

A Methodological appendix

A.1 Estimation of the AGPG: sensitiveness and robustness

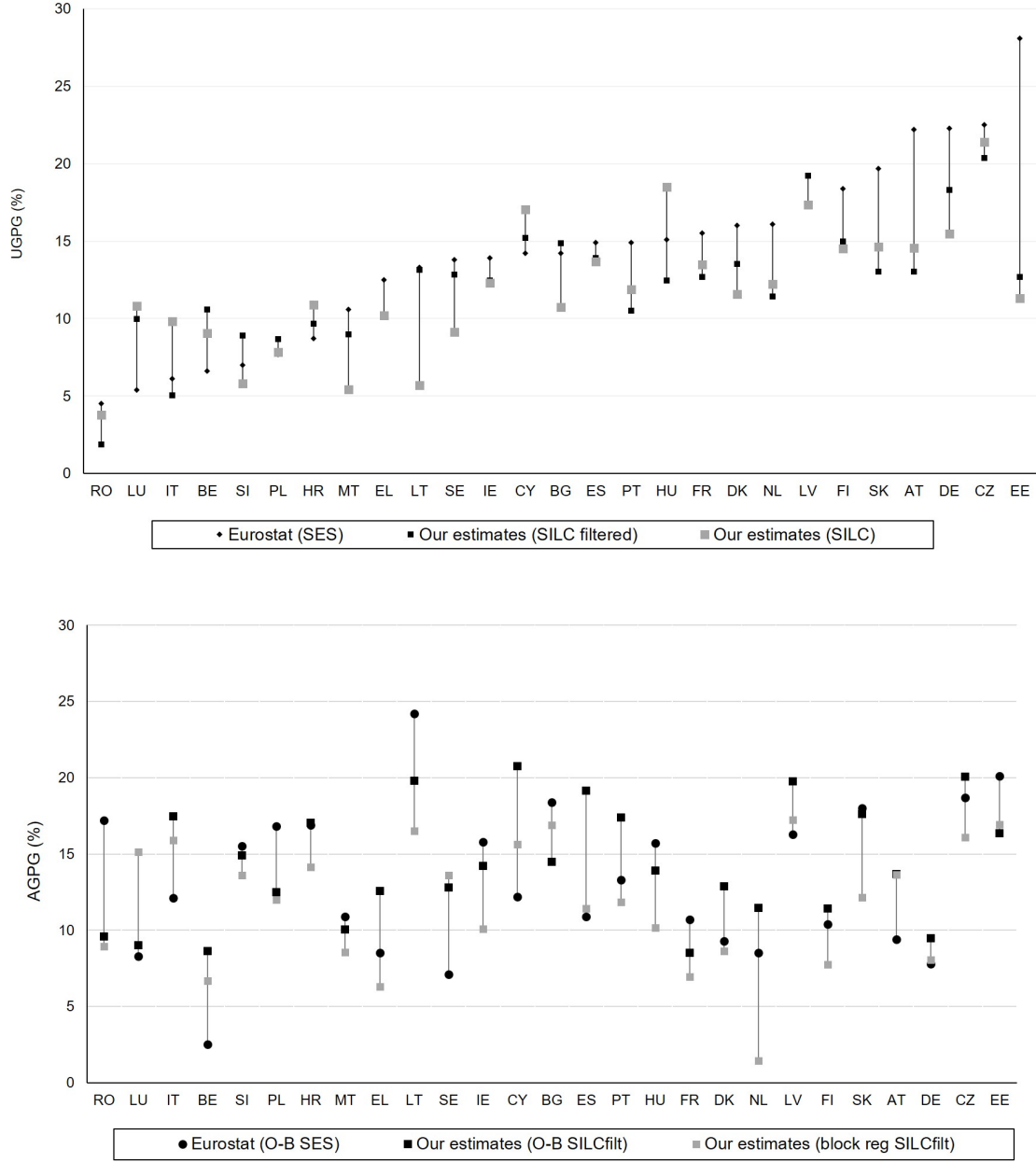
A.1.1 Comparisons with SES-based gender pay gaps

We now compare our SILC 2019-based estimates, which refer to 2018 incomes, with those produced by Eurostat based on the Structure of Earnings Survey (SES) of 2018. These estimates are reported in [Leythienne and Marina \(2021\)](#) and published in the ‘experimental statistics’ section on Eurostat’s website. The difference in the estimated UGPG is only related to sample differences (as this gap is simply measured as the difference between mean gross hourly wages of women and men), while the difference in the AGPG estimates involves the methodological strategy as well. Our estimates were obtained using a hybrid matching-regression technique called regression-after-blocking, based on [Imbens \(2015\)](#), while [Leythienne and Marina \(2021\)](#) uses a standard Oaxaca-Blinder (O-B) decomposition. We also estimated the AGPG with an O-B decomposition based on our sample (SILC) and compared it with [Leythienne and Marina \(2021\)](#)’s and our AGPG based on regressions after blocking.

