

Bridging gaps: How investment in public childcare affects women's employment in Italy and Spain

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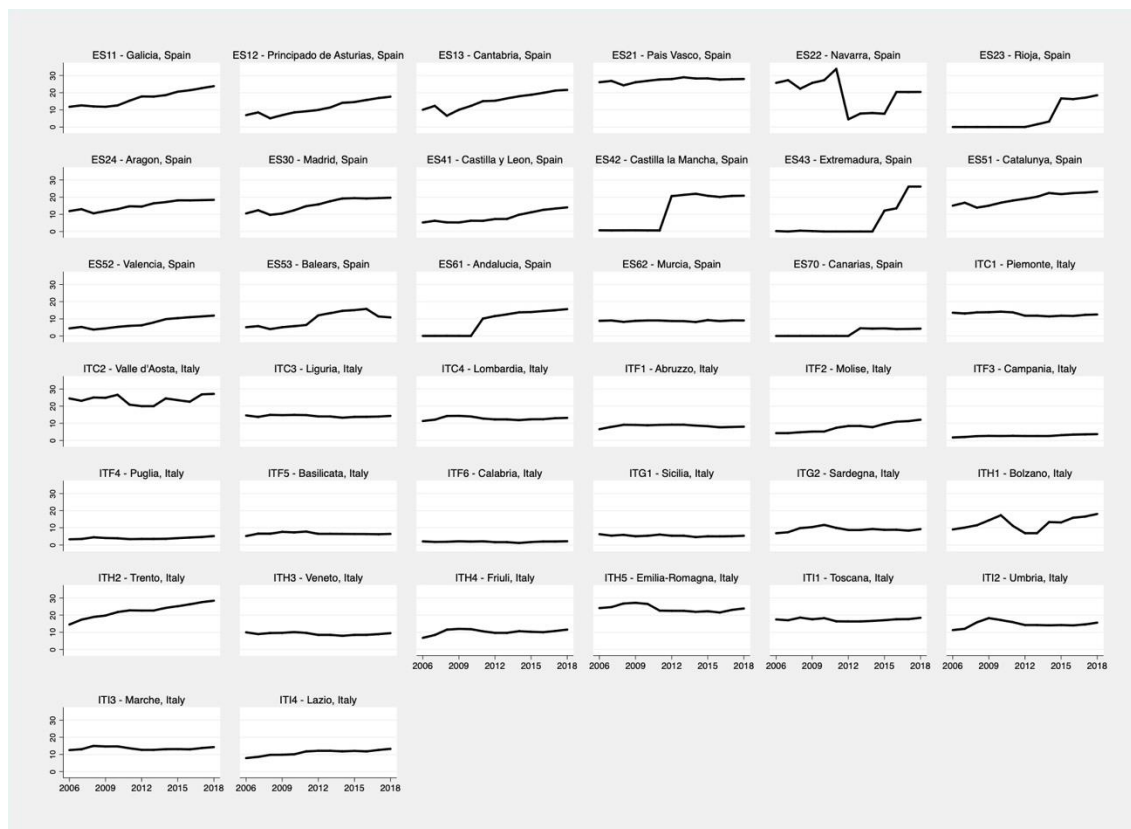
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ONLINE APPENDIX

Figure A1 – Evolution of public ECEC coverage rates for children aged between 0 and 2 years in Spanish and Italian regions



Source: Education Ministry of Spain and ISTAT

Table A1 - Within-group regressors for employment and inactivity rates for women with children, also according to their education (only for the sample of Spanish regions)

VARIABLES	(1) Employment rate for women with children 0- 2 years old in household	(2) Employment rate for women with degrees	(3) Employment rate for women without degrees	(4) Inactivity rate for women with children 0-2 years old at home	(5) Inactivity rate for women with degrees	(6) Inactivity rate for women without degrees
Public childcare services coverage rates	0.103 (0.0756)	-0.178*** (0.0600)	0.0775** (0.0282)	-0.171** (0.0729)	0.0338 (0.0339)	-0.194*** (0.0291)
Rate for women aged 25-49 with degrees	0.191 (0.181)	-0.0797 (0.0948)	0.222** (0.0761)	-0.221 (0.232)	0.0928* (0.0513)	-0.0410 (0.0906)
Average Company size	-0.0856 (0.303)	-0.125 (0.113)	0.0328 (0.113)	-0.0567 (0.262)	0.0866 (0.108)	-0.0690 (0.112)
Rate of public employees over total employment	0.424* (0.211)	-0.148 (0.198)	0.220 (0.134)	-0.421* (0.223)	0.0288 (0.109)	-0.314*** (0.106)
Rate of knowledge- based workers over non-knowledge- based workers	-1.971 (1.429)	1.302*** (0.418)	-2.667*** (0.654)	-0.495 (0.294)	-0.376** (0.139)	0.202 (0.233)
Rate of sectors with a workforce comprised of over 70% women	-0.529* (0.211)	-0.149 (0.113)	-0.200 (0.113)	0.159 (0.262)	0.187* (0.108)	0.1000 (0.112)

