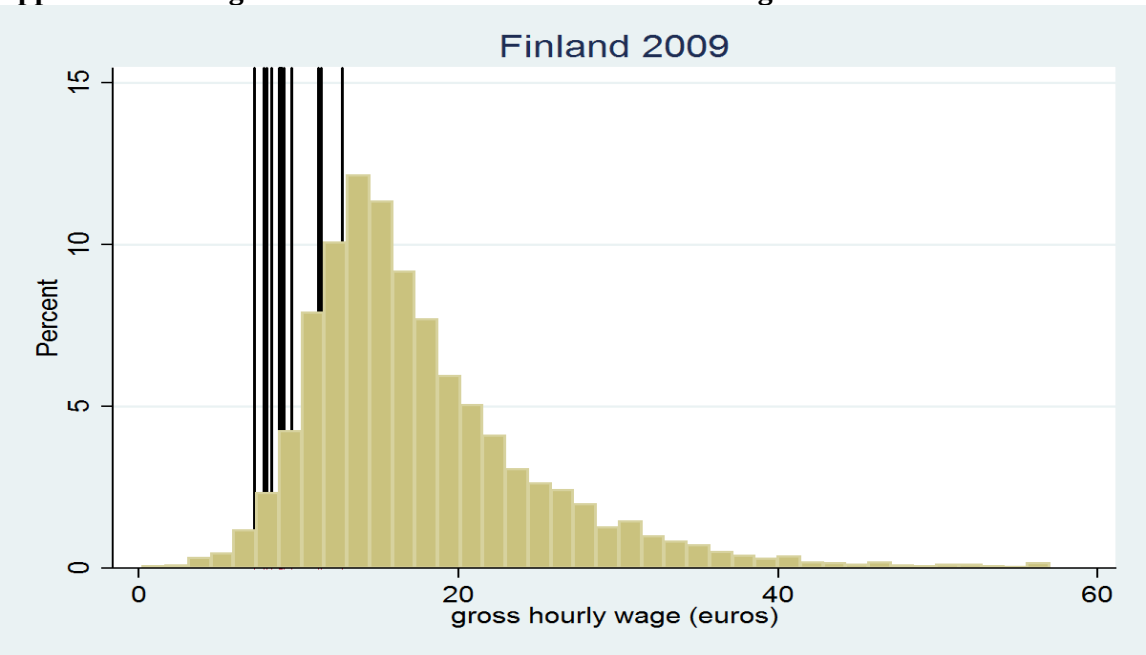
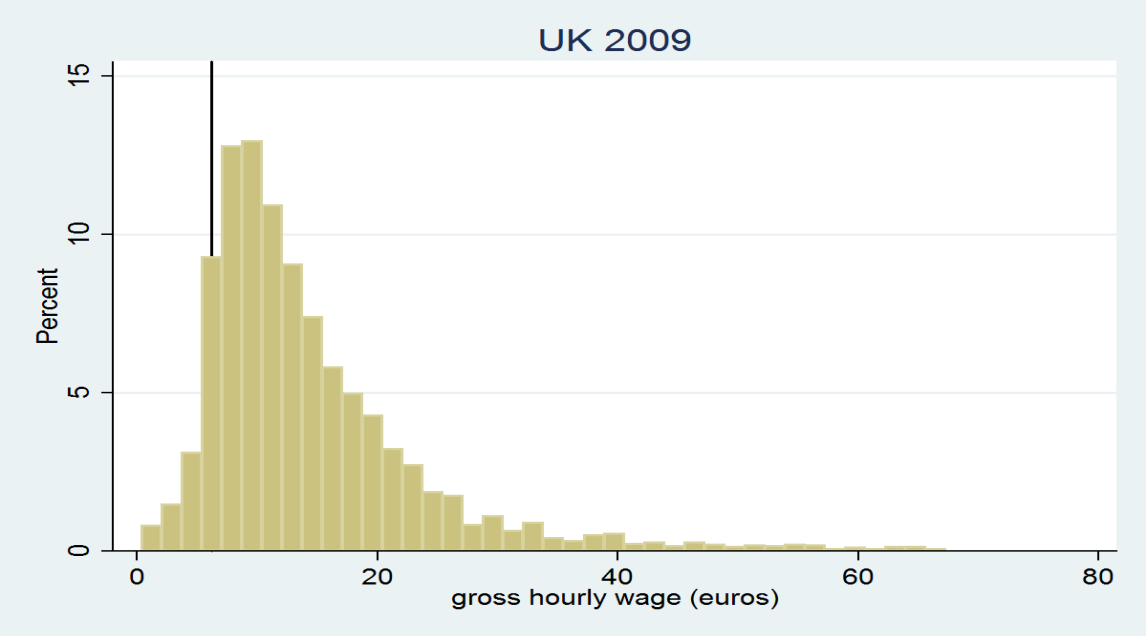
Online Appendix: GARNERO, Andrea, KAMPELMANN, Stephan and RYCX, François, "Minimum Wage Systems and Earnings Inequalities: Does Institutional Diversity Matter?", ***European Journal of Industrial Relations***