To compare our estimates with SES-based Eurostat figures, we filter the EU-SILC survey (“SILCfilt”), trying to replicate the sample characteristics of the SES as much as possible. In particular, we restrict our sample, excluding i) employees working in firms with less than 10 employees; ii) employees working in occupations classified as ISCO 0 and ISCO 6; iii) those employed in firms whose economic activity is classified as NACE A and O. Eurostat also excludes employees working in firms with NACE T and U. However, in SILC data, we do not have this level of disaggregation. We also try to use the most similar sets of variables. Similar to Eurostat, we control for age, work experience, level of occupation, working time, sector of activity, enterprise size, enterprise control (public vs private) and region. However, different from Eurostat, we do not have information on the type of contract (permanent vs temporary), the level of occupation and sector of activity is less disaggregated, and the data on the region are only available in a few countries.

Eurostat’s UGPG based on SES is, on average 14%, slightly larger than our average UGPG based on SILC 2019 (of around 12%) - see Figure 8. As expected, our estimates based on the restricted sample that tries to imitate SES characteristics (SILCfilt) tend to be closer to Eurostat’s estimates of the unadjusted gender pay gap than our baseline estimates based on the unrestricted SILC sample. The fit is particularly good in Italy, Croatia, Malta, Latvia, Sweden, Cyprus and Bulgaria, where after the filtering, we obtain very similar UGPG in one and other surveys. But there are also many countries where we observe the opposite (a filtered-based UGPG expanding the original SES-SILC differences). The largest discrepancy between the estimated UGPG from Eurostat and ours is observed in Estonia (where the UGPG from SES doubles that one of SILC), followed by Austria and Slovakia (where SES-based gaps are also larger than SILC-based, but a difference that in this case is below 10 pp). In general, although the estimated UGPG with the filtered sample tends to be larger (and so closer to Eurostat’s) than the one based on the unfiltered sample, in some countries, such as Italy, Cyprus, Hungary and Romania, we observe higher UGPGs in the unfiltered SILC sample. This could be driven by higher gaps in small firms or sectors in the SILC and not the SES, such as agriculture.

Fig. 8 SILC vs SES: Unadjusted and adjusted gender pay gaps - compared point estimates



Notes. Eurostat (SES) refers to 2018 estimates obtained from Eurostat’s website (and also reported in [Eurofound and EIGE, 2021](#)). SILC 2019 (filtered sample) are our estimates, filtering the sample to ‘mimic’ SES features in terms of sector and firm size coverage.

The second panel compares our adjusted gender pay gap (AGPG) estimates from regression adjustments after blocking on propensity scores (“block reg SILCfilt”) with Eurostat’s (“O-B SES”), based on Oaxaca-Blinder decomposition. Considering what we observed above, we restrict the sample to make these comparisons. We also show what our AGPG estimate would look like with a standard O-B decomposition to try to isolate the effect of our decision to use regressions after blocks. Overall, we can see that, on average, our AGPG is only slightly below Eurostat’s. As expected, O-B type of decomposition leads to higher estimates of the “unexplained” component of the gap (i.e., the AGPG). This goes in line with the upward bias associated with estimates that rely on the extrapolation assumption ([Imbens and Rubin, 2015](#)). The only countries where we obtained higher AGPGs are Belgium, Sweden, Luxembourg, Austria, Italy and Cyprus.

Despite these discrepancies, in general, we observe the same type of regional patterns. Both Eurostat’s and our baseline estimates of the AGPG suggest that Central and Eastern European

countries (such as Estonia, Czechia, and Latvia) have the highest AGPGs. In contrast, at the opposite end, we see a mix of Western and Southern European countries like Belgium, Germany, Greece, the Netherlands, Denmark and Finland, among the countries with the lowest values.

