

# Supplementary materials

## The rise in the supervisory wage gap in Western Europe

May 7, 2026

### **Appendix A: Data**

**Supervisor (EU-SILC).** This standardised variable identifies employees who have formal responsibility for supervising the work of at least one other employee in their main job. Supervisory responsibilities involve taking charge of, directing, and overseeing the work of others and may be combined with other job tasks. Supervision of apprentices or trainees does not count, nor does quality control or consultancy without responsibility for directing work. Temporary replacement of an absent superior is excluded. Employees in groups with rotating or collective supervisory responsibility are classified as supervisors. The measure is based on the question: “Do you supervise the work of other employees in your main job?” (Yes/No).

**Firm size (EU-SILC).** Firm size is measured by the number of persons working at the local unit. To ensure consistency over time, we aggregate this measure into

three categories: fewer than 10 employees, 10 to 49 employees, and 50 or more employees. We exclude observations in the category “do not know, but more than 10 persons” to maintain a consistent firm-size classification across survey waves.

**Industry classification.** For EU-SILC data, there was a shift in industry classification during the sample period from NACE Rev.1 to NACE Rev.2. To ensure consistency across waves, we aggregate industries into eight broad groups: manufacturing and mining; construction; retail, repair, and wholesale trade; hotels and restaurants; transport, information, and communication; finance; business services and professional activities; and other services.

**Table A1:** EU-SILC data, 2003–2022

Individual-level variables	Definition	Mean	SD
Log hourly wage	Gross annual wage income / (Months worked × Weekly hours × 4.2)	2.700	0.671
Supervisor	Do you perform supervisory tasks (yes)	0.279	0.449
Age	Age	42.528	11.097
Age squared	Age squared/100	19.317	9.399
Education	ISCED Education Levels 1-5		
	Level 1: Primary education	0.045	0.207
	Level 2: Lower secondary education	0.121	0.326
	Level 3: Upper secondary education	0.341	0.474
	Level 4: Post-secondary non-tertiary education	0.032	0.176
	Level 5: Tertiary education	0.461	0.498
Gender	Female (yes)	0.474	0.499
Occupation	1-digit ISCO (shares)		
	Managers	0.056	0.230
	Professionals	0.158	0.365
	Technicians and associate professionals	0.196	0.397
	Clerical support workers	0.135	0.341
	Service and sales workers	0.159	0.366
	Craft and related trades workers	0.125	0.331
	Plant and machine operators	0.084	0.278
	Elementary occupations	0.087	0.282
Industry	Aggregated to 8 industries		
	Manufacturing and mining	0.226	0.418
	Construction	0.075	0.263
	Retail, repair and trade	0.151	0.358
	Hotels and restaurants	0.046	0.210
	Transport, information, communication	0.102	0.303
	Business services	0.113	0.317
	Other services	0.238	0.426
Country of birth	Indicator for local, EU-foreign and other-foreign		
	Native born	0.879	0.326
	EU foreign-born	0.046	0.209
	Other foreign-born	0.075	0.263
Firm size	Plant size indicator		
	Small: below 10	0.393	0.488
	Medium: between 10 and 50	0.163	0.369
	Large: more than 50	0.444	0.497
Full-time work	Dummy for workers who have worked full-time over the last 12 months	0.736	0.441
Married	Dummy for married workers	0.535	0.497

*Notes:* All variables from EU-SILC.

