the hours results from Figure 6 into the four occupation groups defined in Acemoglu and Autor (2011): non-routine, cognitive (panel A), routine, cognitive (panel B), non-routine manual (panel C), and routine manual (panel D). For all figures we choose the optimal bin size based on Calonico et al. (2015). The lines are fitted quadratic polynomials.

Figure 9: Weekly Hours: Routine, Non-Routine, Cognitive & Manual Jobs (linear)



Notes: The figures decompose the hours results from Figure 5 into the four occupation groups defined in Acemoglu and Autor (2011): non-routine, cognitive (panel A), routine, cognitive (panel B), non-routine manual (panel C), and routine manual (panel D). For all figures we choose the optimal bin size based on Calonico et al. (2015). The lines are fitted linear regressions.

Figure 10: Weekly Hours: Routine, Non-Routine, Cognitive & Manual Jobs (quadratic)



Notes: The figures decompose the hours results from Figure 6 into the four occupation groups defined in Acemoglu and Autor (2011): non-routine, cognitive (panel A), routine, cognitive (panel B), non-routine manual (panel C), and routine manual (panel D). For all figures we choose the optimal bin size based on Calonico et al. (2015). The lines are fitted quadratic polynomials.

Table 11: Public Sector Firms: Discontinuity at 50 Employees

	Weekly Earnings	Weekly Hours
RD Estimate	13.5821	-1.1308
	(16.0395)	(1.1809)
Observations	555	520
Bandwidth	60.56	53.53

Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variables are weekly earnings, and weekly hours, based on the ASHE and the sample is restricted to individuals working in public sector firms only. Optimal bandwidth selection and robust standard errors based on Calonico et al. (2014). Standard errors are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

3.2. Wage Dispersion

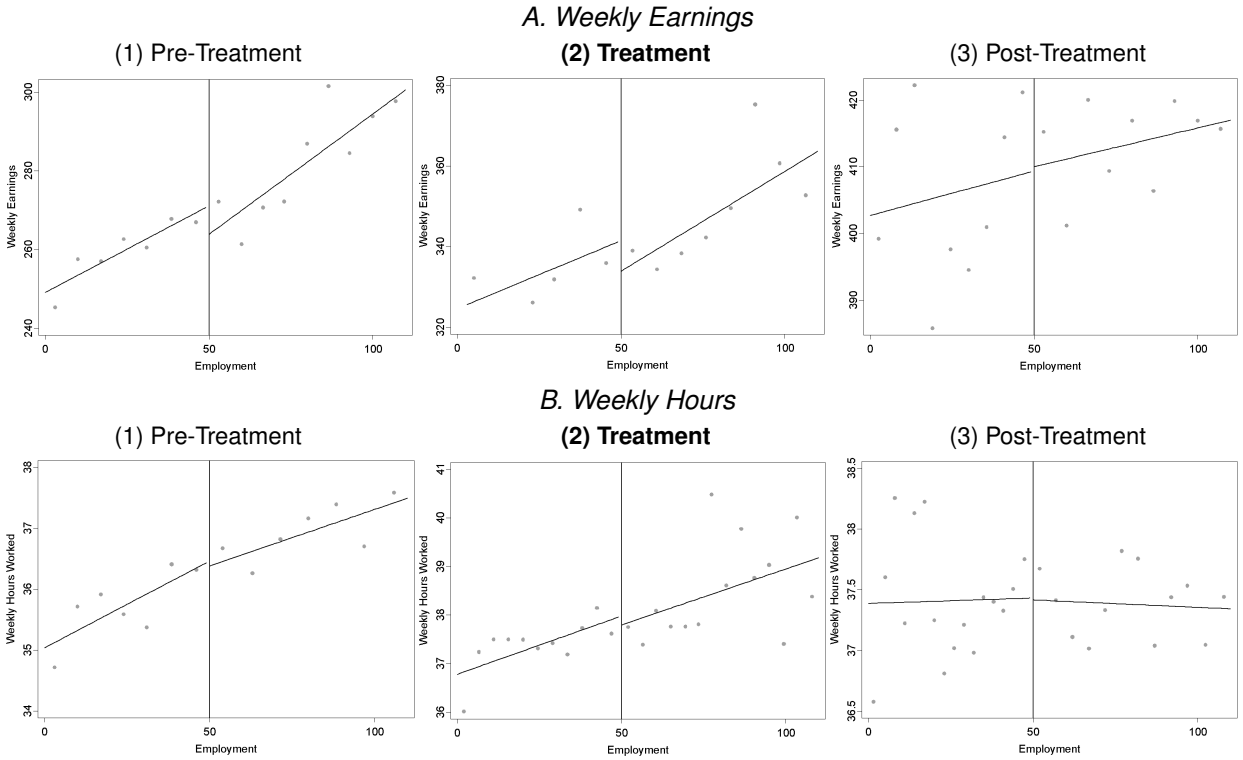
Table 17 reports point estimates for the effects on wage dispersion in various specifications.

3.3. Public Sector Firms

Figure 11 reports linear graphical illustrations of the RD in public firms, on average. Table 11 reports corresponding linear and quadratic point estimates. These estimates confirm that, as expected, there was no meaningful effect of the tax incentive within public firms.