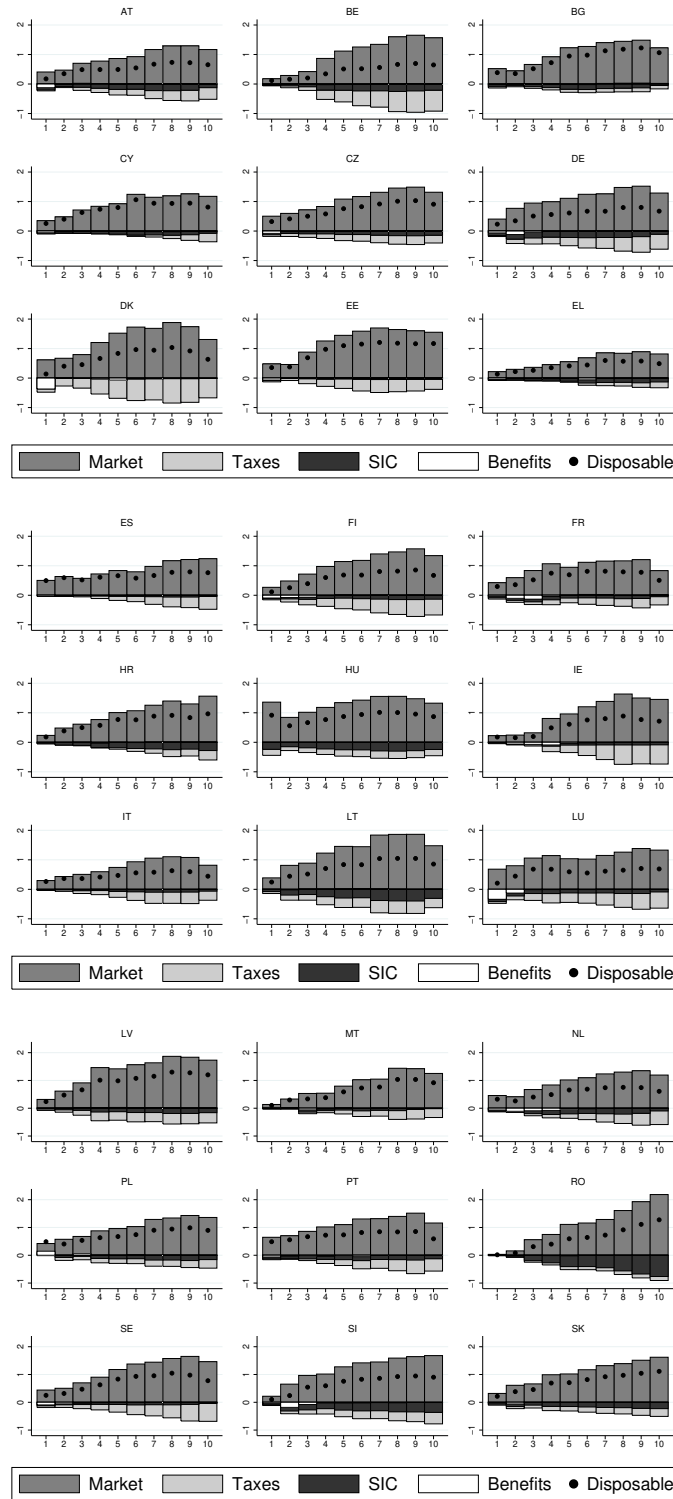
B Additional tables and figures

Fig. 9 Composition of employed full-time, part-time and not employed by equivalised household income deciles. Average at the EU level.



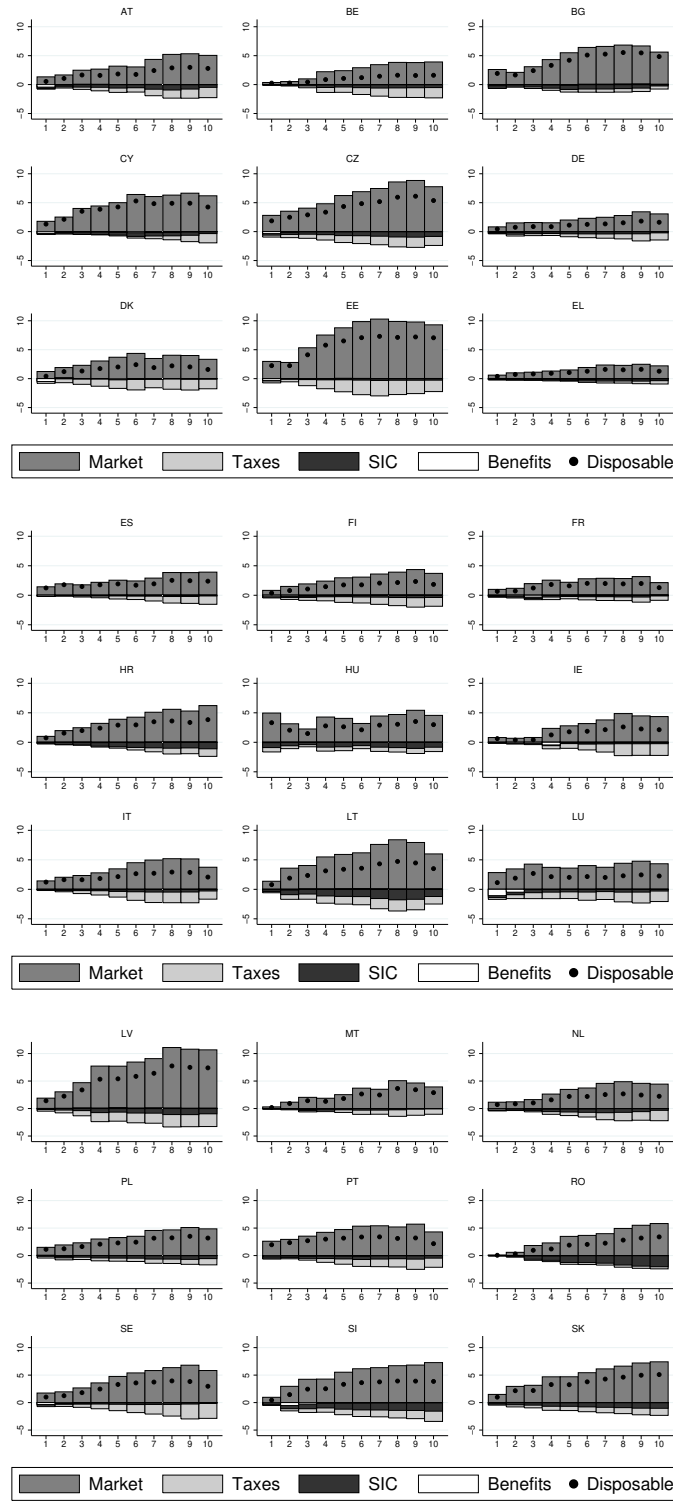
Notes. Not employed refers to individuals in working age who are not in education and not employed. Other refers to children, students and pensioners.

