

APPENDIX

Table A1. Country coverage and sample sizes

Country	Year				
	2002	2006	2010	2014	2018
Bulgaria	152,977	186,672	204,968	200,680	217,508
Czechia	1,025,943	1,946,682	1,958,532	2,181,830	2,409,108
Denmark					2,315,423
Estonia	78,106	125,702	118,916	122,381	154,646
France					252,377
Greece					38,986
Italy					245,897
Lithuania	145,035	130,553	38,152	44,570	42,901
Latvia	192,551	299,857	223,215	171,853	187,859
Norway					2,489,517
Poland	647,386	652,688	681,761	723,706	861,637
Slovakia	419,715	674,408	773,860	875,163	951,370
UK				175,477	

Table A2. Correlations between O*NET-based task measures (Acemoglu and Autor, 2011) with (a) our ESCO-based task measures (columns (1)-(3)), (b) PDII-based task measures from Autor and Handel (2013) (column (4)) and (c) PIAAC-based task measures from De La Rica et al., (2020) (column (5))

ESCO-based tasks	O*NET-based tasks	Pearson	Pearson (weighted)	Spearman	Autor and Handel (2013)	De La Rica et al. (2020)*
		(1)	(2)	(3)	(4)	(5)
Abstract (all)	Non-routine cognitive (average)	0.67	0.68	0.70	0.65	~0.62-0.70
- Analytical	- Non-routine cognitive analytic	0.60	0.64	0.62	-	-
- Social	- Non-routine cognitive social	0.54	0.52	0.61	-	-
Routine	Routine (avg. of manual routine and cognitive routine)	0.49	0.57	0.56	0.48	~0.20-0.49
Manual	Non-routine manual	0.72	0.72	0.81	0.63	~0.54-0.72

Note: De la Rica et al. (2020) calculate correlations for each country in the PIAAC sample, achieving the highest correlations for the US and, understandably, lower ones for all other countries. The correlations for US were 0.82, 0.53 and 0.73 for Abstract, Routine and Manual tasks, respectively. The range reported in the table refers only to the EU countries in the sample.

Table A3. Wage returns to task content of occupations. Full estimates from Models 1a, 1b, 2a, 2b

Dep. Variable: log hourly wage	Model			
	1a	1b	2a	2b
Woman	-0.116*** [0.01] (-0.13,-0.10)	-0.116*** [0.01] (-0.13,-0.10)	-0.117*** [0.01] (-0.13,-0.10)	-0.119*** [0.01] (-0.13,-0.11)
Tasks:				
Social tasks	-0.014 [0.01] (-0.04,0.01)		-0.031 [0.02] (-0.06,0.00)	
Social outward tasks		-0.022* [0.01] (-0.04,-0.00)		-0.040** [0.02] (-0.07,-0.01)
Social inward tasks		0.019 [0.01] (-0.00,0.04)		0.014 [0.02] (-0.01,0.04)
Analytical tasks	0.050** [0.02] (0.01,0.08)	0.045** [0.02] (0.01,0.08)	0.073*** [0.02] (0.04,0.11)	0.071*** [0.02] (0.04,0.11)
Routine tasks	-0.064*** [0.02] (-0.09,-0.04)	-0.062*** [0.02] (-0.09,-0.04)	-0.084*** [0.02] (-0.11,-0.06)	-0.077*** [0.02] (-0.11,-0.05)
Manual tasks	-0.066*** [0.02] (-0.10,-0.04)	-0.061*** [0.02] (-0.09,-0.03)	-0.054** [0.02] (-0.09,-0.02)	-0.049** [0.02] (-0.09,-0.01)
Woman # Social tasks			0.031** [0.01] (0.01,0.05)	
Woman # Social outward tasks				0.028** [0.01] (0.00,0.05)
Woman # Social inward tasks				0.015 [0.01] (-0.01,0.04)
Woman # Analytical tasks			-0.054*** [0.02] (-0.08,-0.03)	-0.062*** [0.01] (-0.09,-0.04)
Woman # Routine tasks			0.036*** [0.01] (0.02,0.06)	0.027** [0.01] (0.01,0.05)