Appendix A1: Wage distribution and sectoral minimum wages in Finland



Source: FI-SILC; current 2009 euros; vertical ines represent sectoral minima (in Helsinki for those Sectors that have subminima outside Helsinki).

Appendix A2: Wage distribution and statutory minimum wage in the United Kingdom



Source: UK-SILC; current 2009 euros; the vertical line represents the national statutory minimum wage.

Appendix A3: Descriptive statistics

Countries	Observations per year	SILC waves used in empirical analysis	National statutory minimum wage	Collective bargaining coverage	Average Kaitz index	Average minimum wage	Share of women	Occupational composition			Educational attainment		
								Blue collar (ISCO 11-34)	White collar (ISCO 41-52)	Managers (ISCO 61-93)	ISCED levels 0,1,2	ISCED levels 3,4	ISCED levels 5,6
Austria	5,409	2010	No	0.99	0.55	7.64	0.47	0.35	0.31	0.34	0.17	0.65	0.18
Belgium	5,438	2008	Yes	0.96	0.59	9.15	0.47	0.41	0.30	0.29	0.19	0.39	0.42
Bulgaria	5,399	2008-2010	Yes	0.32	0.43	0.63	0.47	0.24	0.24	0.51	0.16	0.61	0.23
Cyprus	3,429	2008-2009	No	0.52	0.51	4.65	0.49	0.38	0.30	0.32	0.19	0.42	0.39
Germany	10,744	2008	No	0.63	0.54	7.64	0.49	0.51	0.24	0.24	0.08	0.52	0.40
Denmark	4,373	2008-2010	No	0.80	0.62	13.88	0.48	0.43	0.23	0.34	0.23	0.45	0.32
Estonia	5,453	2008-2010	Yes	0.21	0.44	1.61	0.53	0.40	0.18	0.42	0.10	0.54	0.36
Finland	9,399	2008-2010	No	0.90	0.59	8.85	0.51	0.42	0.26	0.32	0.15	0.48	0.37
France	9,863	2009-2010	Yes	0.90	0.70	8.63	0.50	0.40	0.26	0.34	0.21	0.46	0.33
Greece	4,365	2008-2010	Yes	0.65	0.45	3.87	0.45	0.30	0.35	0.36	0.22	0.44	0.34
Hungary	7,690	2008-2010	Yes	0.45	0.56	1.52	0.48	0.30	0.24	0.46	0.15	0.64	0.22
Ireland	3,681	2008-2009	Yes	0.44	0.52	8.48	0.50	0.39	0.35	0.26	0.23	0.38	0.39
Italy	13,450	2008-2010	No	0.80	0.91	10.41	0.44	0.32	0.27	0.41	0.37	0.47	0.16
Latvia	5,644	2008-2010	Yes	0.25	0.40	1.30	0.52	0.38	0.21	0.41	0.14	0.58	0.28
Poland	10,730	2008-2010	Yes	0.38	0.52	1.66	0.49	0.34	0.23	0.43	0.07	0.67	0.26
Portugal	4,216	2008-2010	Yes	0.58	0.52	2.57	0.48	0.23	0.29	0.49	0.65	0.19	0.16
Romania	5,269	2008-2009	Yes	0.70	0.47	0.75	0.44	0.31	0.22	0.47	0.11	0.69	0.20
United Kingdom	6,866	2008-2010	Yes	0.34	0.54	6.90	0.51	0.43	0.33	0.24	0.12	0.52	0.37
Countries *without* national minimum wage	8,052		No	0.79	0.65	9.54	0.48	0.39	0.27	0.34	0.22	0.48	0.30
Countries *with* national minimum wage	6,263		Yes	0.50	0.50	3.39	0.49	0.34	0.26	0.40	0.20	0.52	0.29
Total	6,792		-	0.60	0.55	5.21	0.48	0.35	0.26	0.38	0.20	0.51	0.29

Note: Minimum wages in national currencies have been converted to euros using the average exchange rate; year-to-year fluctuations therefore capture not only changes in minimum rates but also exchange rate fluctuations (UK, Poland). In countries with no statutory minimum wages, the average minimum wages represent employment-weighted averages of sectoral minima.