Fig. 10 Decomposition of the change in household disposable income by deciles: 3 pp scenario



Notes. Market: household market income; Taxes: direct taxes; SIC: employee's social insurance contributions; Benefits: cash benefits (excl. pensions); Disp: disposable income.

Fig. 11 Decomposition of the change in household disposable income by deciles: full scenario



Notes. Market: household market income; Taxes: direct taxes; SIC: employee's social insurance contributions; Benefits: cash benefits (excl. pensions); Disp: disposable income.

Table 3: Share of women in employment over total population by equivalised household income deciles

Country	1	2	3	4	5	6	7	8	9	10
AT	14.4	16.4	18.9	21.7	22.9	23.8	27.9	30.6	30.5	29.7
BE	9.2	10.7	14.5	20.9	24.3	26.1	27.2	30.3	30.7	31.4
BG	8.4	10.0	15.1	19.8	24.4	28.0	31.4	32.5	36.2	32.1
CY	10.5	13.9	18.8	22.0	23.5	29.0	25.6	27.1	27.4	28.0
CZ	10.1	12.3	14.9	17.2	21.4	23.3	26.4	28.6	30.7	30.6
DE	15.1	19.7	21.4	24.3	24.6	27.4	27.7	31.6	32.0	32.5
DK	22.8	20.0	18.5	22.4	27.2	29.9	30.5	33.9	33.9	32.9
EE	14.3	14.1	20.4	29.0	31.5	34.7	36.5	36.6	35.9	35.3
EL	4.2	5.2	6.9	9.1	11.0	13.4	16.7	16.8	18.8	20.4
ES	14.3	17.3	17.1	19.4	21.7	20.8	23.5	26.5	28.9	30.7
FI	14.3	17.5	18.9	23.5	25.5	26.1	30.8	32.2	35.3	34.6
FR	13.4	16.2	20.9	25.4	23.9	26.1	27.0	27.9	27.8	26.8
HR	3.6	7.8	11.4	14.8	19.0	20.8	23.3	25.4	25.5	30.0
HU	21.3	18.7	24.0	26.2	27.6	28.0	29.2	30.8	29.9	30.3
IE	7.4	8.4	9.5	18.6	22.0	25.6	27.0	30.1	29.5	33.1
IT	6.7	10.2	10.7	14.0	15.7	18.1	21.0	22.8	24.3	21.7
LT	6.6	13.1	16.0	21.8	26.7	27.5	32.7	34.6	35.0	33.6
LU	15.0	18.6	19.7	22.0	19.7	20.5	22.7	24.0	25.5	27.7
LV	7.9	14.6	19.6	28.0	28.9	31.0	33.1	34.9	35.8	36.9
MT	4.2	8.7	11.8	14.5	18.7	22.5	25.1	30.7	33.2	32.9
NL	17.6	15.8	19.7	22.0	25.1	27.2	27.3	30.2	30.4	29.8
PL	6.3	10.0	11.8	15.5	17.1	18.6	23.6	25.2	27.6	29.5
PT	10.2	13.6	17.1	19.8	21.7	25.3	26.5	27.7	28.4	23.6
RO	0.3	1.4	5.2	8.4	13.7	15.8	17.8	22.9	27.9	31.3
SE	15.2	15.3	18.6	22.3	26.5	28.7	32.3	34.7	37.8	38.0
SI	8.8	15.5	19.4	20.5	24.6	26.8	27.8	30.2	29.7	32.3
SK	5.1	10.7	12.2	18.1	18.7	23.0	25.9	28.9	31.3	36.4
EU	10.6	13.2	16.0	20.1	22.5	24.8	26.9	29.2	30.4	30.8