**Table A2:** UK BHPS/USoc data, 2003–2022

Individual-level variables	Definition	Mean	SD
Log hourly wage	Log of hourly wage	2.502	0.563
Supervisor	Do you have any managerial duties, or do you supervise any other employees? (yes)	0.431	0.495
Age	Age (average)	40.635	11.633
Age squared	Age squared/100	17.866	9.606
Education	Highest qualification		
	Degree	0.313	0.464
	Other higher	0.124	0.329
	A level etc	0.231	0.422
	GCSE etc	0.208	0.406
	Other qualification	0.071	0.257
	No qualification	0.053	0.224
Gender	Female (yes)	0.441	0.497
Occupation	1-digit SOC classification		
	Managers and senior officials	0.178	0.382
	Professional	0.146	0.353
	Technical	0.171	0.377
	Administrative and secretarial	0.131	0.338
	Crafts and skilled trades	0.090	0.286
	Caring, leisure, and other service occupations	0.085	0.280
	Sales and customer service	0.048	0.213
	Process, plant, and machine operatives	0.083	0.276
	Elementary occupations	0.068	0.252
Industry	Industry (harmonized SIC07/SIC92)		
	Manufacturing	0.137	0.344
	Utilities: Elec/Gas/Water/Waste	0.020	0.139
	Construction	0.048	0.214
	Wholesale & retail	0.102	0.302
	Accommodation & food	0.025	0.156
	Transport & storage	0.055	0.228
	Information & communication	0.042	0.201
	Financial services	0.050	0.219
	Real estate	0.010	0.098
	Prof., scientific & technical	0.062	0.241
	Administrative & support	0.058	0.233
	Public administration	0.081	0.273
	Education	0.090	0.287
	Health & social work	0.133	0.340
	Arts, entertainment & recreation	0.046	0.208
	Other service activities	0.033	0.178
	Households & extraterritorial	0.008	0.090
Firm size	Number of employees (9 categories)		
	1–2	0.027	0.161
	3–9	0.108	0.311
	10–24	0.144	0.351

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Individual-level variables	Definition	Mean	SD
	25–49	0.132	0.338
	50–99	0.123	0.329
	100–199	0.113	0.316
	200–499	0.130	0.337
	500–999	0.072	0.258
	1000+	0.151	0.358
Temporary employment	Dummy for workers with temporary contracts	0.041	0.199
Married	Dummy for married workers	0.538	0.498

*Notes:* The UK BHPS/USoc sample includes those individuals observed in the BHPS who are also followed in the Understanding Society (USoc) sample.

**Table A3:** WERS data, 2004–2011

Individual-level variables	Definition	Mean	SD
Log hourly wage	Log of hourly wage	2.370	0.512
Supervisor	Supervisor status (yes)	0.384	0.486
Age	Age (average)	42.183	11.028
Age squared	Age squared/100	19.010	9.226
Education	Highest qualification		
	GCSE grades D–G	0.087	0.282
	GCSE grades A–C	0.253	0.435
	1 GCE A level grades A–E	0.045	0.208
	2 or more GCE A levels grades A–E	0.082	0.275
	First degree, BSc, BA, BEd	0.236	0.424
	Higher degree, MSc, MA, MBA, PGCE, PhD	0.092	0.289
	Other academic qualification	0.047	0.213
	Vocational/professional qualification	0.072	0.259
	No qualifications	0.085	0.278
Gender	Female (yes)	0.475	0.499
Occupation	1-digit SOC classification		
	Managers and senior officials	0.135	0.342
	Professional occupations	0.149	0.356
	Associate professional and technical	0.178	0.382
	Administrative and secretarial	0.180	0.384
	Skilled trades occupations	0.078	0.268
	Caring, leisure, and other service	0.084	0.278
	Sales and customer service	0.024	0.152
	Process, plant, and machine operatives	0.080	0.271
	Elementary occupations	0.093	0.290
Industry	1-digit SIC2003 classification		
	Manufacturing	0.170	0.376
	Electricity, gas and water	0.017	0.130
	Construction	0.056	0.229
	Wholesale and retail	0.050	0.219
	Hotels and restaurants	0.015	0.123
	Transport and communication	0.083	0.276
	Financial services	0.024	0.154
	Other business services	0.094	0.292
	Public administration	0.141	0.348
	Education	0.135	0.342
	Health	0.172	0.377
	Other community services	0.042	0.201
Firm size	Number of employees		
	<10	0.023	0.149
	10–24	0.101	0.301
	25–49	0.123	0.328
	50–99	0.161	0.368
	100–199	0.176	0.381
	200–499	0.183	0.387