Table 12 along with Figures 12 through 13 show the corresponding decomposition into our four task groups. Again, we see no meaningful policy induced effects within public sector firms. Notice that the local linear estimates for routine cognitive workers show a marginally significant effect. However, the graphical illustration shows a change in slope, suggesting that the point estimates more likely reflects a nonlinearity rather than a true discontinuity.

Figure 11: Public Sector Firms: Average Earnings, Hours (linear)



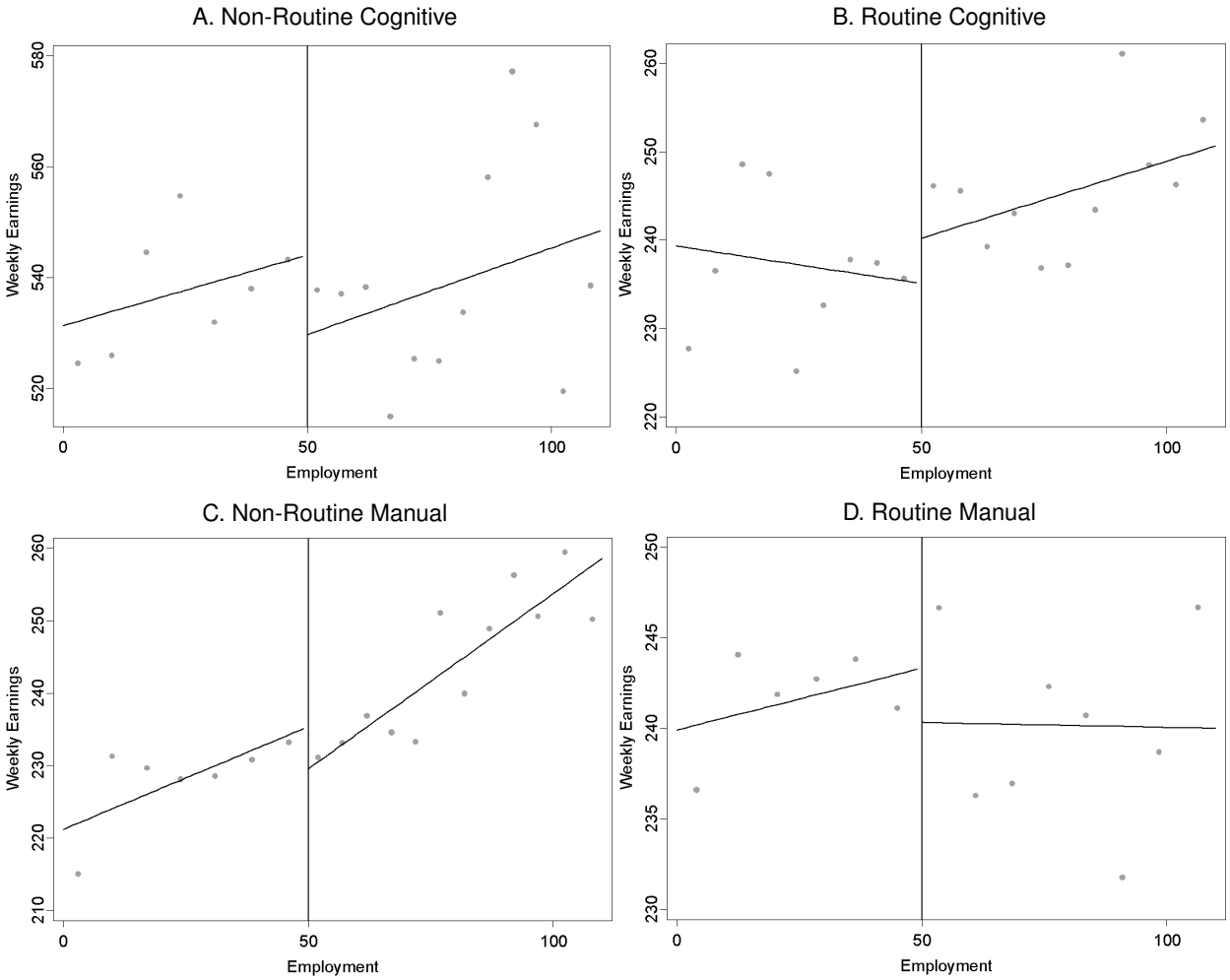
Notes: The figures display RD plots for the pre-treatment period (1, 1997-1999), the treatment period (2, 2001-2004) and the post-treatment period (3,2005-2008). Panel A and B are based on the ASHE and display weekly earnings and hours, respectively. For all figures we choose the optimal bandwidth based on Calonico et al. (2015). The lines are fitted linear regressions.