Table 4: AGPG by deciles of equivalised household disposable income

Country	1	2	3	4	5	6	7	8	9	10
AT	11.0	9.6	9.2	9.5	10.2	9.9	10.4	11.4	11.1	11.1
BE	2.7	3.7	2.7	2.7	3.5	3.4	3.7	3.8	4.8	5.4
BG	13.0	13.1	12.5	13.8	12.9	14.4	13.1	13.7	12.9	13.1
CY	16.6	17.2	16.0	16.4	16.8	17.4	16.4	15.7	16.5	16.3
CZ	16.6	17.0	16.4	17.2	16.7	17.0	16.9	17.4	17.6	17.7
DE	7.4	7.6	7.4	7.5	7.8	7.7	7.9	7.8	8.2	8.0
DK	7.4	7.4	7.8	6.0	7.1	6.3	7.0	6.8	6.8	7.2
EE	19.4	18.3	17.8	17.7	17.5	17.8	17.7	17.7	17.7	16.9
EL	8.0	7.6	7.2	7.7	7.6	7.6	7.9	7.8	7.9	8.1
ES	8.7	8.6	8.0	8.7	8.5	8.3	8.9	8.9	8.4	8.6
FI	8.1	7.5	6.9	6.9	6.8	6.1	6.2	6.7	7.0	7.3
FR	4.2	4.7	4.6	5.0	4.7	4.9	5.0	5.6	5.7	5.4
HR	11.2	11.5	10.8	11.0	11.0	11.2	10.7	10.6	10.8	10.8
HU	10.0	9.0	9.9	10.3	9.0	8.8	9.0	9.8	9.5	8.9
IE	7.0	7.2	7.0	7.1	7.9	7.0	7.1	7.1	6.9	6.0
IT	10.6	11.4	11.1	11.3	10.6	10.9	11.0	10.9	10.8	10.8
LT	13.1	14.6	13.8	14.2	14.2	14.7	14.7	13.9	14.5	13.7
LU	11.0	10.5	8.7	8.7	9.5	10.2	9.6	10.1	9.7	7.6
LV	17.0	15.3	17.2	16.2	16.2	16.6	16.5	17.0	16.8	17.5
MT	3.5	7.1	6.5	7.4	5.0	6.4	5.1	5.5	6.6	5.8
NL	5.8	4.8	4.5	4.3	4.8	5.0	5.2	5.9	5.8	6.6
PL	10.2	10.1	10.3	10.3	10.3	10.1	10.4	10.2	10.5	10.3
PT	12.7	12.7	12.8	13.3	13.2	12.7	12.7	11.7	11.7	10.6
RO	11.6	6.2	9.8	9.0	9.5	9.6	10.0	10.1	9.6	7.9
SE	10.1	10.2	9.9	10.6	10.8	10.3	10.0	10.9	10.5	11.2
SI	13.0	11.8	12.5	12.6	13.3	12.8	13.2	12.4	12.6	13.4
SK	13.2	13.6	14.0	13.5	13.1	13.3	13.7	13.7	13.7	13.4
EU	10.5	10.3	10.2	10.3	10.3	10.4	10.4	10.5	10.5	10.4

Table 5: Impact on income poverty (AROP rates)