	(0.252)	(0.137)	(0.141)	(0.292)	(0.0883)	(0.159)
Rate of sectors with a workforce comprised of over 20% part-time workers	0.437 (0.297)	0.142 (0.121)	0.213 (0.149)	-0.493 (0.339)	-0.197* (0.105)	-0.179 (0.134)
GDP per capita (in thousands)	-1.025 (2.360)	1.836 (1.656)	-0.670 (1.122)	0.798 (2.623)	-0.0937 (1.034)	2.581* (1.366)
GDP per capita squared	0.00521 (0.0336)	-0.0257 (0.0232)	0.0139 (0.0157)	-0.0144 (0.0347)	-0.00248 (0.0171)	-0.0365* (0.0180)
Total fertility rate	36.13* (18.19)	5.639 (7.827)	5.872 (5.870)	-12.25 (16.92)	1.945 (5.591)	1.782 (8.389)
Constant	17.26 (39.07)	49.67* (24.62)	48.20*** (14.75)	70.25* (39.75)	11.38 (13.06)	0.791 (18.20)
Time Effects	Yes	Yes	Yes	Yes	Yes	Yes
Region Effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustered Errors	Yes	Yes	Yes	Yes	Yes	Yes
Observations	221	221	221	221	221	221
R-squared	0.238	0.586	0.522	0.483	0.175	0.725
Number of regions	17	17	17	17	17	17

Robust standard errors in brackets
 *** p<0.01, ** p<0.05, * p<0.1

Data: European Labour Force Survey, aggregated microdata 2006-2018, only women aged 25-49 according to their education and if they have children at home aged 0-2 years.

Table A2 - Within-group regressors for employment and inactivity rates for women with children, and according to their education (only for the sample of Italian regions)

VARIABLES	(1) Employment rate for women with children 0- 2 years old in household	(2) Employment rate for women with degrees	(3) Employment rate for women without degrees	(4) Inactivity rate for women with children 0-2 years old at home	(5) Inactivity rate for women with degrees	(6) Inactivity rate for women without degrees
Public childcare services coverage rates	0.511* (0.280)	0.116 (0.122)	0.245** (0.0980)	-0.435* (0.238)	0.0453 (0.0753)	-0.183* (0.101)
Rate for women 25- 49 with a degree	0.211 (0.282)	0.199 (0.251)	0.127 (0.0955)	-0.217 (0.280)	-0.0324 (0.163)	0.0511 (0.101)
Average Company size	-0.0240 (0.257)	0.391* (0.203)	-0.100 (0.136)	0.150 (0.270)	-0.370*** (0.128)	0.0594 (0.154)
Rate for public employees over total employment	-0.0722 (0.151)	0.108 (0.127)	-0.0441 (0.107)	0.120 (0.150)	-0.0936 (0.140)	0.0891 (0.115)
Rate for knowledge- based workers over non-knowledge- based workers	0.782 (0.522)	0.250 (0.279)	-0.283* (0.162)	-0.557 (0.460)	-0.200 (0.133)	0.136 (0.161)
Rate for sectors with a workforce comprised of over 70% women	-0.240 (0.356)	0.734*** (0.250)	-0.511** (0.190)	0.219 (0.367)	-0.570*** (0.200)	0.277 (0.203)

Rate for sectors with a workforce comprised of over 20% part-time workers	0.485* (0.243)	0.0872 (0.244)	0.510*** (0.121)	-0.422 (0.266)	-0.0306 (0.151)	-0.385** (0.135)
GDP per capita (in thousands)	3.714** (1.660)	0.328 (0.858)	1.401*** (0.409)	-3.734* (1.880)	0.692 (0.931)	-0.950 (0.681)
GDP per capita squared	-0.0399* (0.0202)	-0.00310 (0.0115)	-0.0125** (0.00534)	0.0438* (0.0230)	-0.00801 (0.0121)	0.0126 (0.00815)
Total fertility rate	-19.21** (6.824)	-2.055 (5.941)	1.947 (3.314)	15.85** (7.017)	0.672 (4.290)	-4.969 (3.777)
Constant	-13.25 (35.77)	39.70 (23.40)	17.25 (11.53)	103.5** (38.77)	26.89 (20.11)	66.23*** (14.73)
Time Effects	Yes	Yes	Yes	Yes	Yes	Yes
Region Effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustered Errors	Yes	Yes	Yes	Yes	Yes	Yes
Observations	273	273	273	273	273	273
R-squared	0.217	0.499	0.614	0.210	0.282	0.212
Number of regions	21	21	21	21	21	21
Robust standard errors in brackets						
*** p<0.01, ** p<0.05, * p<0.1						