Woman # Manual tasks			-0.025 [0.02] (-0.05,0.00)	-0.028* [0.02] (-0.05,-0.00)
Age:				
20-29	0.125*** [0.02] (0.09,0.16)	0.125*** [0.02] (0.09,0.16)	0.125*** [0.02] (0.09,0.16)	0.124*** [0.02] (0.09,0.16)
30-39	0.220*** [0.02] (0.18,0.26)	0.218*** [0.02] (0.18,0.26)	0.219*** [0.02] (0.18,0.25)	0.217*** [0.02] (0.18,0.25)
40-49	0.240*** [0.02] (0.20,0.28)	0.237*** [0.02] (0.20,0.27)	0.239*** [0.02] (0.20,0.27)	0.236*** [0.02] (0.20,0.27)
50-59	0.216*** [0.02] (0.18,0.25)	0.212*** [0.02] (0.17,0.25)	0.215*** [0.02] (0.18,0.25)	0.212*** [0.02] (0.17,0.25)
60+	0.156*** [0.03] (0.11,0.20)	0.151*** [0.03] (0.11,0.20)	0.155*** [0.02] (0.11,0.20)	0.151*** [0.03] (0.11,0.19)
Education level				
Upper or post-secondary	0.071*** [0.01] (0.05,0.09)	0.071*** [0.01] (0.05,0.09)	0.068*** [0.01] (0.05,0.09)	0.068*** [0.01] (0.05,0.09)
Any tertiary	0.340*** [0.04] (0.28,0.40)	0.342*** [0.04] (0.28,0.40)	0.336*** [0.03] (0.28,0.39)	0.338*** [0.03] (0.28,0.40)
Tenure	0.009*** [0.00] (0.01,0.01)	0.009*** [0.00] (0.01,0.01)	0.009*** [0.00] (0.01,0.01)	0.009*** [0.00] (0.01,0.01)
Full time position	0.041** [0.02] (0.01,0.07)	0.042** [0.02] (0.01,0.07)	0.041** [0.02] (0.01,0.07)	0.041** [0.02] (0.01,0.07)
Industry				
Construction	-0.001 [0.02] (-0.04,0.03)	-0.005 [0.02] (-0.04,0.03)	-0.007 [0.02] (-0.04,0.03)	-0.014 [0.02] (-0.05,0.02)
Market services	-0.034 [0.02] (-0.08,0.01)	-0.037 [0.02] (-0.08,0.00)	-0.032 [0.02] (-0.07,0.01)	-0.034 [0.02] (-0.07,0.00)
Non-market services	-0.073** [0.03] (-0.13,-0.02)	-0.075** [0.03] (-0.13,-0.02)	-0.073** [0.03] (-0.12,-0.02)	-0.076** [0.03] (-0.13,-0.02)
Firm over 50 employees	0.161***	0.163***	0.163***	0.164***

	[0.01]	[0.02]	[0.01]	[0.02]
	(0.14,0.19)	(0.14,0.19)	(0.14,0.19)	(0.14,0.19)
Share of women in occ.	-0.142**	-0.138*	-0.145**	-0.136*
	[0.07]	[0.07]	[0.07]	[0.07]
	(-0.26,-0.03)	(-0.25,-0.02)	(-0.26,-0.03)	(-0.26,-0.01)
Country				
CZ	0.902***	0.902***	0.897***	0.898***
	[0.02]	[0.02]	[0.02]	[0.02]
	(0.87,0.93)	(0.87,0.93)	(0.87,0.93)	(0.87,0.93)
DK	2.381***	2.382***	2.375***	2.377***
	[0.03]	[0.03]	[0.03]	[0.03]
	(2.33,2.44)	(2.33,2.43)	(2.32,2.43)	(2.33,2.43)
EE	0.891***	0.892***	0.888***	0.888***
	[0.02]	[0.02]	[0.02]	[0.02]
	(0.86,0.92)	(0.86,0.92)	(0.86,0.92)	(0.86,0.92)
FR	1.751***	1.750***	1.747***	1.746***
	[0.03]	[0.03]	[0.02]	[0.02]
	(1.71,1.79)	(1.71,1.79)	(1.71,1.79)	(1.71,1.79)
GR	1.071***	1.073***	1.072***	1.074***
	[0.03]	[0.03]	[0.03]	[0.03]
	(1.01,1.13)	(1.02,1.13)	(1.01,1.13)	(1.02,1.13)
IT	1.677***	1.676***	1.675***	1.673***
	[0.03]	[0.03]	[0.03]	[0.03]
	(1.62,1.73)	(1.62,1.73)	(1.62,1.73)	(1.62,1.73)
LT	0.520***	0.520***	0.521***	0.521***
	[0.02]	[0.02]	[0.02]	[0.02]
	(0.49,0.55)	(0.49,0.55)	(0.49,0.55)	(0.49,0.55)
LV	0.670***	0.666***	0.668***	0.663***
	[0.02]	[0.03]	[0.03]	[0.03]
	(0.63,0.71)	(0.62,0.71)	(0.63,0.71)	(0.62,0.71)
NO	2.358***	2.357***	2.353***	2.351***
	[0.03]	[0.03]	[0.03]	[0.03]
	(2.31,2.41)	(2.31,2.41)	(2.30,2.40)	(2.30,2.40)
PL	0.655***	0.654***	0.652***	0.652***
	[0.02]	[0.02]	[0.02]	[0.02]
	(0.61,0.70)	(0.61,0.70)	(0.61,0.69)	(0.61,0.69)
SK	0.814***	0.815***	0.811***	0.812***
	[0.02]	[0.02]	[0.02]	[0.02]
	(0.78,0.85)	(0.78,0.85)	(0.78,0.84)	(0.78,0.84)
UK	1.796***	1.797***	1.791***	1.792***
	[0.03]	[0.03]	[0.03]	[0.03]
	(1.75,1.85)	(1.75,1.85)	(1.74,1.84)	(1.74,1.84)
Constant	0.539***	0.540***	0.540***	0.539***