Country	increase women's wage		decrease men's wage	
	3pp	Full	3pp	Full
AT	-0.23	-0.33	0.17	1.96
BE	-0.08	-0.22	0.15	0.27
BG	-0.20	-0.74	0.34	1.36
CY	-0.13	-1.32	0.34	3.57
CZ	-0.10	-0.65	0.16	1.52
DE	-0.19	-0.33	0.10	0.19
DK	-0.18	-0.29	0.04	0.41
EE	-0.17	-1.47	0.23	1.48
EL	-0.07	-0.24	0.25	0.96
ES	-0.46	-0.85	0.62	2.02
FI	-0.08	-0.28	0.13	0.30
FR	-0.23	-0.64	0.33	0.90
HR	-0.34	-0.64	0.25	2.59
HU	-0.07	-0.19	0.39	1.32
IE	-0.33	-0.42	0.06	0.84
IT	-0.22	-0.64	0.27	1.80
LT	-0.13	-0.72	-0.01	1.06
LU	-0.33	-0.80	0.20	2.19
LV	-0.26	-1.32	0.10	1.61
MT	-0.05	-0.29	0.32	1.63
NL	-0.10	-0.41	0.15	0.90
PL	-0.15	-0.31	0.43	1.37
PT	-0.27	-1.26	0.16	1.36
RO	-0.24	-0.41	0.14	0.33
SE	-0.06	-0.65	0.11	1.04
SI	-0.06	-0.39	0.26	1.19
SK	-0.12	-0.33	0.09	1.65
EU	-0.18	-0.60	0.21	1.33

Notes. Percentage points.

Table 6: Simulated AROP (equivalised disposable income) by groups of the population in the main scenarios (i.e., upward adjustment of women’s gross hourly wages)

	Single with children			Couple with children			Single no children			Couple no children			In work		
	Baseline	3pp	Full	Baseline	3pp	Full	Baseline	3pp	Full	Baseline	3pp	Full	Baseline	3pp	Full
AT	31.6	-0.1	0.1	11.8	-0.4	-0.5	25.0	-0.1	-0.1	9.8	-0.2	-0.3	6.1	-0.2	-0.4
BE	29.0	-0.6	-0.5	10.8	0.0	-0.3	18.0	-0.2	-0.1	9.3	-0.1	-0.2	2.8	-0.1	-0.1
BG	45.8	-3.2	-8.8	22.5	-0.2	-0.9	47.4	-0.2	-0.3	14.5	0.0	-0.3	8.1	-0.2	-0.7
CY	37.0	-1.5	-7.6	15.7	0.0	-1.7	19.9	-0.1	-1.0	13.6	-0.2	-0.7	8.0	-0.1	-1.4
CZ	34.4	0.0	-4.7	7.6	-0.1	-0.5	24.7	-0.1	-0.6	4.9	-0.1	-0.5	4.1	-0.1	-0.7
DE	31.3	-2.4	-3.6	8.9	0.0	-0.1	29.6	-0.1	-0.3	8.3	-0.1	-0.2	6.3	-0.2	-0.4
DK	21.2	0.0	0.3	3.7	-0.4	-0.3	23.9	0.0	-0.2	6.4	-0.1	-0.4	4.5	-0.1	-0.2
EE	29.1	-0.2	-5.9	12.9	-0.3	-2.0	50.2	-0.2	-0.8	11.3	0.0	-0.7	8.0	-0.2	-1.5
EL	18.4	0.0	-1.0	18.9	-0.1	-0.2	16.2	0.0	-0.1	14.0	0.0	-0.3	8.4	-0.1	-0.3
ES	38.9	-0.4	-0.4	24.9	-0.8	-1.2	19.6	-0.1	-0.2	15.8	-0.3	-0.7	12.5	-0.6	-1.1
FI	14.2	0.0	0.0	7.8	-0.2	-0.4	24.6	-0.1	-0.5	4.0	0.0	0.0	2.2	0.0	-0.2
FR	29.1	-1.2	-1.5	13.3	-0.3	-0.8	16.2	-0.2	-0.2	8.1	-0.1	-0.6	6.2	-0.2	-0.8
HR	30.6	-1.7	-5.8	15.2	-0.4	-0.6	45.0	0.0	0.0	16.1	-0.3	-0.6	5.3	-0.3	-0.5
HU	28.0	-0.3	-0.6	22.7	0.0	-0.1	27.4	-0.1	0.0	20.0	-0.1	-0.3	16.1	-0.1	-0.3
IE	35.2	0.0	-0.8	13.6	-0.6	-0.7	56.6	0.0	0.0	7.4	-0.1	-0.1	3.9	-0.3	-0.4
IT	34.8	-0.9	-3.8	23.8	-0.3	-0.7	23.9	-0.2	-0.5	14.7	-0.2	-0.4	10.9	-0.3	-0.7
LT	39.6	0.0	-3.8	17.7	-0.1	-0.2	46.8	-0.2	-0.8	10.8	-0.1	-0.7	6.4	-0.2	-0.7
LU	31.7	-1.6	-2.6	14.8	-0.4	-1.0	19.1	-0.3	-0.8	8.7	-0.1	-0.5	8.5	-0.4	-0.8
LV	20.3	-0.3	-3.4	12.0	-0.3	-1.6	51.7	-0.1	-1.2	20.2	-0.2	-0.8	7.6	-0.3	-1.3
MT	17.5	0.0	0.0	12.5	-0.1	-0.2	32.2	0.0	-0.1	16.1	0.0	-0.4	5.2	-0.1	-0.3
NL	32.0	-0.5	-1.4	11.2	-0.1	-0.5	21.1	-0.1	-0.2	7.7	-0.1	-0.3	5.0	-0.1	-0.4
PL	19.6	-0.1	-1.6	12.6	-0.1	-0.3	33.6	-0.2	-0.3	13.0	-0.2	-0.3	7.0	-0.2	-0.4
PT	25.9	-0.9	-4.3	16.5	-0.4	-1.6	27.3	-0.1	-0.3	15.1	-0.2	-0.9	8.6	-0.3	-1.2
RO	29.2	0.0	-0.2	24.8	-0.4	-0.6	36.7	0.0	0.0	17.0	-0.1	-0.3	15.1	-0.2	-0.4
SE	27.9	-0.5	-2.1	14.6	0.0	-0.7	27.1	-0.1	-0.7	6.9	0.0	-0.3	5.8	0.0	-0.5
SI	17.5	0.0	-1.4	8.9	0.0	-0.4	36.3	0.0	0.0	8.9	-0.1	-0.4	6.1	-0.1	-0.4
SK	29.7	2.0	-1.5	14.4	-0.1	-0.2	21.6	0.0	0.0	6.9	-0.2	-0.4	4.0	-0.1	-0.4
EU	28.9	-0.5	-2.5	14.6	-0.2	-0.7	30.4	-0.1	-0.4	11.5	-0.1	-0.4	7.1	-0.2	-0.6