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Individual-level variables	Definition	Mean	SD
	500–999	0.105	0.306
	1000–4999	0.118	0.322
	5000+	0.010	0.100
Temporary employment	Share of workers with temporary contracts	0.050	0.219
Married	Share of workers married or living with a partner	0.701	0.458
Tenure	Years at this workplace		
	Less than a year	0.113	0.316
	1 to less than 2 years	0.097	0.297
	2 to less than 5 years	0.243	0.429
	5 to less than 10 years	0.217	0.412
	10 years or more	0.331	0.471
Span of supervisory control	Number of supervisors divided by the total number of employees in the firm		
	$0\% \leq x \leq 30\%$	0.338	0.473
	$30\% < x \leq 75\%$	0.617	0.486
	$75\% < x \leq 100\%$	0.046	0.209

*Notes:* The WERS sample includes individuals in matched firms across both survey waves, following the sample construction by Green et al. (2021). Other sample selection criteria are presented in Section 3. Add supervisory span groups if required.

**Table A4:** Industry- and country-level variables

Variable	Definition	Source	Mean	SD
<i>Industry-level variables</i>				
Employee monitoring	Share of firms where managers indicate the use of ‘data analytics tools to monitor employee performance’	European Company Survey	0.308	0.158
Outsourcing	Share of intermediate inputs from domestic service sector of industry value added (Amiti and Wei, 2009)	OECD ICIO IOT	0.304	0.304
Value added	Log value added	EU KLEMS	11.861	2.845
ICT intensity	ICT capital stock as a share of value added	EU KLEMS	0.016	0.043
Union density	Share of workers who are union members	European Social Survey	0.178	0.183
Offshoring	Share of intermediate inputs from imports of industry value added	OECD ICIO IOT	0.246	0.244
Task complexity	Does your job involve complex tasks? Share of workers who reply yes	EWCS	0.620	0.175
Number of supervisees	Median number of supervisees among supervisors	EWCS	4.973	2.831
More than 10 supervisees	Share of supervisors who oversee more than 10 supervisees	EWCS	0.269	0.165
<i>Country-level variables</i>				
Wage coordination	Index from 1–5	ICTWSS	3.413	1.019
Collective bargaining coverage	Adjusted collective bargaining coverage	ICTWSS	0.764	0.219
Minimum wage	Ratio of minimum wages to median wage	OECD	0.499	0.114

*Notes:* Data sources as per column “Source”. EWCS data is available in 2005, 2010 and 2015. European Company Survey data is available in 2019. OECD ICIO IOT and EU KLEMS data are available until 2020, ICTWSS and OECD data until 2022.