Table 12: Public Sector Firms: Discontinuity at 50 Employees (Task Specific)

	NR Cognitive		R Cognitive		R Manual		NR Manual	
	Earn.	Hours	Earn.	Hours	Eearn.	Hours	Earn.	Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
RD Estimate	13.4076	-0.2014	-8.9929*	-0.2218	-0.0472	-0.5796	5.3728	0.0191
	(10.8043)	(0.2089)	(5.4179)	(0.2799)	(4.8036)	(0.4362)	(4.1757)	(0.3297)
Observations	550	555	495	505	565	550	595	565
Bandwidth	59.99	60.52	49.46	50.37	62.9	59.57	68.06	62.59

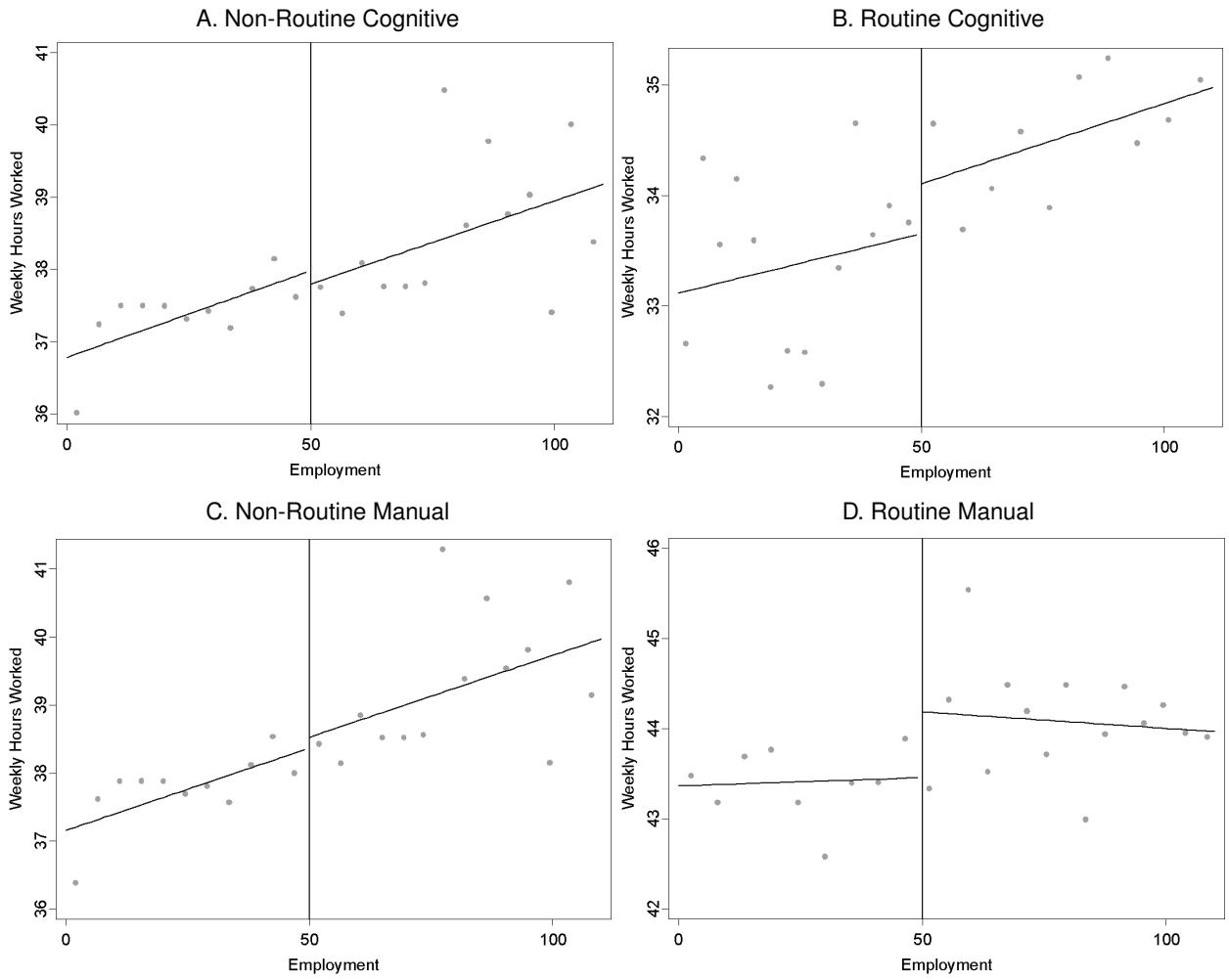
Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variables are weekly earnings, and weekly hours within four task groups, based on the ASHE and the sample is restricted to individuals working in public sector firms only. Optimal bandwidth selection and robust standard errors based on Calonico et al. (2014). Standard errors are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

Figure 12: Public Sector Firms: Weekly Earnings in Routine, Non-Routine, Cognitive & Manual Jobs



Notes: The figures decompose the weekly earnings restuls from Figure 11 for the four occupation groups defined in Acemoglu and Autor (2011): non-routine cognitive (A), routine cognitive (B), non-routine manual (C), and routine manual (D). For all figures we choose the optimal bandwidth based on Calonico et al. (2015). The lines are fitted linear regressions.