	[0.04] (0.47,0.61)	[0.05] (0.46,0.62)	[0.04] (0.47,0.61)	[0.05] (0.46,0.61)
N	10336694	10336694	10336694	10336694
R-squared	0.784	0.785	0.786	0.786
RMSE	0.399	0.398	0.398	0.397
BIC	10331038	10307961	10275211	10246648

Notes: Standard errors clustered at the ISCO 3 digit level. *, **, *** indicate p-values smaller than .10, .05 and .01.

Table A4. Gender differences in occupational tasks, estimates from Models 3a-3f

Model:	3a	3b	3c	3d	3e	3f
Task:	Social	Social inward	Social outward	Analytical	Routine	Manual
Woman	0.351*** [0.11] (0.17,0.54)	0.148 [0.10] (-0.02,0.31)	0.366*** [0.12] (0.17,0.56)	-0.033 [0.11] (-0.21,0.14)	0.058 [0.11] (-0.12,0.24)	-0.227** [0.10] (-0.39,-0.07)
Age:						
20-29	-0.149** [0.06] (-0.25,-0.04)	-0.08 [0.07] (-0.20,0.04)	-0.150** [0.06] (-0.26,-0.04)	0.002 [0.08] (-0.13,0.14)	0.085 [0.09] (-0.07,0.24)	0.08 [0.09] (-0.06,0.22)
30-39	-0.202*** [0.08] (-0.33,-0.08)	-0.026 [0.09] (-0.17,0.12)	-0.226*** [0.08] (-0.36,-0.09)	0.009 [0.10] (-0.15,0.17)	0.022 [0.11] (-0.17,0.21)	0.083 [0.11] (-0.10,0.27)
40-49	-0.186** [0.09] (-0.34,-0.03)	0.028 [0.10] (-0.14,0.20)	-0.221** [0.10] (-0.38,-0.06)	-0.04 [0.10] (-0.21,0.13)	-0.032 [0.12] (-0.23,0.17)	0.133 [0.13] (-0.08,0.35)
50-59	-0.237** [0.10] (-0.40,-0.07)	-0.024 [0.11] (-0.21,0.16)	-0.267** [0.10] (-0.44,-0.09)	-0.119 [0.11] (-0.30,0.06)	-0.01 [0.13] (-0.22,0.20)	0.215 [0.15] (-0.03,0.46)
60+	-0.292*** [0.11] (-0.48,-0.11)	-0.035 [0.12] (-0.24,0.17)	-0.327*** [0.12] (-0.52,-0.14)	-0.175 [0.12] (-0.38,0.03)	0.032 [0.14] (-0.19,0.26)	0.224 [0.16] (-0.04,0.49)
Education level						
Upper or post-secondary	0.196*** [0.07] (0.09,0.31)	0.214*** [0.05] (0.13,0.30)	0.169** [0.07] (0.06,0.28)	0.252*** [0.06] (0.16,0.35)	-0.059 [0.05] (-0.15,0.03)	-0.313*** [0.08] (-0.45,-0.18)
Any tertiary	0.615*** [0.19] (0.30,0.93)	0.617*** [0.18] (0.33,0.91)	0.544*** [0.20] (0.22,0.87)	0.877*** [0.17] (0.60,1.16)	-0.819*** [0.19] (-1.13,-0.51)	-1.019*** [0.17] (-1.30,-0.74)
Tenure	0.010*** [0.00] (0.00,0.02)	0.011*** [0.00] (0.01,0.02)	0.009** [0.00] (0.00,0.02)	0.011*** [0.00] (0.01,0.02)	-0.008*** [0.00] (-0.01,-0.00)	-0.012*** [0.00] (-0.02,-0.01)
Industry						
Construction	0.092* [0.05] (0.01,0.18)	0.229** [0.11] (0.05,0.40)	0.045 [0.04] (-0.02,0.11)	0.262*** [0.08] (0.12,0.40)	0.219** [0.10] (0.05,0.39)	0.19 [0.19] (-0.13,0.51)
Market services	0.416***	0.412***	0.369***	0.307**	-0.05	-0.444***