# Appendix B: Results

**Table B1:** Estimations of the supervisory wage gap using EU-SILC data

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Log wage Baseline	Log wage Job controls	Log wage Job + firm contr.	Log wage Restr. sample	Log wage Unweighted	Log wage Excl. top 5%	Log wage Net wage	Log wage No managers
SWG x 2004	0.005 (0.007)	0.005 (0.010)	0.001 (0.010)	0.004 (0.010)	0.018** (0.007)	0.007 (0.010)	-0.003 (0.009)	-0.003 (0.012)
SWG x 2005	0.008 (0.007)	0.007 (0.009)	0.002 (0.010)	0.003 (0.010)	0.023*** (0.008)	0.009 (0.009)	-0.001 (0.011)	0.002 (0.011)
SWG x 2006	0.015** (0.007)	0.014 (0.010)	0.008 (0.011)	0.009 (0.011)	0.019** (0.008)	0.011 (0.009)	0.011 (0.012)	0.008 (0.011)
SWG x 2007	0.023*** (0.006)	0.023*** (0.008)	0.017* (0.009)	0.018** (0.009)	0.034*** (0.007)	0.023*** (0.008)	0.013 (0.010)	0.017* (0.010)
SWG x 2008	0.031*** (0.006)	0.030*** (0.008)	0.024*** (0.009)	0.026*** (0.009)	0.039*** (0.008)	0.029*** (0.008)	0.019* (0.010)	0.026*** (0.009)
SWG x 2009	0.028*** (0.006)	0.028*** (0.008)	0.023** (0.009)	0.024*** (0.009)	0.034*** (0.007)	0.029*** (0.009)	0.019** (0.009)	0.023** (0.009)
SWG x 2010	0.035*** (0.006)	0.031*** (0.009)	0.028*** (0.009)	0.029*** (0.009)	0.042*** (0.008)	0.032*** (0.008)	0.027*** (0.010)	0.029*** (0.010)
SWG x 2011	0.033*** (0.007)	0.029*** (0.009)	0.024** (0.010)	0.025** (0.010)	0.040*** (0.009)	0.029*** (0.009)	0.020* (0.011)	0.020** (0.010)
SWG x 2012	0.020*** (0.007)	0.015 (0.009)	0.012 (0.010)	0.012 (0.010)	0.031*** (0.008)	0.015 (0.009)	0.003 (0.011)	0.009 (0.010)
SWG x 2013	0.036*** (0.008)	0.030*** (0.010)	0.023** (0.011)	0.025** (0.011)	0.043*** (0.010)	0.030*** (0.010)	0.011 (0.013)	0.022* (0.011)
SWG x 2014	0.029*** (0.007)	0.023** (0.010)	0.016 (0.011)	0.019* (0.011)	0.035*** (0.009)	0.022** (0.010)	-0.003 (0.012)	0.013 (0.011)
SWG x 2015	0.031*** (0.006)	0.025*** (0.009)	0.021** (0.010)	0.021** (0.009)	0.035*** (0.008)	0.026*** (0.009)	0.005 (0.009)	0.013 (0.010)
SWG x 2016	0.027***	0.023**	0.018*	0.019*	0.033***	0.017*	0.005	0.009

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**Table B1:** Estimations of the supervisory wage gap, using EU-SILC data (continued)

	(1) Log wage Baseline	(2) Log wage Job controls	(3) Log wage Job + firm contr.	(4) Log wage Restr. sample	(5) Log wage Unweighted	(6) Log wage Excl. top 5%	(7) Log wage Net wage	(8) Log wage No managers
SWG x 2017	(0.007) 0.035***	(0.009) 0.030***	(0.010) 0.025**	(0.010) 0.025**	(0.008) 0.039***	(0.009) 0.028***	(0.011) 0.014	(0.010) 0.014
SWG x 2018	(0.007) 0.043***	(0.009) 0.040***	(0.010) 0.037***	(0.010) 0.037***	(0.009) 0.043***	(0.009) 0.039***	(0.011) 0.026**	(0.011) 0.028**
SWG x 2019	(0.008) 0.044***	(0.011) 0.042***	(0.011) 0.038***	(0.011) 0.038***	(0.010) 0.051***	(0.010) 0.038***	(0.012) 0.015	(0.012) 0.027**
SWG x 2020	(0.008) 0.059***	(0.011) 0.059***	(0.011)	(0.011)	(0.009) 0.078***	(0.010) 0.053***	(0.013) 0.036***	(0.012) 0.036***
SWG x 2021	(0.010) 0.064***	(0.010) 0.063***			(0.010) 0.080***	(0.010) 0.054***	(0.012) 0.041***	(0.011) 0.036***
SWG x 2022	(0.011) 0.068***	(0.011) 0.065***	0.055***	0.057***	(0.009) 0.065***	(0.011) 0.063***	(0.013) 0.043***	(0.012) 0.042***
Age	(0.009) 4.677***	(0.013) 4.097***	(0.013) 4.016***	(0.014) 4.149***	(0.010) 3.998***	(0.011) 4.119***	(0.014) 3.385***	(0.013) 4.610***
Age squared	(0.161) -0.000***	(0.172) -0.000***	(0.175) -0.000***	(0.176) -0.000***	(0.199) -0.000***	(0.160) -0.000***	(0.154) -0.000***	(0.181) -0.000***
Female	(0.000) -0.124***	(0.000) -0.114***	(0.000) -0.115***	(0.000) -0.118***	(0.000) -0.124***	(0.000) -0.097***	(0.000) -0.100***	(0.000) -0.123***
Lower sec. educ.	(0.005) 0.073***	(0.006) 0.075***	(0.007) 0.074***	(0.006) 0.079***	(0.007) 0.077***	(0.006) 0.063***	(0.006) 0.073***	(0.007) 0.072***
Upper sec. educ.	(0.013) 0.164***	(0.017) 0.162***	(0.016) 0.161***	(0.017) 0.170***	(0.013) 0.160***	(0.015) 0.144***	(0.013) 0.142***	(0.016) 0.161***
Post-sec. educ	(0.013) 0.219***	(0.018) 0.216***	(0.017) 0.214***	(0.018) 0.227***	(0.015) 0.220***	(0.015) 0.192***	(0.014) 0.183***	(0.017) 0.211***
Tertiary education	(0.015) 0.269***	(0.019) 0.270***	(0.018) 0.268***	(0.019) 0.285***	(0.015) 0.272***	(0.017) 0.231***	(0.017) 0.231***	(0.019) 0.251***
EU migrant	(0.014) -0.064***	(0.018) -0.060***	(0.018) -0.057***	(0.018) -0.058***	(0.016) -0.054***	(0.015) -0.069***	(0.016) -0.045***	(0.017) -0.069***