Figure 13: Public Firms: Weekly Hours in Routine, Non-Routine, Cognitive & Manual Jobs



Notes: The figures decompose the weekly hours restuls from Figure 11 for the four occupation groups defined in Acemoglu and Autor (2011): non-routine cognitive (A), routine cognitive (B), non-routine manual (C), and routine manual (D). For all figures we choose the optimal bandwidth based on Calonico et al. (2015). The lines are fitted linear regressions.

4. Organizational Response to ICT Adoption

Tables 13, 14 and 15 as well as Figures 14 and 15 illustrate estimates from various specifications for RD estimates pertaining to our CIS measures of innovative activities discussed in the main text. These specifications illustrate the robustness of the main reported in the text. Finally, Figure 16 shows suggestive evidence supporting the idea that small firms appear more likely to have abandoned innovations or not invested in innovations at all during the post-treatment period.

Table 13: ICT Adoption & Organizational Change

	A. Treatment: 2002 - 2004				B. Post Treatment: 2006-2008			
	(A.1) Corp. Strat.	(A.2) Man. Tech.	(A.3) Org. Struc.	(A.4) Market-ing	(B.1) Corp. Strat.	(B.2) Man. Tech.	(B.3) Org. Struc.	(B.4) Market-ing
RD Estimate	0.0316	0.0661**	0.1773***	-0.0307	-0.0386	-0.0157	0.0138	-0.0051
	0.0654	0.0331	0.0629	0.0714	0.0493	0.0549	0.0769	0.0529
Obs.	85	79	79	79	84	88	84	87
Bandw.	42	39	39	39	42	47	42	45

Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (**??**) based on the bias-correction procedure described in Calonico et al. (2014). The data are taken from two waves of the CIS. The dependent variables are indicator variables equal to one if a firm reports to have (1) implemented a change to its corporate strategy, (2) adopted new advanced management techniques, (3) implemented changes in the organizational structure, or (4) changed its marketing practices. Panel A reports results for the series of questions covering the period 2002-2004 while panel B covers the period 2006-2008. The optimal bandwidth is determined according to Calonico et al. (2014) and the data are aggregated to the optimal firm-size bin level. Robust standard errors based on Calonico et al. (2014) are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

Table 14: Discontinuity in Innovation Activities

	Corporate Strategy			Adv. Management Techniques		
	(1)	(2)	(3)	(4)	(5)	(6)
A Treatment (2002-2004)						
A.1. Local Linear						
RD Estimate	0.0316	0.041	0.0317	0.0663**	0.0654**	0.0441
	0.0654	0.0789	0.059	0.0331	0.0329	0.0365
Observations	85	65	101	79	59	98
Bandwidth	42	32	52	39	29	49
A.2. Quadratic						
RD Estimate	0.0861			0.1216*		
	(0.0876)			(0.0734)		
Observations	71			72		
Bandwidth	41.12			42.6		
B. Post Treatment (2006-2008)						
B.1. Local Linear						
RD Estimate	-0.0386	-0.0574	-0.0227	-0.0157	-0.0192	-0.0112
	0.0493	0.0581	0.0456	0.0549	0.0615	0.0507
Observations	84	65	92	88	75	97
Bandwidth	43	33	53	47	37	57
B.2. Quadratic						
RD Estimate	-0.0885			0.0452		
	(0.0757)			(0.0754)		
Observations	87			88		
Bandwidth	45.62			47.06		