	[0.09]	[0.12]	[0.09]	[0.13]	[0.12]	[0.13]
	(0.26,0.57)	(0.22,0.60)	(0.22,0.52)	(0.08,0.53)	(-0.25,0.15)	(-0.66,-0.23)
Non-market services	1.055***	0.567***	1.059***	-0.213	-0.347*	-0.362***
	[0.23]	[0.17]	[0.25]	[0.17]	[0.20]	[0.13]
	(0.68,1.43)	(0.29,0.85)	(0.65,1.47)	(-0.49,0.06)	(-0.67,-0.02)	(-0.58,-0.15)
Firm over 50 employees	-0.041	-0.059	-0.033	0.068	0.133	-0.016
	[0.07]	[0.10]	[0.08]	[0.05]	[0.09]	[0.03]
	(-0.16,0.07)	(-0.22,0.10)	(-0.16,0.10)	(-0.01,0.15)	(-0.02,0.28)	(-0.07,0.04)
Full time position	-0.036	-0.004	-0.042	0.120**	-0.06	-0.097
	[0.07]	[0.06]	[0.07]	[0.06]	[0.07]	[0.07]
	(-0.14,0.07)	(-0.10,0.10)	(-0.16,0.07)	(0.02,0.22)	(-0.17,0.05)	(-0.21,0.02)
Country						
CZ	-0.043	-0.008	-0.046	0.156***	0.051	-0.018
	[0.06]	[0.06]	[0.06]	[0.06]	[0.05]	[0.05]
	(-0.14,0.05)	(-0.11,0.10)	(-0.14,0.05)	(0.06,0.25)	(-0.03,0.13)	(-0.11,0.07)
DK	0.201**	0.096	0.208*	0.12	0.029	-0.06
	[0.09]	[0.08]	[0.11]	[0.08]	[0.13]	[0.06]
	(0.05,0.35)	(-0.03,0.23)	(0.03,0.39)	(-0.01,0.25)	(-0.18,0.24)	(-0.16,0.04)
EE	-0.051	-0.039	-0.048	0.087*	0.041	0.03
	[0.05]	[0.07]	[0.05]	[0.05]	[0.06]	[0.05]
	(-0.13,0.03)	(-0.15,0.07)	(-0.13,0.03)	(0.00,0.17)	(-0.07,0.15)	(-0.06,0.12)
FR	-0.167	-0.025	-0.183*	0.103	0.151	0.078
	[0.10]	[0.09]	[0.10]	[0.08]	[0.10]	[0.10]
	(-0.33,0.00)	(-0.17,0.12)	(-0.35,-0.02)	(-0.03,0.24)	(-0.02,0.32)	(-0.09,0.24)
GR	0.197*	0.008	0.227*	-0.125*	0.26	-0.027
	[0.10]	[0.10]	[0.13]	[0.07]	[0.22]	[0.09]
	(0.03,0.36)	(-0.15,0.17)	(0.02,0.44)	(-0.24,-0.01)	(-0.10,0.62)	(-0.17,0.11)
IT	0.063	0.129	0.04	0.043	0.166	-0.194***
	[0.13]	[0.10]	[0.14]	[0.07]	[0.21]	[0.06]
	(-0.16,0.28)	(-0.04,0.30)	(-0.20,0.28)	(-0.08,0.16)	(-0.18,0.51)	(-0.29,-0.10)
LT	-0.041	0.009	-0.048	0.091*	-0.068	0.082
	[0.04]	[0.05]	[0.05]	[0.05]	[0.06]	[0.06]
	(-0.11,0.03)	(-0.07,0.08)	(-0.12,0.03)	(0.01,0.17)	(-0.17,0.04)	(-0.01,0.18)
LV	-0.071	0.158	-0.123**	0.069	-0.172	-0.001
	[0.06]	[0.18]	[0.06]	[0.04]	[0.15]	[0.05]
	(-0.17,0.03)	(-0.14,0.46)	(-0.22,-0.03)	(-0.01,0.14)	(-0.42,0.07)	(-0.08,0.08)
NO	0.284***	0.287***	0.252**	0.299***	-0.091	-0.134**
	[0.10]	[0.08]	[0.11]	[0.08]	[0.09]	[0.06]

