

## Supplemental Online Appendix

### Variable Pay Systems and/or Collective Wage Bargaining? Complements or Substitutes?

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**Table OA.1.** Collective Wage Bargaining and the Incidence of Variable Pay Systems (Sensitivity Tests on Basis of Different VCE Estimators)

	<i>Models</i>		
	(a)	(b)	(c)
	Probit with robust standard errors		
Single-level bargaining	−0.004 (0.028)		
Only company bargaining		0.052 (0.034)	0.054 (0.034)
Only sectoral bargaining		−0.027 (0.038)	−0.032 (0.038)
Only national bargaining		−0.118*** (0.044)	−0.113** (0.044)
Multilevel bargaining	0.114*** (0.035)	0.098*** (0.036)	
Governed multilevel bargaining			−0.009 (0.054)
Ungoverned multilevel bargaining			0.149*** (0.041)
	Probit with clustered standard errors (28 clusters)		
Single-level bargaining	−0.004 (0.032)		
Only company bargaining		0.052 (0.034)	0.054 (0.035)
Only sectoral bargaining		−0.027 (0.036)	−0.032 (0.038)
Only national bargaining		−0.118* (0.067)	−0.113* (0.063)
Multilevel bargaining	0.114** (0.053)	0.098* (0.053)	
Governed multilevel bargaining			−0.009 (0.102)
Ungoverned multilevel bargaining			0.149*** (0.051)
	LPM with parametric Moulton correction		
Single-level bargaining	−0.004 (0.008)		
Only company bargaining		0.012 (0.010)	0.013 (0.010)
Only sectoral bargaining		−0.010 (0.012)	−0.013 (0.012)
Only national bargaining		−0.042*** (0.013)	−0.040*** (0.014)

Multilevel bargaining	0.033*** (0.010)	0.028*** (0.010)	
Governed multilevel bargaining			−0.008 (0.015)
Ungoverned multilevel bargaining			0.047*** (0.012)

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*Notes:* The three models based on Table 2 in the article. 1) Probit with robust standard errors, 2) Probit with clustered standard errors (clustering on the 28 countries), and 3) a linear probability model with a parametric Moulton correction as suggested in Angrist and Pischke (*Mostly Harmless Econometrics: An Empiricist's Companion*, 2009).

**Table OA.2.** Collective Wage Bargaining and the Incidence of Variable Pay Systems (Leave-One-Country-Out Results)

<i>Variable</i>	<i>Average coefficient</i>	<i>Median coefficient</i>	<i>Minimum coefficient</i>	<i>Maximum coefficient</i>	<i>% of estimates where coefficient is significant</i>
Model (a)					
Single-level bargaining	−0.001	−0.001	−0.005	0.004	0
Multilevel bargaining	0.033	0.032	0.027	0.040	100
Model (b)					
Only company bargaining	0.015	0.015	0.011	0.020	4
Only sectoral bargaining	−0.008	−0.008	−0.012	−0.001	0
Only national bargaining	−0.034	−0.034	−0.041	−0.015	96
Multilevel bargaining	0.028	0.028	0.022	0.036	100
Model (c)					
Only company bargaining	0.016	0.016	0.012	0.021	7
Only sectoral bargaining	−0.009	−0.009	−0.015	−0.002	0
Only national bargaining	−0.032	−0.032	−0.040	−0.015	93
Governed multilevel bargaining	−0.003	−0.003	−0.028	0.014	0
Ungoverned multilevel bargaining	0.043	0.043	0.037	0.051	100

*Notes:* The leave-one-out (one country is left out) models are based on Table 2 in the article. The table shows the variation of the coefficient (and the significance) if one country is left out for all countries considered in the sample.