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**Table B1:** Estimations of the supervisory wage gap, using EU-SILC data (continued)

	(1) Log wage Baseline	(2) Log wage Job controls	(3) Log wage Job + firm contr.	(4) Log wage Restr. sample	(5) Log wage Unweighted	(6) Log wage Excl. top 5%	(7) Log wage Net wage	(8) Log wage No managers
Non-EU migrant	(0.009) -0.098***	(0.011) -0.088***	(0.011) -0.086***	(0.011) -0.086***	(0.011) -0.089***	(0.010) -0.091***	(0.012) -0.082***	(0.011) -0.099***
Married	(0.008) 0.044***	(0.010) 0.040***	(0.009) 0.038***	(0.010) 0.039***	(0.012) 0.041***	(0.009) 0.033***	(0.009) 0.038***	(0.010) 0.042***
Temp. employment	(0.003)	(0.004) -0.181***	(0.004) -0.184***	(0.004) -0.183***	(0.004) -0.192***	(0.004) -0.184***	(0.004) -0.165***	(0.004)
Full-time, all-year		(0.011) 0.083***	(0.012) 0.077***	(0.012) 0.084***	(0.011) 0.081***	(0.011) 0.093***	(0.010) 0.048***	
Firm size: 10-49		(0.006)	(0.006) 0.083***	(0.006)	(0.006)	(0.006)	(0.007)	
Firm size: 50 or more			(0.006) 0.168***	(0.007)				
Observations	1074690	1068008	875227	875227	1068633	1023251	811704	1007059
Adj. R-squared	0.610	0.619	0.630	0.618	0.626	0.631	0.640	0.605
Sup.-ind.-country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ind.-country-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

*Notes:* Standard errors in parentheses. All models are based on equation (1) and include supervisor-industry-country and industry-country-year fixed effects. Model 1 is our baseline specification. Model 2 includes job controls. Model 3 includes job and firm controls. Model 4 re-estimates the baseline specification using only observations with non-missing firm size information. Model 5 presents an unweighted regression. Model 6 excludes the top 5% of the wage distribution. Model 7 uses log hourly net wages as the outcome variable. Model 8 excludes managers. Standard errors are clustered by supervisory-industry-country. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$  Source: EU-SILC, 2003-2022.