	(0.12,0.45)	(0.15,0.42)	(0.07,0.43)	(0.16,0.44)	(-0.23,0.05)	(-0.24,-0.03)
PL	0.036	0.052	0.028	0.051	-0.104**	0.017
	[0.04]	[0.05]	[0.05]	[0.04]	[0.05]	[0.04]
	(-0.04,0.11)	(-0.02,0.13)	(-0.05,0.11)	(-0.02,0.12)	(-0.18,-0.03)	(-0.05,0.09)
SK	-0.021	-0.034	-0.014	0.090*	0.027	-0.019
	[0.05]	[0.04]	[0.06]	[0.05]	[0.05]	[0.04]
	(-0.11,0.07)	(-0.10,0.04)	(-0.11,0.08)	(0.01,0.17)	(-0.05,0.11)	(-0.09,0.05)
UK	0.085	0.083	0.077	0.194***	-0.009	-0.134**
	[0.07]	[0.08]	[0.08]	[0.07]	[0.07]	[0.07]
	(-0.04,0.21)	(-0.05,0.22)	(-0.05,0.20)	(0.08,0.31)	(-0.13,0.11)	(-0.24,-0.03)
Constant	-0.840***	-0.834***	-0.743***	-0.767***	0.369*	0.966***
	[0.19]	[0.20]	[0.20]	[0.20]	[0.20]	[0.19]
	(-1.16,-0.52)	(-1.16,-0.51)	(-1.08,-0.41)	(-1.10,-0.43)	(0.04,0.70)	(0.65,1.29)
Observations	10336733	10336733	10336733	10336733	10336733	10336733
R-squared	0.295	0.14	0.283	0.174	0.184	0.305
RMSE	0.952	0.971	0.978	0.897	0.991	0.774
BIC	28307128	28734908	28884368	27083224	29151529	24045510

Notes: Standard errors clustered at the ISCO 3 digit level. *, **, *** indicate p-values smaller than .10, .05 and .01.

Table A5. Wage returns to task content and gender differences in occupational tasks after applying a narrower definition of social inward and outward tasks

	Wage returns	Gender differences in occupational tasks	
		management	care
Woman	-0.116*** [0.01] (-0.13,-0.10)	0.097 [0.12] (-0.10,0.29)	0.289** [0.12] (0.09,0.49)
Social tasks: management	-0.001 [0.02] (-0.03,0.03)		
Woman # Social tasks: management	-0.027 [0.02] (-0.06,0.01)		
Social tasks: caring	-0.042** [0.02] (-0.07,-0.02)		
Woman # Social tasks: caring	0.040*** [0.01] (0.02,0.06)		
Analytical tasks	0.072*** [0.02] (0.04,0.11)		
Woman # Analytical tasks	-0.048*** [0.01] (-0.07,-0.03)		
Routine tasks	-0.078*** [0.01] (-0.10,-0.05)		
Woman # Routine tasks	0.021* [0.01] (0.00,0.04)		
Manual tasks	-0.051** [0.02] (-0.09,-0.01)		
# Manual tasks	-0.037** [0.02] (-0.06,-0.01)		

Demographic characteristics	Yes	Yes	Yes
Job characteristics	Yes	Yes	Yes
Country FE	Yes	Yes	Yes

N	10336694	10336733	10336733
R-squared	0.786	0.0815	0.205
RMSE	0.397	0.995	0.984
BIC	10251844	29226262	29011107

Notes: Standard errors clustered at the ISCO 3 digit level. ***, **, * indicate p-values smaller than .10, .05 and .01.