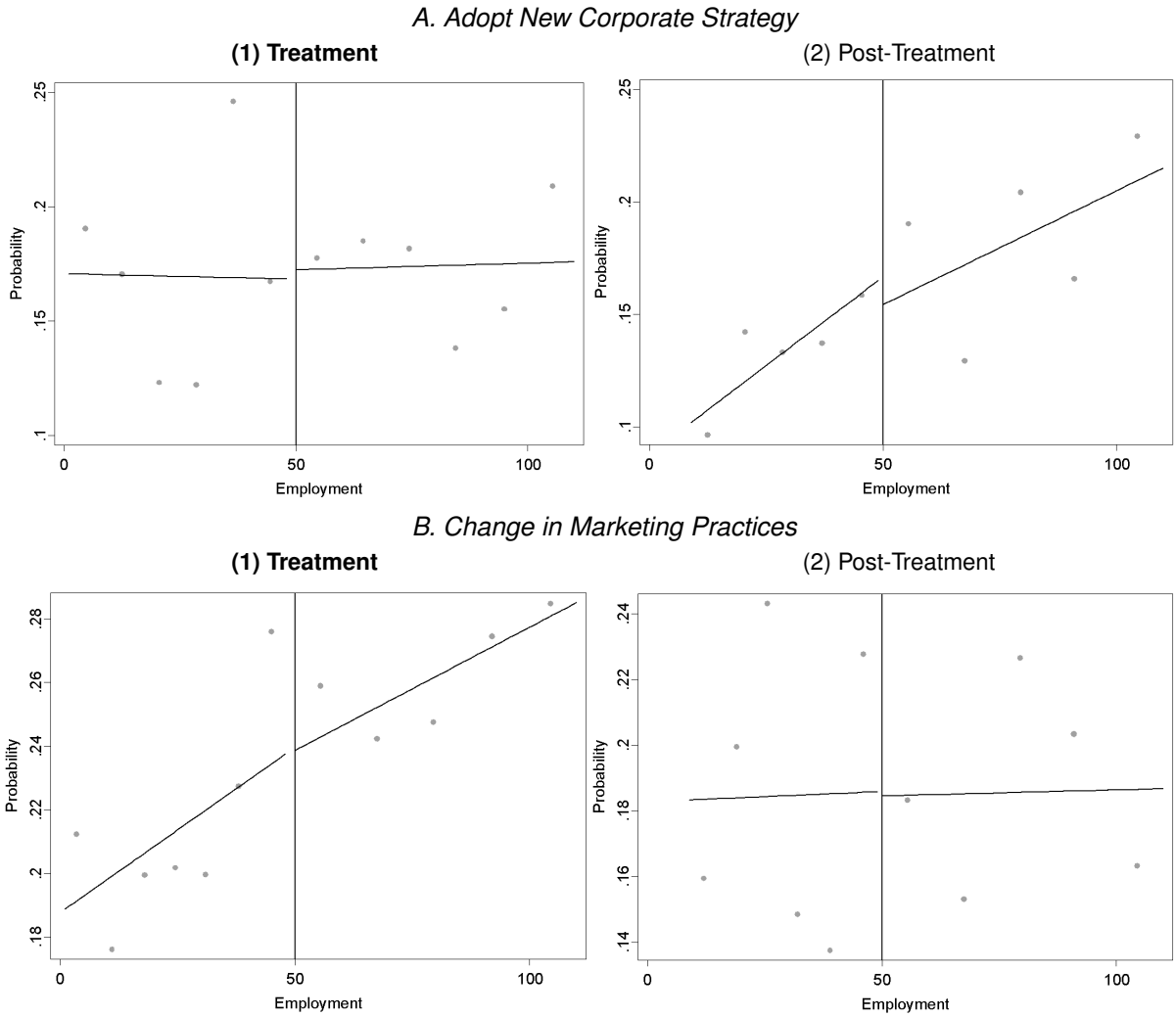
Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variables are the fraction of firms who changed their corporate strategy or adopted new advanced management techniques based on the CIS. Panel A reports estimates for the three-year treatment period, and panel B for the three-year post-treatment period. The optimal bandwidth is determined according to Calonico et al. (2014) (columns 1 and 4), while the remaining columns for the local linear specifications report symmetric perturbations of the bandwidth around the Calonico et al. (2014) optimum. Robust standard errors based on Calonico et al. (2014) are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

Table 15: Discontinuity in Innovation Activities

	Organizational Structure			Marketing Strategies		
	(1)	(2)	(3)	(4)	(5)	(6)
A Treatment (2002-2004)						
A.1. Local Linear						
RD Estimate	0.1771***	0.1368*	0.1748***	-0.0307	-0.0552	-0.0299
	0.0629	0.0728	0.0583	0.0714	0.0826	0.0646
Observations	79	59	98	79	59	98
Bandwidth	39	29	49	39	29	49
A.2. Quadratic						
RD Estimate	0.1432***			-0.0344		
	(0.0644)			(0.0841)		
Observations	62			73		
Bandwidth	34.64			43.2		
B. Post Treatment (2006-2008)						
B.1. Local Linear						
RD Estimate	0.0138	-0.0152	0.0389	-0.0051	-0.0242	-0.0006
	0.0769	0.0882	0.0707	0.0529	0.0585	0.0506
Observations	84	65	92	87	71	95
Bandwidth	43	33	53	46	36	56
B.2. Quadratic						
RD Estimate	0.0635			-0.0806		
	(0.107)			(0.0753)		
Observations	87			87		
Bandwidth	45.33			45.83		

Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variables are the fraction of firms who changed their organizational structure or adopted new marketing strategies based on the CIS. Panel A reports estimates for the three-year treatment period, and panel B for the three-year post-treatment period. The optimal bandwidth is determined according to Calonico et al. (2014) (columns 1 and 4), while the remaining columns for the local linear specifications report symmetric perturbations of the bandwidth around the Calonico et al. (2014) optimum. Robust standard errors based on Calonico et al. (2014) are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