Appendix A4

1. Collection of minimum rates from sectoral bargaining agreements

This section provides a detailed description of country specificities regarding the procedure through which we collected sectoral-level data on minimum wage rates.

1.1. Austria

Collectively negotiated minimum wages in Austria have been extracted from the ÖGB KV database, which includes most of the Austrian *Kollektivlohnverträge*. In each of the agreements that we analysed, we collected information on the lowest pay category ('*Unterste Lohngruppe*'). Where these amounts were indicated as monthly minima, we also collected information on the conventional working hours in the sector covered by the agreement in order to calculate hourly minimum rates. The more than 300 sectors were then weighted to account for the differences in employment between sectors according to the sum of weights within each sector using the Austrian *Tariflohnindex*, an index containing a representative sample of job categories from each bargaining sector. All data on minimum wages refer to 2009.

1.2. Belgium

In Belgium, the *Conventions Collectives de Travail* are negotiated at more or less irregular intervals within the different *Commissions Paritaires*. We have collected information on minimum wages from collective agreements that were signed in 2007, thereby circumventing the issue of older agreements that might still be binding but subject to indexing (which is a widespread phenomenon in Belgium). For the case of Belgium, we collected information for around 150 *Commissions* or *Sous-Commissions Paritaires*. We then calculated the weighted average of the minimum wages in the different *Commissions Paritaires* using weights based on the number of employees and workers in each *CP* that we extracted from the Belgian Structure of Earnings Survey for 2007.

1.3. Denmark

Data on minimum wages in Denmark have been extracted from collective agreements available in the archive of the Danish Confederation of Trade Unions (LO). LO provided us with collective agreements for 2007, 2008 and 2009 on top of those available online. The 105 sectors were then weighted according to employment within each sector provided by DA (*Dansk Arbejdsgiverforening*).

1.4. Finland

Data on minimum wages in Finland have been extracted from collective agreements available in Finlex and from unions. Missing data (for some sectors in some years) have been extrapolated using the index of wage and salary earnings. The 210 sectors were weighted according to the sum of weights within each sector provided by SAK.

1.5. Germany

In Germany, data had to be collected from the collective agreements (*Tarifverträge*) that are negotiated among the social partners at the regional and sectoral level. We recorded the 2007 minimum wages in more than 70 sectors (*Tarifbranchen*). In light of the marked wage inequality between the Länder of the former GDR and FRG, we included both the level of the lowest wage category in both eastern and western Germany, which means that we have collected information on around 150 different minima in Germany. As a consequence, the average minimum wage reflect the range of sectoral (and regional) minima and the distribution of total employment among these different minima. The employment weights used to calculate the country average are based on the distribution of employment in the German Socio-economic panel (SOEP); in order to apply these weights to the sectoral minima, it was necessary to match de definitions of NACE 2-digit sectors with those that underlie the classification of *Tarifbranchen*.

1.6. Italy

Data on minimum wages in Italy have been extracted from the ISTAT database of collective agreements used to build the index of the evolution of wages and salaries (per employee or per hour) determined by contractual provisions set by collective agreements. Consistently with ISTAT, average sectoral minimum wages are calculated with reference to the fixed employment structure of the base period (December 2005). In order to account for the differences in employment between sectors, we weighted each sector according to the sum of weights within each sector provided by ISTAT.

2. Computation of the Kaitz index

2.1. Industry- and country-level Kaitz indices

The Kaitz indices used in the paper are defined as the ratio of the (sectoral or national) minimum wage to the median wage of the working population in each of the one-digit sectors of the NACE. While many of the sectoral collective bargaining agreements are signed at sub-sector level, the one-digit NACE is the most detailed sectoral classification available in the EU-SILC database used in the paper. Prior to calculating the one-digit Kaitz indices, this limitation contrained us to compute employment-weighted averages of the sub-sectoral minima. The weights used in this step are the ones described in the previous section.

