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Supplementary Materials

Between-Firm and Within-Firm Economic Conditions and Workplace-Accident Incidence in Spain, 2006–2009: A Longitudinal Panel Study

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Table S1. Exploratory year-by-economic-indicator interactions in firm and calendar-year fixed-effects models.

Indicator	Interaction	*b* (SE)	95% CI	*p*	*n*; Firms
ln_sales	ln_sales × 2007	0.502 (0.358)	−0.206 to 1.210	0.163	546; 147
ln_sales	ln_sales × 2008	0.409 (0.433)	−0.447 to 1.266	0.346	546; 147
ln_sales	ln_sales × 2009	0.466 (0.418)	−0.360 to 1.292	0.266	546; 147
ln_assets	ln_assets × 2007	0.425 (0.350)	−0.266 to 1.116	0.226	547; 147
ln_assets	ln_assets × 2008	0.299 (0.401)	−0.492 to 1.091	0.456	547; 147
ln_assets	ln_assets × 2009	0.343 (0.402)	−0.451 to 1.137	0.394	547; 147

Note. Models adjust for log average workforce; standard errors are clustered by firm. Reference year: 2006. CI, confidence interval.

Table S2. Firm fixed-effects Poisson models for all recorded accident counts.

Model	Term	*b* (SE)	Rate Ratio	95% CI for RR	*p*	*n*; Firms
Sales	ln_sales	0.258 (0.070)	1.295	1.129 to 1.485	<0.001	505; 136
Sales	2007	−0.015 (0.017)	0.985	0.953 to 1.018	0.360	505; 136
Sales	2008	−0.200 (0.020)	0.818	0.787 to 0.851	<0.001	505; 136
Sales	2009	−0.326 (0.053)	0.722	0.650 to 0.801	<0.001	505; 136
Assets	ln_assets	0.212 (0.073)	1.236	1.070 to 1.427	0.004	505; 136
Assets	2007	−0.017 (0.020)	0.984	0.946 to 1.023	0.403	505; 136
Assets	2008	−0.221 (0.017)	0.802	0.776 to 0.829	<0.001	505; 136
Assets	2009	−0.364 (0.064)	0.695	0.613 to 0.787	<0.001	505; 136
Workforce	ln_employees	0.273 (0.060)	1.314	1.168 to 1.478	<0.001	560; 140
Workforce	2007	0.009 (0.016)	1.009	0.978 to 1.042	0.565	560; 140
Workforce	2008	−0.157 (0.024)	0.854	0.815 to 0.896	<0.001	560; 140
Workforce	2009	−0.273 (0.043)	0.761	0.700 to 0.827	<0.001	560; 140

Note. Models include firm and calendar-year fixed effects and use log average workforce as an offset. Firm fixed effects are not displayed. Before all-zero exclusions, the eligible samples were 546 observations in 147 firms for sales, 547 observations in 147 firms for assets, and 600 observations in 150 firms for workforce. The sales model excluded 41 observations from 11 all-zero firms; the assets model excluded 42 observations from 11 all-zero firms; and the workforce model excluded 40 observations from 10 all-zero firms. Pearson dispersion statistics were 1.461, 1.471, and 1.360, respectively. The outcome is the broader all-recorded-accident count. CI, confidence interval; RR, rate ratio.

Table S3. Firm and calendar-year fixed-effects models using the inverse hyperbolic sine transformation of official workplace-accident incidence.

Model	**Term**	***b* (SE)**	**95% CI**	***p***	***n*; Firms**	**Within R^2**
Sales	ln_sales	−0.074 (0.244)	−0.556 to 0.408	0.762	546; 147	0.068
Sales	ln_employees	0.539 (0.282)	−0.018 to 1.097	0.058	546; 147	0.068
Sales	2007	0.017 (0.095)	−0.171 to 0.204	0.861	546; 147	0.068
Sales	2008	−0.157 (0.120)	−0.394 to 0.080	0.190	546; 147	0.068
Sales	2009	−0.232 (0.115)	−0.459 to −0.004	0.046	546; 147	0.068
Assets	ln_assets	−0.305 (0.170)	−0.640 to 0.031	0.075	547; 147	0.076
Assets	ln_employees	0.589 (0.229)	0.137 to 1.042	0.011	547; 147	0.076
Assets	2007	0.054 (0.097)	−0.138 to 0.246	0.580	547; 147	0.076
Assets	2008	−0.108 (0.121)	−0.347 to 0.131	0.373	547; 147	0.076
Assets	2009	−0.170 (0.126)	−0.419 to 0.080	0.178	547; 147	0.076

Note. The IHS transformation is defined at zero without adding a constant. Models include firm and calendar-year fixed effects, adjust for log average workforce, and use standard errors clustered by firm. Reference year: 2006. CI, confidence interval; IHS, inverse hyperbolic sine.