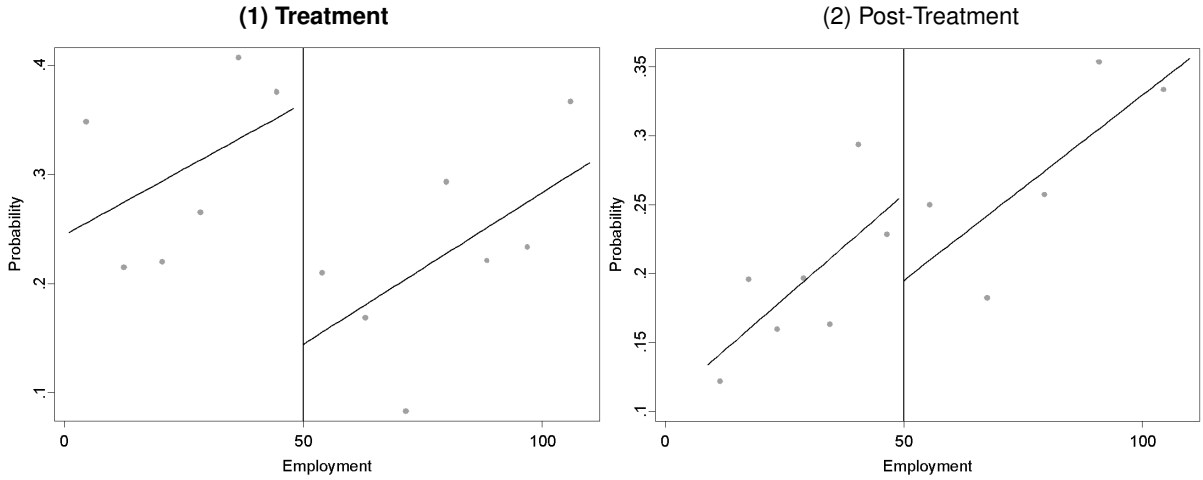
Figure 14: ICT Adoption & Organizational Change



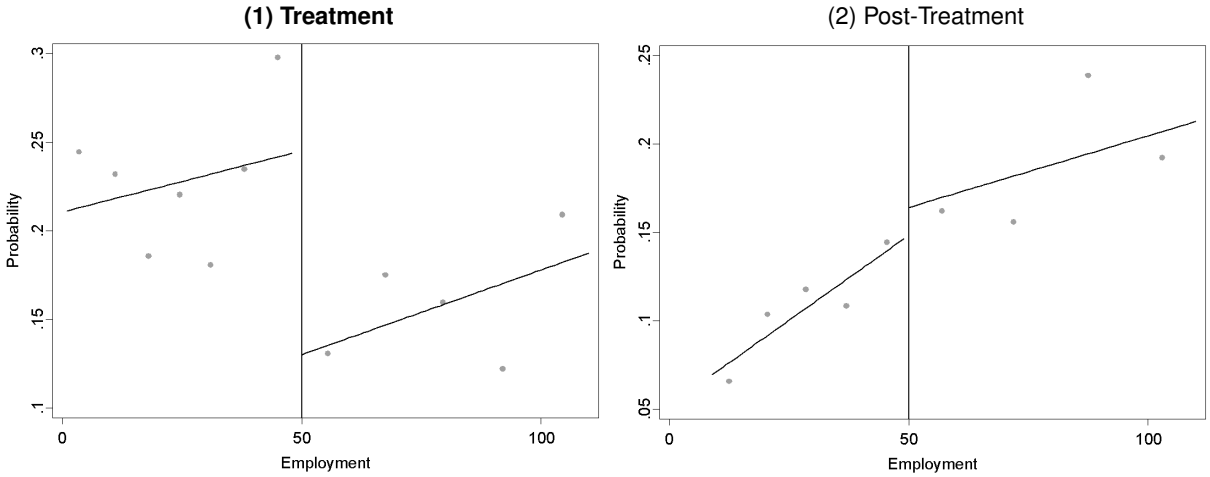
Notes: The figures plot the fraction of firms that changed their corporate strategy or marketing strategies based on the CIS against firm size. Column (1) presents estimates for the series of questions pertaining to the period 2002-2004 (treatment) and column (2) covers the period 2006-2008 (post-treatment). For all figures we choose the optimal bandwidth and bin size to the left and the right of the 50 employee cutoff based on the methods described in Calonico et al. (2015). The lines are fitted linear regression lines.