While some intra-sectoral variation of minima is lost by averaging within one-digit sectors, computing Kaitz indices for one-digit sectors allows to account for much of the within-country differences between sectors regarding both minimum rates and median wages. In the case of countries in which wage floors are determined at the sectoral level, both the numerator and denominator of the sectoral Kaitz indices include sectoral-level information. In the case of countries with a national statutory wage floor and no sectoral differentiation, only the denominator (i.e. the median wage) varies between sectors. This can be represented mathematically as follows:

$$KI_{i,c,t} = \frac{MW_{i,c,t}}{\overline{W}_{i,c,t}}$$ (in countries with sectoral minimum rates)

$$KI_{i,c,t} = \frac{MW_{c,t}}{\overline{W}_{i,c,t}} \qquad \text{(in countries with national statutory minima)}$$

where $KI_{i,c,t}$ is the Kaitz index relative to sector i in country c at year t, $MW_{i,c,t}$ ($MW_{c,t}$ in countries with a national minimum) the corresponding minimum wage and $\overline{W}_{i,c,t}$ the median wage.

The Kaitz indices used in the country-level regressions are employment-weighted averages of the different Kaitz indices computed at the one-digit NACE level:

$$KI_{c,t} = \sum_{i=1}^{N} \varphi_{i,c,t} KI_{i,c,t}$$

where $\varphi_{i,c,t}$ is the share of employment in industry i of country c at year t.

2.2. Alternative computation of country-level Kaitz index

Rather than averaging the sectoral Kaitz indices within each country, an alternative way to think about minimum wages at the country level is to use the lowest sectoral minimum rate in each country in the regression analysis. We therefore included a robustness test in which the Kaitz index at the country level corresponds to the ratio between the lowest sectoral minimum wage in country c at year t and the median wage in the corresponding country during the same year:

$$KI_{c,t} = \frac{Min\left(MW_{i,c,t}\right)}{\overline{W}_{c,t}}$$

Appendix A5: Robustness tests excluding apprentices and young workers, Italy and Belgium

Dependent variable:	Overall wage inequality (Gini coefficient)				Inter-industry wage inequality (Theil decomposition)				Share of workers paid less than 75% of MW			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Baseline model	**Excluding apprentices & workers <= 18 years**	**Excluding Italy**	**Excluding Belgium**	**Baseline model**	**Excluding apprentices & workers <= 18 years**	**Excluding Italy**	**Excluding Belgium**	**Baseline model**	**Excluding apprentices & workers <= 18 years**	**Excluding Italy**	**Excluding Belgium**
National minimum wage (NMW)	-0.11***	-0.11***	-0.13***	-0.11***	-0.16***	-0.16***	-0.19***	-0.15**	-0.15***	-0.14***	-0.15***	-0.15***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.05)	(0.05)	(0.05)	(0.05)	(0.03)	(0.03)	(0.03)	(0.03)
Collective bargaining coverage (CBC)	-0.23***	-0.24***	-0.23***	-0.23***	-0.20***	-0.20***	-0.19***	-0.18***	-0.16***	-0.15***	-0.16***	-0.16***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.05)	(0.05)	(0.06)	(0.05)	(0.04)	(0.04)	(0.04)	(0.03)
NMW*CBC	0.19***	0.19***	0.23***	0.19***	0.16**	0.16**	0.23***	0.16*	0.19***	0.19***	0.19***	0.19***
	(0.04)	(0.04)	(0.05)	(0.05)	(0.08)	(0.07)	(0.08)	(0.08)	(0.04)	(0.04)	(0.04)	(0.04)
Kaitz index	-0.47**	-0.48**	0.55	-0.47**	-0.96***	-0.96***	0.73	-0.97***	-0.48***	-0.21	-0.48***	-0.49***
	(0.19)	(0.19)	(0.36)	(0.19)	(0.33)	(0.33)	(0.67)	(0.32)	(0.13)	(0.23)	(0.13)	(0.13)
Kaitz index squared	0.26*	0.28*	-0.79**	0.27*	0.71***	0.71***	-1.06	0.72***	0.51***	0.24	0.51***	0.53***
	(0.14)	(0.14)	(0.36)	(0.14)	(0.25)	(0.25)	(0.66)	(0.25)	(0.12)	(0.23)	(0.11)	(0.11)
Sex ratio	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupational controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Educational controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.52**	0.46**	0.21	0.52**	0.67*	0.66*	0.18	0.68*	0.24	0.15	0.24	0.19
	(0.19)	(0.2)	(0.19)	(0.19)	(0.37)	(0.38)	(0.32)	(0.38)	(0.18)	(0.18)	(0.19)	(0.17)
R-squared	0.81	0.82	0.84	0.81	0.59	0.60	0.64	0.60	0.80	0.58	0.80	0.82
Observations	44	44	41	43	44	44	41	43	44	44	41	43
F-test	24.74	25.59	23.1	23.5	27.07	28.65	42.04	23.25	11.81	7.46	11.48	13.30
p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Significance levels: * p<0.1, ** p<0.05, ***p<0.01. Robust standard errors are reported between brackets.