Data: European Labour Force Survey, aggregated microdata 2006-2018, only women aged 25-49 according to their education and if they have children aged 0-2 years at home

Table A3 – GMM regressors for employment and inactivity rates for women with children and according to their education

VARIABLES	(1) Employment rate for women without degrees	(2) Employment rate for women without degrees	(3) Employment rate for women without degrees	(4) Inactivity rate for women without degrees	(5) Inactivity rate for women without degrees	(6) Inactivity rate for women without degrees
One-period lagged dependent variable		0.338 (0.216)				0.653 (0.417)
Public childcare services coverage rate	0.495*** (0.186)	0.300 (0.191)			- 0.328** (0.128)	0.0889 (0.183)
One-period lagged public childcare services coverage rates				0.529* (0.309)		- 0.288** (0.127)
Rate for women 25- 49 with degrees	0.236 (0.196)	0.154 (0.275)		0.212 (0.350)	0.640** * (0.175)	-0.278 * (0.214) (0.218)
Average company size					-0.156 (0.576)	0.142 (0.428) -0.298 (0.643)
Rate for public employees over total employment					- 1.066** (0.481)	0.401 (0.698) -1.025* (0.612)

Rate for knowledge-based workers over non-knowledge-based workers	-2.696* (1.568)	-1.122** (0.529)	-1.812* (1.081)			
Rate of sectors with a workforce comprised of over 70% women	-0.237 (0.618)	0.606 (0.452)	0.700 (0.625)	-0.144 (0.379)	-0.708 (0.477)	-0.313 (0.436)
Rate of sectors with a workforce comprised of over 20% part-time workers	0.275 (0.524)	0.00309 (0.317)	0.146 (0.487)	-0.389 (0.386)	-0.118 (0.294)	-0.447 (0.441)
GDP per capita (in thousands)	4.603*** (1.143)	2.804** (1.096)	4.712*** (1.781)	-2.186 (1.385)	0.0746 (0.875)	-1.581 (1.422)
GDP per capita squared	-0.0494*** (0.0176)	-0.0344** (0.0161)	-0.0547** (0.0258)	0.0258 (0.0230)	0.00680 (0.0133)	0.0149 (0.0229)
Total fertility rate	-27.54 (22.57)	-17.87 (19.68)	-13.66 (22.83)			
Constant	-7.387 (30.28)	-30.23 (31.91)	-35.55 (39.51)	120.4** *	29.02 (45.28)	120.5** *
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Region Effects	Yes	Yes	Yes	Yes	Yes	Yes
Lagged dependent variable	No	Yes	No	No	Yes	No
Observations	494	456	456	494	456	494
Number of regions	38	38	38	38	38	38
Sargan test of overidentifying restrictions	0.094	0.140	0.835	0.515	0.842	0.035

Hansen test of exogeneity of instrument subsets	0.615	0.795	0.754	0.770	0.955	0.492
AB Autocorrelation (AR(2)) test	0.759	0.913	0.454	0.879	0.105	0.757
<hr/>						
Robust standard errors in brackets						
*** p<0.01, **						
p<0.05, * p<0.1						

Data: European Labour Force Survey, aggregated microdata 2006-2018, only women aged 25-49 according to their education and if they have children aged 0-2 years at home

Table A4 – Within-group regressors for part-time and involuntary part-time rates for women with children, and according to their education (only for the sample of Spanish regions)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLE	Part-time employment rate for women 25- 49 yrs. old with children 0-2 yrs. old at home	Part-time employment rate for women 25- 49 yrs. old with degrees	Part-time employment rate for women 25- 49 yrs. old without degrees	Involuntary part-time employment rate for women 25- 49 yrs. old with children 0-2 yrs. old at home	Involuntary part-time employment rate for women 25- 49 yrs. old with degrees	Involuntary part-time employment rate for women 25- 49 yrs. old without degrees
Public childcare services coverage rates	-0.289*** (0.0772)	-0.00363 (0.0353)	0.0586 (0.0616)	-0.0495 (0.0815)	0.000616 (0.0295)	0.0250 (0.0598)
Rate for women 25- 49 with degrees	0.455 (0.393)	0.152 (0.0950)	0.175 (0.225)	0.0807 (0.162)	-0.00358 (0.0974)	0.00107 (0.177)
Average company size	-0.406 (0.371)	-0.183 (0.135)	-0.242 (0.258)	0.144 (0.254)	-0.141 (0.0853)	-0.109 (0.141)
Rate for public employees over total employment	0.505 (0.437)	0.137 (0.136)	-0.0503 (0.162)	0.260 (0.191)	0.0661 (0.0911)	-0.00932 (0.148)
Rate for knowledge- based workers over non-knowledge- based workers	-2.003 (2.331)	-0.614 (0.788)	-0.405 (1.018)	-0.286 (0.778)	-0.512 (0.360)	-0.214 (0.850)