**Table OA.3.** Incidence (in Percentage) of Collective Bargaining Structure and Variable Pay: Country-Level Information

<i>Country</i>	<i>Collective bargaining</i>							<i>Variable pay</i>			
	<i>None</i>	<i>Only company</i>	<i>Only sector</i>	<i>Only national</i>	<i>Any multilevel</i>	<i>Governed multilevel</i>	<i>Ungoverned multilevel</i>	<i>Any</i>	<i>Payment by results</i>	<i>Performance-related pay</i>	<i>Team-related pay</i>
Belgium	15	6	33	7	40	0	40	55	37	37	35
Bulgaria	85	10	1	1	3	0	3	68	39	47	53
Czech Republic	70	24	1	0	4	0	4	91	54	78	67
Denmark	27	17	14	6	36	36	0	79	44	61	51
Germany	36	18	23	3	19	19	0	70	36	52	47
Estonia	93	5	1	0	2	0	2	88	63	55	69
Ireland	45	16	3	17	19	0	19	70	36	49	44
Greece	11	15	11	24	39	0	39	61	33	43	36
Spain	8	15	39	11	28	0	28	61	42	43	43
France	25	23	11	8	33	0	33	73	39	43	58
Croatia	58	27	2	2	10	0	10	56	41	45	34
Italy	5	4	9	60	22	0	22	61	22	44	42
Cyprus	48	24	6	4	18	0	18	55	29	40	33
Latvia	94	4	1	0	1	0	1	74	30	56	48
Lithuania	84	11	1	1	4	0	4	88	73	72	69
Luxembourg	38	23	6	8	26	0	26	70	43	48	41
Hungary	80	12	2	1	5	0	5	60	28	44	35
Malta	77	11	0	3	9	0	9	75	52	51	37
Netherlands	34	24	14	8	20	20	0	73	40	54	54
Austria	15	4	57	4	21	21	0	83	55	63	62
Poland	51	43	2	1	4	0	4	82	44	59	63
Portugal	38	6	30	6	20	0	20	59	31	41	41
Romania	30	59	1	3	8	0	8	68	45	48	49
Slovenia	30	32	5	11	22	0	22	87	42	79	73
Slovakia	72	20	1	1	5	0	5	91	56	59	72
Finland	7	5	52	9	27	27	0	88	52	55	76
Sweden	12	3	19	11	54	54	0	71	35	46	54
UK	52	32	2	4	10	0	10	71	38	47	46

**Table OA.4.** Collective Wage Bargaining and the Incidence of Variable Pay Systems (Analogous to Table 2 but with Company-Level Bargaining as Reference Category)

	<i>Models</i>		
	(a)	(b)	(c)
<b>Differentiation between levels</b>			
No collective bargaining	0.001 (0.008)	−0.015 (0.010)	−0.016 (0.010)
Only sectoral bargaining		−0.023* (0.012)	−0.025** (0.012)
Only national bargaining		−0.049*** (0.013)	−0.048*** (0.014)
Multilevel bargaining	0.034*** (0.009)	0.013 (0.011)	
<b>Differentiation in governability</b>			
Governed multilevel bargaining			−0.018 (0.016)
Ungoverned multilevel bargaining			0.027** (0.012)
Observations	18,524	18,524	18,524

*Notes:* Probit average marginal effects, robust standard errors in parentheses. All estimates control for country fixed effects as well as further control variables, which are listed in Table A.2.

\*, \*\*, \*\*\* denote statistical significance on the 10%, 5% level, and 1% level, respectively.

**Table OA.5.** Collective Wage Bargaining and the Type of Variable Pay System (Analogous to Table 3 but Uses Trivariate Probit That Allows Errors to Be Correlated across Equations)

	<i>Models</i>		
	(a)	(b)	(c)
<b>Differentiation between levels</b>	<b>Equation 1: Outcome is payment by results (PbR)</b>		
Single-level bargaining	−0.031 (0.026)		
Only company bargaining		−0.009 (0.030)	−0.007 (0.030)
Only sectoral bargaining		−0.040 (0.036)	−0.046 (0.036)
Only national bargaining		−0.083** (0.042)	−0.079* (0.042)
Multilevel bargaining	0.123*** (0.032)	0.117*** (0.032)	
<b>Differentiation in governability</b>			
Governed multilevel bargaining			0.037 (0.048)
Ungoverned multilevel bargaining			0.159*** (0.037)
<b>Differentiation between levels</b>	<b>Equation 2: Outcome is performance-related pay (PrP)</b>		
Single-level bargaining	−0.011 (0.026)		
Only company bargaining		0.030 (0.031)	0.031 (0.031)
Only <i>sectoral</i> bargaining		−0.055 (0.036)	−0.057 (0.036)
Only <i>national</i> bargaining		−0.068 (0.042)	−0.065 (0.042)
Multilevel bargaining	0.151*** (0.033)	0.138*** (0.033)	
<b>Differentiation in governability</b>			
Governed multilevel bargaining			0.103** (0.048)
Ungoverned multilevel bargaining			0.155*** (0.038)
<b>Differentiation between levels</b>	<b>Equation 3: Outcome is team-related pay (TrP)</b>		
Single-level bargaining	−0.043 (0.027)		
Only company bargaining		0.006 (0.031)	0.009 (0.031)
Only sectoral bargaining		−0.073** (0.037)	−0.084** (0.037)
Only national bargaining		−0.140*** (0.043)	−0.132*** (0.043)
Multilevel bargaining	0.101*** (0.033)	0.086** (0.034)	
Correlation errors Equation 1 and 2	0.35	0.35	0.35
Correlation errors Equations 1 and 3	0.35	0.35	0.34
Correlation errors Equations 2 and 3	0.48	0.48	0.48
Observations	18,524	18,524	18,524

*Notes:* Probit coefficients, robust standard errors in parentheses. See notes in Table 2, which apply also here. \*, \*\*, \*\*\* denote statistical significance on the 10%, 5%, and 1% level, respectively.