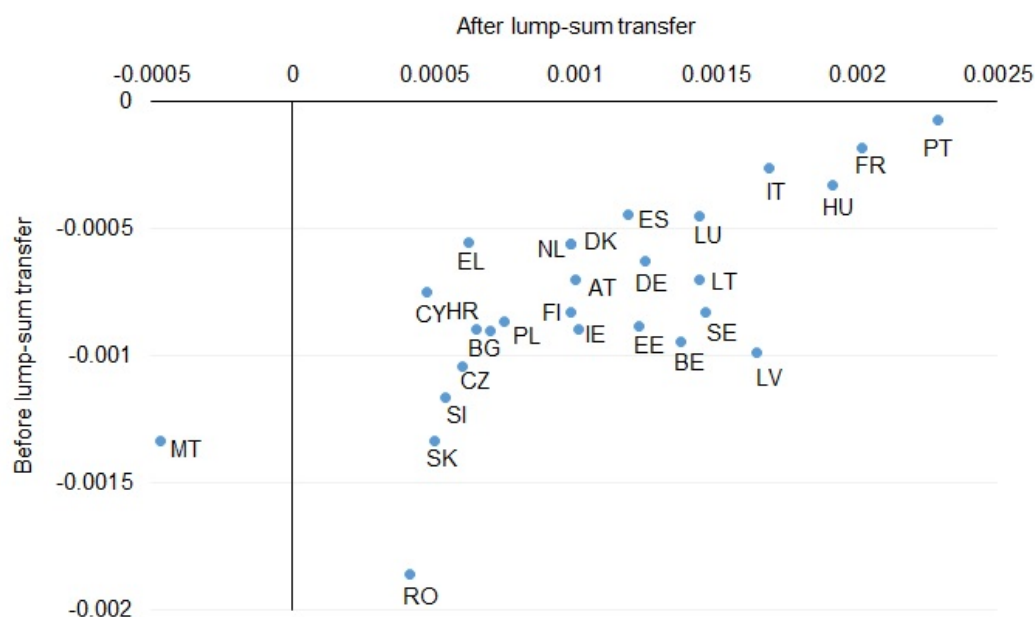
Table 7: Budgetary effect on government revenues and firms' labour costs