Figure 15: ICT Adoption & Organizational Change

A. Change in Organizational Structure

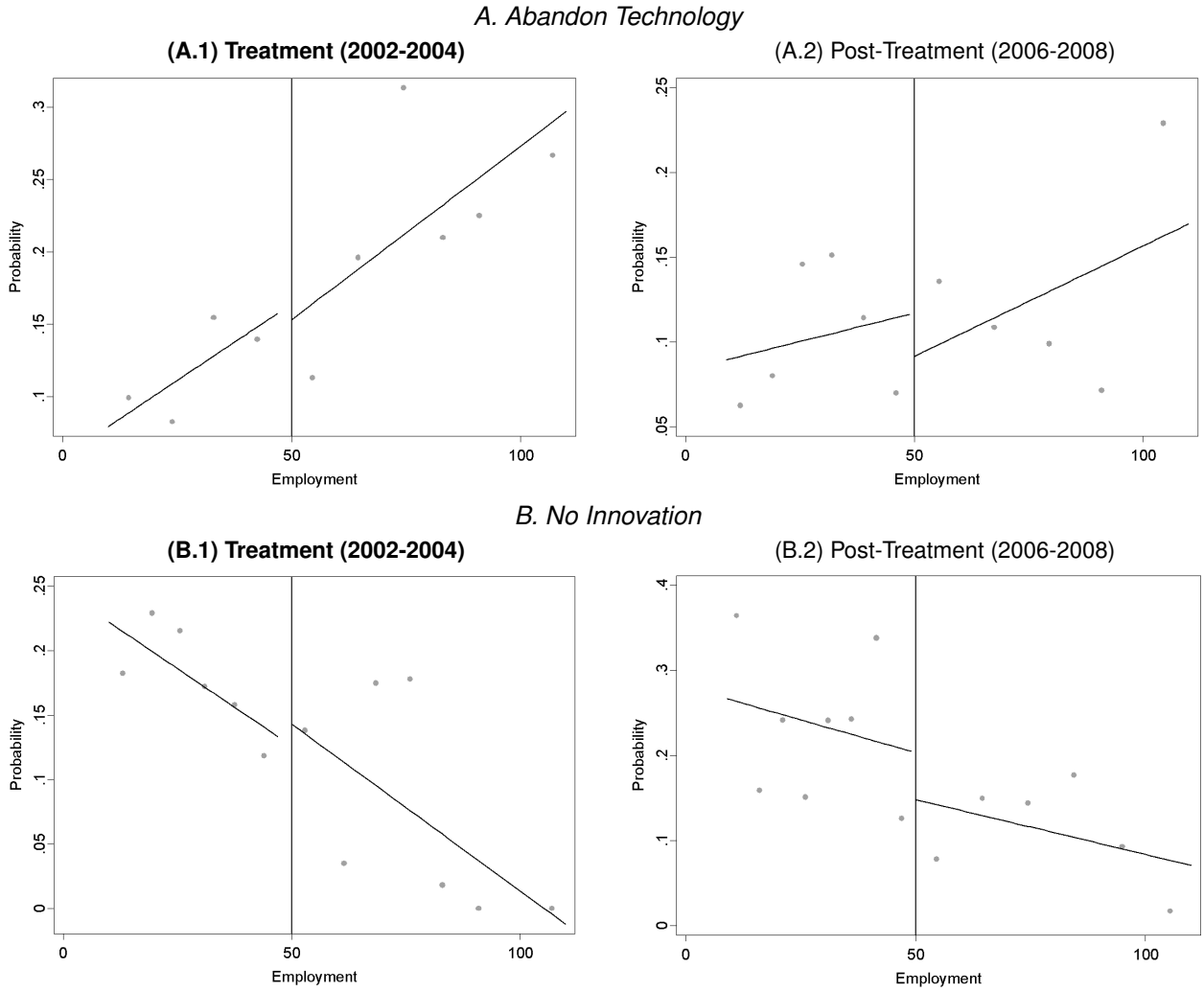


B. Adopt Advanced Management Practices



Notes: The figures plot the fraction of firms that changed their organizational structure or advanced management practices based on the CIS against firm size. Column (1) presents estimates for the series of questions pertaining to the period 2002-2004 (treatment) and column (2) covers the period 2006-2008 (post-treatment). For all figures we choose the optimal bandwidth and bin size to the left and the right of the 50 employee cutoff based on the methods described in Calonico et al. (2015). The lines are fitted linear regression lines.

Figure 16: ICT Adoption & Timing of Innovation (2002-2004)



Notes: The figures plot the fraction of firms reporteing to have "abandoned innovations or technolgy" (panel A) or stated that they had "not made any new invstments in innovation" (panel B) reported in the CIS against firm size. Panels A.1 and B.1 present estimates for the series of questions pertaining to the period 2002-2004 (treatment) while panels A.2 and B.2 cover the period 2006-2008 (post-treatment). For all figures we chose the optimal bin size following Calonico et al. (2015). The lines are fitted linear regressions.

5. Evidence on Competing Models of ICT Adoption

Table 16 shows the point estimates for the figure shown in the text. Table 17 shows a full set of specifications for the effect on wage dispersion. Most importantly, we also report wage dispersion within management occupations separately (panel E). Finally, Table 18 shows the earnings and hours effect within management occupations. Again, these tables illustrate the robustness of our main results reported in the main text.

Table 16: Discontinuity in Worker Outcomes: Non-routine, cognitive & Managers

	A. Pre-Treat.: 1997 - 1999			B. Treatment: 2001 - 2004			C. Post Treat.: 2005-2008		
	(A.1) Earnings	(A.2) Hours	(A.3) Wage Disp.	(B.1) Earnings	(B.2) Hours	(B.3) Wage Disp.	(C.1) Earnings	(C.2) Hours	(C.3) Wage Disp.
A. Non-Routine Cognitive									
RD Estimate	10.61	0.46	0.51	**42.3821*** **	**0.5285** **	**0.341** **	8.9	0.14	0.83
Std. Err.	(10.4)	(0.35)	(0.91)	(11.6154)	(0.2215)	(0.1611)	(14.1)	(0.29)	(0.69)
Obs.	110	109	95	114	117	114	115	106	117
Bandwidth	59	58	47	63	66	63	64	55	66
B. Managers									
RD Estimate	10.64	0.46	0.45	**12.9022**	**0.1689**	**0.7445**	2.94	0.37	0.42
Std. Err.	(10.81)	(0.35)	(0.48)	(9.9151)	(0.2982)	(0.6872)	(4.92)	(0.53)	(0.34)
Obs.	110	109	95	116	105	116	116	105	116
Bandwidth	59	58	47	65	54	65	65	54	65

Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (**??**) based on the bias-correction procedure described in Calonico et al. (2014). The dependent variables are (1) weekly earnings, (2) weekly hours, and (3) wage dispersion measured as the log wage gap between the 90th and 10th percentile of the earnings distribution within two groups of workers: panel A reports non-routine, cognitive workers; panel B reports management occupations. The optimal bandwidth is determined according to Calonico et al. (2014) and the data are aggregated to the optimal firm-size bin level. Robust standard errors based on Calonico et al. (2014) are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

Table 17: Discontinuity at 50 Employees: Wage Dispersion

	Pre-Treatment (1979-1999)			Treatment (2000-2004)			Post-Treatment (2005-2007)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A. Non-Routine Cognitive Workers (Local Linear)									
RD	0.5109	0.5011	0.6219	0.341**	0.395**	0.383*	0.8341	0.7112	0.8992
	(0.9113)	(0.9103)	(0.5582)	(0.1611)	(0.1753)	(0.2266)	(0.6945)	(0.6198)	(0.6299)
Obs.	95	85	103	114	109	119	117	112	122
Bw.	47	42	52	63	58	68	66	61	71
B. Routine Cognitive Workers (Local Linear)									
RD	0.2763	0.3487	0.5512	-0.2412*	-0.2355*	-0.2048	0.4428	0.5034	0.5997
	(0.3351)	(0.3635)	(0.5241)	(0.1693)	(0.1263)	(0.1693)	(0.4509)	(0.4132)	(0.4423)
Obs.	112	107	117	95	85	103	95	85	103
Bw.	61	56	66	47	42	52	47	42	52
C. Routine Manual Workers (Local Linear)									
RD	-0.3515	-0.4512	-0.5017	-0.5343	-0.5411	-0.5094	-0.7015	-0.7686	-0.6013
	(0.484)	(0.5093)	(0.5529)	(0.4809)	(0.4781)	(0.4143)	(0.8443)	(0.7099)	(0.8883)
Obs.	105	99	110	105	99	110	116	111	121
Bw.	54	49	59	54	49	59	65	60	70
D. Non-Routine Manual Workers (Local Linear)									
RD	-0.6244	-0.5018	-0.5734	-0.4123	-0.3712	-0.3099	-0.5733	-0.4087	-0.4813
	(0.7311)	(0.5953)	(0.5966)	(0.3834)	(0.4411)	(0.2807)	(0.5586)	(0.4734)	(0.4065)
Obs.	111	106	116	112	107	117	114	109	119
Bw.	60	55	65	61	56	66	63	58	68
E. Management Occupations (Local Linear)									
RD	0.4524	0.5312	0.6623	0.7445	0.6734	0.7132	0.4183	0.4273	0.4959
	(0.479)	(0.6528)	(0.5422)	(0.6872)	(0.6134)	(0.6634)	(0.3432)	(0.4194)	(0.3723)
Obs.	95	85	103	116	111	121	116	106	126
Bw.	47	42	52	65	60	70	65	55	75

Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variable is wage dispersion (log 90-10 difference) based on the ASHE in the following occupation groups: (A) non-routine cognitive, (B) routine cognitive, (C) routine manual, (D) non-routine manual, and (E) management occupations. The optimal bandwidth (columns 1, 4, and 7) and robust standard errors based on Calonico et al. (2014). The remaining columns report symmetric perturbations of the bandwidth around the Calonico et al. (2014) optimum. Standard errors are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

Table 18: Discontinuity at 50 Employees: Managers (Local Linear)

	Weekly Earnings			Weekly Hours		
	(1)	(2)	(3)	(4)	(5)	(6)
A. Pre Treatment (1997-1999): Local Linear						
RD Estimate	10.6392	10.5982	10.0592	0.4637	0.4143	0.5983
	(10.8143)	(10.5012)	(10.4301)	(0.3542)	(0.4092)	(0.3442)
Observations	110	105	115	109	104	114
Bandwidth	59	54	64	58	53	63
B. Treatment (2000-2004): Local Linear						
RD Estimate	12.9022	14.8046	11.0459	0.1689	0.2294	0.3982
	(9.9151)	(5.487)	(8.2094)	(0.2982)	(0.1953)	(0.3125)
Observations	116	111	121	105	99	110
Bandwidth	65	60	70	54	49	59
C. Post Treatment (2005-2007): Local Linear						
RD Estimate	2.9384	4.8272	2.2847	0.3747	0.2728	0.2293
	(4.9241)	(5.033)	(4.858)	(0.5301)	(0.5876)	(0.5139)
Observations	116	106	126	105	89	115
Bandwidth	65	55	75	54	44	64

Notes: The table reports local linear estimates of the regression coefficient τ_{RD} in model (3) from the main text based on the bias-corrected procedure described in Calonico et al. (2014). The dependent variables are weekly earnings and hours in management occupations based on the ASHE. The optimal bandwidth (columns 1 and 4) and robust standard errors based on Calonico et al. (2014). The remaining columns report symmetric perturbations of the bandwidth around the Calonico et al. (2014) optimum. Standard errors are reported in parentheses below each coefficient and significance levels are indicated by * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

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