**Table B2:** Estimations of the supervisory wage gap using UK BHPS/USoc data

	(1) Log wage 1. Baseline	(2) Log wage 2. No firm and job controls	(3) Log wage 3. No firm controls	(4) Log wage 4. No managers	(5) Log wage 5. With sup-spell FE
SWP x 2004	0.004 (0.010)	-0.005 (0.011)	-0.005 (0.011)	0.009 (0.012)	-0.006 (0.008)
SWP x 2005	0.008 (0.012)	0.002 (0.012)	0.002 (0.012)	0.015 (0.014)	-0.003 (0.009)
SWP x 2006	0.019 (0.012)	0.009 (0.012)	0.011 (0.012)	0.007 (0.014)	0.009 (0.010)
SWP x 2007	0.029** (0.012)	0.023* (0.012)	0.023* (0.012)	0.021 (0.014)	0.002 (0.010)
SWP x 2008	0.048*** (0.013)	0.040*** (0.013)	0.041*** (0.013)	0.043*** (0.014)	0.035*** (0.010)
SWP x 2010	0.023** (0.010)	0.017* (0.010)	0.017* (0.010)	0.015 (0.011)	0.027** (0.012)
SWP x 2011	0.032*** (0.010)	0.029*** (0.010)	0.029*** (0.010)	0.028** (0.011)	0.035*** (0.012)
SWP x 2012	0.036*** (0.011)	0.031*** (0.011)	0.030*** (0.010)	0.024* (0.014)	0.031*** (0.012)
SWP x 2013	0.034*** (0.010)	0.031*** (0.010)	0.031*** (0.010)	0.033*** (0.012)	0.029** (0.012)
SWP x 2014	0.036*** (0.010)	0.031*** (0.010)	0.029*** (0.010)	0.027** (0.012)	0.033*** (0.012)
SWP x 2015	0.032*** (0.010)	0.028*** (0.010)	0.027*** (0.010)	0.027** (0.012)	0.038*** (0.012)
SWP x 2016	0.021** (0.010)	0.017* (0.010)	0.017* (0.010)	0.014 (0.013)	0.031*** (0.012)
SWP x 2017	0.040*** (0.010)	0.034*** (0.010)	0.034*** (0.010)	0.031** (0.012)	0.037*** (0.012)
SWP x 2018	0.049*** (0.011)	0.043*** (0.011)	0.044*** (0.011)	0.031** (0.015)	0.038*** (0.012)

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**Table B2:** Estimations of the supervisory wage gaps using UK BHPS/USoc data (continued)

	(1) Log wage 1. Baseline	(2) Log wage 2. No firm and job controls	(3) Log wage 3. No firm controls	(4) Log wage 4. No managers	(5) Log wage 5. With sup-spell FE
SWP x 2019	0.060*** (0.010)	0.056*** (0.010)	0.054*** (0.010)	0.043*** (0.012)	0.055*** (0.013)
SWP x 2020	0.069*** (0.011)	0.063*** (0.012)	0.062*** (0.012)	0.050*** (0.012)	0.050*** (0.013)
SWP x 2021	0.073*** (0.011)	0.056*** (0.011)	0.055*** (0.011)	0.062*** (0.015)	0.053*** (0.013)
SWP x 2022	0.063*** (0.010)	0.042*** (0.010)	0.043*** (0.010)	0.063*** (0.012)	0.052*** (0.012)
Age	0.042*** (0.001)	0.045*** (0.001)	0.044*** (0.001)	0.042*** (0.001)	0.057*** (0.007)
Age squared	-0.043*** (0.001)	-0.047*** (0.001)	-0.046*** (0.001)	-0.044*** (0.001)	-0.058*** (0.005)
Female	-0.098*** (0.007)	-0.100*** (0.007)	-0.100*** (0.007)	-0.091*** (0.006)	
Married	0.043*** (0.003)	0.046*** (0.003)	0.045*** (0.003)	0.038*** (0.003)	0.008** (0.003)
Other higher	-0.112*** (0.005)	-0.116*** (0.007)	-0.118*** (0.007)	-0.095*** (0.004)	-0.066*** (0.013)
A level	-0.156*** (0.004)	-0.170*** (0.004)	-0.172*** (0.004)	-0.134*** (0.004)	-0.086*** (0.010)
GCSE	-0.206*** (0.006)	-0.224*** (0.007)	-0.227*** (0.007)	-0.175*** (0.006)	-0.090*** (0.021)
Other qual.	-0.254*** (0.005)	-0.276*** (0.006)	-0.278*** (0.006)	-0.221*** (0.006)	-0.098*** (0.016)
No qual.	-0.333*** (0.007)	-0.357*** (0.008)	-0.360*** (0.008)	-0.308*** (0.008)	-0.125*** (0.023)
Temporary emp.	-0.114*** (0.004)		-0.117*** (0.004)	-0.120*** (0.004)	-0.051*** (0.004)