Country	% Change				Amount as % of GDP			
	Wage bills		Gov. budget		Wage bills		Gov. budget	
	3 pp	Full	3 pp	Full	3 pp	Full	3 pp	Full
AT	1.2	4.7	5.0	19.6	0.5	2.1	0.3	1.1
BE	1.4	3.3	4.5	10.7	0.6	1.5	0.4	1.0
BG	1.5	7.0	5.9	27.8	0.7	3.0	0.2	0.9
CY	1.4	7.4	-10.1(*)	-54.1(*)	0.6	3.1	0.2	1.0
CZ	1.4	8.4	3.7	21.3	0.5	3.2	0.3	1.5
DE	1.2	2.4	3.5	6.7	0.6	1.2	0.3	0.6
DK	1.4	3.3	2.6	6.2	0.6	1.5	0.3	0.7
EE	1.6	9.9	4.2	25.6	0.8	4.9	0.4	2.2
EL	1.3	3.6	-4.9(*)	-13.9(*)	0.3	0.9	0.2	0.4
ES	1.2	3.9	5.1	17.2	0.5	1.6	0.2	0.7
FI	1.4	3.8	5.7	15.5	0.6	1.7	0.4	1.0
FR	1.4	3.5	5.1	12.7	0.7	1.7	0.4	0.9
HR	1.4	5.7	11.2	45.4	0.5	2.1	0.2	0.9
HU	1.4	4.5	3.1	9.8	0.5	1.4	0.2	0.6
IE	1.4	3.9	4.5	13.4	0.3	1.0	0.2	0.5
IT	1.2	5.8	8.1	38.1	0.5	2.2	0.3	1.2
LT	1.5	6.5	4.8	20.3	0.6	2.5	0.3	1.1
LU	1.3	4.6	10.4	36.3	0.4	1.4	0.2	0.7
LV	1.6	9.2	3.2	18.5	0.8	4.6	0.3	2.0
MT	1.2	4.0	11.4	38.0	0.4	1.5	0.1	0.5
NL	1.2	4.1	2.4	8.5	0.5	1.7	0.2	0.9
PL	1.4	4.8	4.4	15.9	0.5	1.8	0.2	0.8
PT	1.5	6.0	8.2	32.0	0.6	2.3	0.3	1.2
RO	1.3	3.9	3.6	10.3	0.4	1.2	0.2	0.5
SE	1.4	5.8	3.3	13.7	0.7	2.7	0.4	1.5
SI	1.5	6.4	7.9	33.9	0.6	2.7	0.3	1.4
SK	1.5	6.8	3.9	18.1	0.5	2.5	0.3	1.2
EU	1.4	5.3	4.5	16.6	0.6	2.2	0.3	1.0

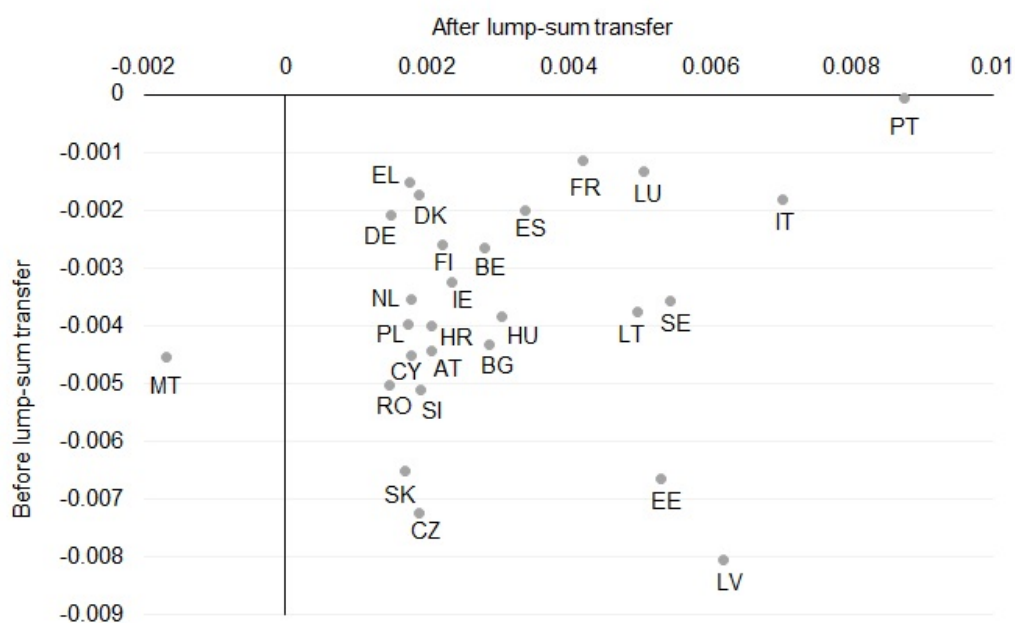
Note: The cost for the firm includes social insurance contributions for employers and the additional cost for higher wages. The change in government budget is due to higher taxes, social insurance contributions and lower benefits. (*) In Cyprus and Greece, the government budget is negative (higher benefits than taxes and social insurance contributions, which are accounted for in EUROMOD), so the result should be interpreted as a reduction of this deficit.

Fig. 12 Income inequality before and after lump-sum transfer

(a) 3pp



(b) Full



Notes. The change in the Gini coefficient of equivalised household disposable income before and after the upward shift in gross hourly wages in the full reduction scenario without compensatory measures (horizontal axis) and with a budget-neutral lump-sum transfer (vertical axis).

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