Rate for sectors with a workforce comprised of over 20% part-time workers	-0.0675 (0.265)	-0.0738 (0.112)	0.196 (0.170)	0.178 (0.147)	0.147* (0.0771)	0.220 (0.137)
GDP per capita (in thousands)	1.577 (2.366)	-2.847** (1.103)	0.384 (1.712)	-2.423 (1.564)	-2.061** (0.855)	-1.510 (1.440)
GDP per capita	-0.000985 (0.0285)	0.0309 (0.0208)	-0.0118 (0.0259)	0.0325 (0.0228)	0.0244* (0.0134)	0.0133 (0.0187)
Total fertility rate	-12.81 (11.36)	16.53** (7.171)	4.561 (9.205)	2.601 (11.52)	5.476 (5.222)	18.39* (9.310)
Constant	15.89 (36.02)	46.87*** (15.43)	12.67 (23.04)	24.85 (20.55)	34.00** (12.83)	7.721 (17.94)
Time Effects	Yes	Yes	Yes	Yes	Yes	Yes
Region Effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustered Errors	Yes	Yes	Yes	Yes	Yes	Yes
Observations	221	221	221	221	221	221
R-squared	0.153	0.499	0.302	0.258	0.783	0.692
Number of Regions	17	17	17	17	17	17

Robust standard
errors in brackets
*** p<0.01, **
p<0.05, * p<0.1

Table A5 – Within-group regressors for part-time and involuntary part-time rates for women with children, and according to their education (*only for the sample of Italian regions*)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLE	Part-time employment rate for women 25- 49 yrs. old with children 0-2 yrs. old at home	Part-time employment rate for women 25- 49 yrs. old with degrees	Part-time employment rate for women 25- 49 yrs. old without degrees	Involuntary part-time employment rate for women 25- 49 yrs. old with children 0-2 yrs. old at home	Involuntary part-time employment rate for women 25- 49 yrs. old with degrees	Involuntary part-time employment rate for women 25- 49 yrs. old without degrees
Public childcare services coverage rates	0.0355 (0.232)	0.0326 (0.114)	0.0630 (0.149)	0.0488 (0.120)	0.0819 (0.0786)	0.127 (0.0998)
Rate for women 25- 49 with degrees	-0.151 (0.260)	0.0218 (0.128)	-0.165 (0.144)	0.0640 (0.163)	-0.135 (0.0915)	-0.158 (0.119)
Average company size	-0.400 (0.243)	-0.283 (0.270)	-0.0251 (0.148)	-0.291* (0.146)	-0.141 (0.106)	0.00487 (0.149)
Rate for public employees over total employment	-0.352 (0.218)	-0.0111 (0.187)	-0.126 (0.155)	-0.0913 (0.143)	-0.0863 (0.108)	-0.136 (0.121)
Rate for knowledge- based workers over	-0.307	-0.376	0.169	-0.600**	-0.243*	-0.145

non-knowledge-based workers						
	(0.297)	(0.287)	(0.203)	(0.240)	(0.125)	(0.133)
Rate for sectors with a workforce comprised of over 20% part-time workers	-0.186	-0.393*	0.201	-0.325**	-0.1000	0.0510
	(0.194)	(0.199)	(0.134)	(0.152)	(0.100)	(0.127)
GDP per capita (in thousands)	-3.336**	-1.303	-0.746	-1.224	0.415	0.649
	(1.317)	(0.954)	(0.813)	(0.738)	(0.378)	(0.551)
GDP per capita	0.0409**	0.0226	0.00411	0.00876	-0.0107*	-0.0181**
	(0.0160)	(0.0132)	(0.0108)	(0.0105)	(0.00534)	(0.00790)
Total fertility rate	-3.393	-4.828	1.387	-13.16**	-5.089	-6.908*
	(10.80)	(6.839)	(4.328)	(5.815)	(3.489)	(3.738)
Constant	123.0***	68.78**	41.34*	71.86***	24.80**	16.95
	(29.85)	(26.03)	(20.13)	(19.21)	(9.408)	(14.15)
Time Effects	Yes	Yes	Yes	Yes	Yes	Yes
Region Effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustered Errors	Yes	Yes	Yes	Yes	Yes	Yes
Observations	273	273	273	273	273	273
R-squared	0.174	0.522	0.802	0.741	0.929	0.919
Number of Regions	21	21	21	21	21	21

Robust standard errors in brackets

*** p<0.01, **

p<0.05, * p<0.1