Appendix A6: Share of workers earning less than 85 per cent of the corresponding minimum wage

	Model 1	Model 2	Model 3	Model 4	Model 5
National minimum wage	-0.04**	-0.02	-0.16***	-0.13***	-0.17***
(NMW)	(0.02)	(0.02)	(0.04)	(0.04)	(0.04)
Collective bargaining coverage	0.02	-0.05	-0.18***	-0.19***	-0.19***
(CBC)	(0.02)	(0.04)	(0.05)	(0.05)	(0.05)
NMW*CBC			0.18**	0.16***	0.21***
			(0.07)	(0.05)	(0.05)
Kaitz index				0.29***	-0.65***
				(0.06)	(0.17)
Kaitz index squared					0.72***
					(0.15)
Sex ratio	No	Yes	Yes	Yes	Yes
Occupational controls	No	Yes	Yes	Yes	Yes
Educational controls	No	Yes	Yes	Yes	Yes
Year dummies	No	Yes	Yes	Yes	Yes
Constant	0.07***	1.01***	0.95**	0.17	0.29
	(0.02)	(0.34)	(0.35)	(0.27)	(0.25)
R-squared	0.21	0.38	0.42	0.71	0.82
Observations	44	44	44	44	44
F-test	3.18	2.89	6.78	7.33	14.13
p-value	0.05	0.01	0.00	0.00	0.00

Significance levels: * *p<0.1*, ** *p<0.05*, ****p<0.01*. Robust standard errors are reported between brackets.

Appendix A7: Regression results using an alternative Kaitz index (i.e. the ratio between the lowest sectoral (NACE 1 digit) minimum wage and national median wage)

Dependent variable:	**Overall wage inequality (Gini index)**		**Inter-industry wage inequality (Theil decomposition)**		**Share of workers earning less than: 75% of the prevailing minimum wage**		**85% of the prevailing minimum wage**	
	Model 4	Model 5	Model 4	Model 5	Model 4	Model 5	Model 4	Model 5
National minimum wage (NMW)	-0.12***	-0.12***	-0.13**	-0.13**	-0.11***	-0.09	-0.11***	-0.11***
	(0.03)	(0.03)	(0.06)	(0.06)	(0.04)	(0.06)	(0.04)	(0.03)
Collective bargaining coverage (CBC)	-0.27***	-0.27***	-0.21***	-0.21***	-0.12**	-0.12***	-0.12**	-0.12***
	(0.03)	(0.03)	(0.06)	(0.06)	(0.05)	(0.04)	(0.05)	(0.04)
NMW*CBC	0.21***	0.21***	0.12	0.11	0.12**	0.13**	0.12**	0.11**
	(0.04)	(0.04)	(0.08)	(0.08)	(0.06)	(0.05)	(0.06)	(0.04)
Kaitz Index	-0.15***	-0.26	-0.05	-0.59	0.14**	-1.08**	0.14**	-1.19***
	(0.03)	(0.28)	(0.07)	(0.59)	(0.05)	(0.40)	(0.05)	(0.33)
Kaitz Index squared		0.10		0.50		1.16***		1.23***
		(0.25)		(0.54)		(0.34)		(0.31)
Sex ratio	yes	yes	yes	yes	yes	yes	yes	yes
Occupational controls	yes	yes	yes	yes	yes	yes	yes	yes
Educational controls	yes	yes	yes	yes	yes	yes	yes	yes
Year dummies	yes	yes	yes	yes	yes	yes	yes	yes
Constant	0.43***	0.44***	0.56	0.62*	0.40	0.48**	0.40	0.55***
	(0.15)	(0.15)	(0.35)	(0.35)	(0.24)	(0.23)	(0.24)	(0.18)
R-squared	0.81	0.81	0.54	0.54	0.55	0.74	0.55	0.74
Observations	44	44	44	44	44	44	44	44
F-test	26.33	26.48	33.41	33.54	5.95	8.97	5.95	9.94
p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Significance levels: * *p<0.1*, ** *p<0.05*, ****p<0.01*. Robust standard errors are reported between brackets.