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**Table B2:** Estimations of the supervisory wage gaps using UK BHPS/USoc data (continued)

	(1) Log wage 1. Baseline	(2) Log wage 2. No firm and job controls	(3) Log wage 3. No firm controls	(4) Log wage 4. No managers	(5) Log wage 5. With sup-spell FE
Observations	177412	180339	180234	144625	162101
Adj. R-squared	0.486	0.453	0.455	0.479	0.771
Sup-spell FE	No	No	No	No	Yes
Ind.-year FE	Yes	Yes	Yes	Yes	Yes
Sup.-ind. FE	Yes	Yes	Yes	Yes	Yes
Occupation FE	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	No	No	Yes	Yes

*Notes:* Standard errors in parentheses. Models 1-4 are based on equation (1), and Model 5 is based on equation (2). Model 1 is our baseline model. Model 2 exclude firm size and job controls. Model 3 includes all controls except firm size controls. Model 4 excludes managers from our sample. Model 5 includes supervisor-spell fixed effects as per equation (2). All models include industry-year fixed effects and supervisor-industry fixed effects. Standard errors are clustered by individual. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$  Source: BHPS and Understanding Society, 2003-2022.

**Table B3:** Robustness: estimations of supervisory wage gaps with WERS data

	(1) Log wage (ML interval regression)	(2) Log wage (ML interval regr, within-firm)	(3) Log wage (Firm-panel, OLS)	(4) Log wage (Firm-panel, ML interval regression)
SWG $\times$ 2011	0.041*** (0.014)	0.031*** (0.012)	0.046** (0.019)	0.042* (0.015)
Observations	10337	10337	1944	2085
Control variables	Yes	Yes	Yes	Yes
Supervisor-industry FE	Yes			
Industry-year FE	Yes			
Firm FE			Yes	Yes
Supervisor-firm FE		Yes		
Firm-year FE		Yes		
Year FE			Yes	Yes

*Notes:* Standard errors in parentheses. Specifications in columns (1), (2) and (4) are based on maximum likelihood (ML) interval regression. Columns (3) and (4) present results from firm-level panels. All regressions include individual-level controls. The sample period spans 2004–2011, corresponding to the availability of WERS data. Standard errors are clustered at the firm level. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Table B4:** Robustness: employment relations channel

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Log wage	Log wage	Log wage	Log wage	Log wage	Log wage	Log wage
SWG	-0.077 (0.089)	-0.298** (0.117)	0.228*** (0.061)	0.167* (0.092)	0.144** (0.058)	0.039 (0.095)	-0.383*** (0.125)
SWG × Monitoring	1.075*** (0.310)	1.327*** (0.283)					0.999*** (0.285)
SWG × Outsourcing			2.146** (0.971)	1.129** (0.502)			1.286** (0.589)
SWG × Offshoring					1.130** (0.545)	1.316** (0.571)	1.557*** (0.516)
SWG × ICT/value added	-1.630** (0.626)	-1.491** (0.668)	-0.003 (3.551)	-0.433 (0.752)	-0.923 (0.655)	-0.835 (0.682)	-0.956 (0.624)
SWG × Log VA		0.375* (0.197)		0.144 (0.215)		0.222 (0.185)	0.565*** (0.204)
Observations	707386	707386	823553	662143	762989	762989	696131
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Supervisor-industry-country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-country-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

*Notes:* Standard errors in parentheses. All models are based on equation (4). Models 1 and 7 includes observations up until 2019, the year when ECS data on monitoring tools is available. Other models include observations until 2020. All interaction terms vary at the industry-level. Standard errors are clustered at the supervisor-industry-country-level. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .