

Leiden LIS Budget Incidence Fiscal Redistribution Dataset

on

Income Inequality

Sensitivity analyses

by Koen Caminada & Jinxian Wang

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Sensitivity analyses

A1 Inequality and fiscal redistribution of total population versus working-age population

A2 Different equivalence scales methods: LIS, OECD modified, and OECD original

A3 Different global income inequality indices: Gini Coefficient, Atkinson Coefficient (with $e=0.5$ and $e = 1.0$), Mean Log Deviation and Theil Coefficient.

A4 Data

Since we are interested in the redistributive effects of social transfers and income taxes and social contributions, the sensitivity analyses only considers 31 countries for which full tax-benefit information is available in LIS (around 2013): Australia 2010, Austria 2013, Brazil 2013, Canada 2010, Czech Rep 2013, Denmark 2013, Dominican Republic 2007, Estonia 2013, Finland 2013, Germany 2013, Greece 2013, Guatemala 2014, Iceland 2010, Ireland 2010, Israel 2012, Japan 2008, Luxembourg 2013, Netherlands 2013, Norway 2013, Panama 2013, Peru 2013, Poland 2013, Slovakia 2013, South Africa 2012, South Korea 2012, Spain 2013, Sweden 2005, Switzerland 2013, Taiwan 2013, United Kingdom 2013, and United States 2013.

A1 Inequality and fiscal redistribution of total population versus working-age population

Results will be affected by the choice to focus on total population instead of non-elderly people (those aged 18-64). Table A.1 summarizes the results of income inequality and fiscal redistribution among the working-age population and the total population for 31 countries with full tax and benefit information around 2013. Both market income inequality and fiscal redistribution among the total population are – in all countries - higher compared to the working-age population (with the exception of Guatemala). In 19 out of 31 countries inequality of disposable income of the total population is higher compared to the working-age population. In both cases, largest part of total fiscal redistribution comes from social transfers (as measured by the means of 31 countries); 76 percent for the total population versus 66 percent for the working-age population, while the remainder of total fiscal redistribution can be attributed to direct taxes.

Table A1 Income inequality and redistribution of total and working-age population around 2013

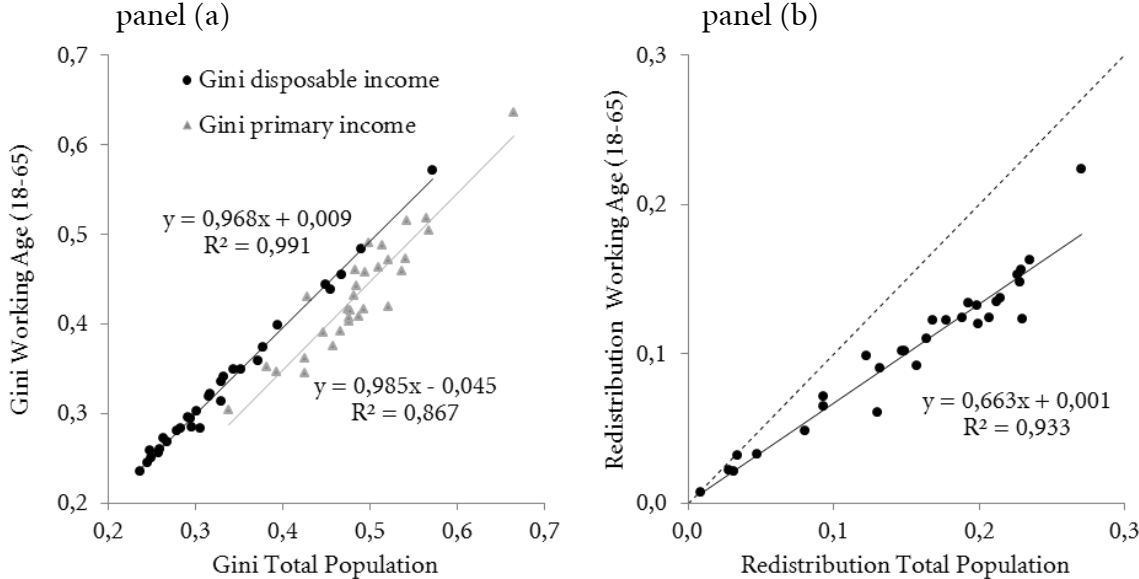
	Gini Coefficient Market Income	Gini Coefficient Disposable Income	Fiscal Redistribution	Share from Transfers	Share from Taxes
Total population (mean 31 countries)	0.481	0.332	0.149	76%	24%
Working-age population (mean 31)	0.429	0.330	0.099	66%	34%
Difference	0.052	0.002	0.049	10%	-10%

Table A1 Income inequality and redistribution of total and working-age population

LIS Dataset	Total population (Gini Coefficient)						Working-age population (Gini Coefficient)					
	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes
Australia 2010	0.477	0.368	0.330	31%	74%	26%	0.414	0.347	0.313	25%	67%	33%
Austria 2013	0.493	0.322	0.279	44%	80%	20%	0.417	0.320	0.280	33%	70%	30%
Brazil 2013	0.542	0.468	0.450	17%	80%	20%	0.516	0.463	0.444	14%	74%	26%
Canada 2010	0.481	0.356	0.317	34%	76%	24%	0.432	0.358	0.322	26%	67%	33%
Czech Rep 2013	0.457	0.293	0.258	44%	82%	18%	0.375	0.285	0.255	32%	75%	25%
Denmark 2013	0.476	0.291	0.249	48%	82%	18%	0.402	0.290	0.250	38%	74%	26%
Dominican Rep 2007	0.498	0.494	0.490	2%	55%	45%	0.490	0.487	0.483	1%	51%	49%
Estonia 2013	0.540	0.429	0.352	35%	59%	41%	0.473	0.419	0.349	26%	44%	56%
Finland 2013	0.487	0.347	0.259	47%	61%	39%	0.408	0.364	0.260	36%	30%	70%
Germany 2013	0.520	0.344	0.291	44%	77%	23%	0.419	0.343	0.296	29%	62%	38%
Greece 2013	0.567	0.410	0.332	41%	67%	33%	0.504	0.416	0.341	32%	54%	46%
Guatemala 2014	0.427	0.424	0.394	8%	11%	89%	0.430	0.429	0.398	7%	3%	97%
Iceland 2010	0.393	0.287	0.245	38%	71%	29%	0.347	0.284	0.245	29%	62%	38%
Ireland 2010	0.564	0.366	0.294	48%	74%	26%	0.517	0.363	0.294	43%	69%	31%
Israel 2012	0.494	0.410	0.371	25%	68%	32%	0.458	0.399	0.359	22%	59%	41%
Japan 2008	0.382	0.321	0.302	21%	76%	24%	0.351	0.323	0.303	14%	59%	41%
Luxembourg 2013	0.475	0.317	0.283	40%	82%	18%	0.416	0.316	0.283	32%	75%	25%
Netherlands 2013	0.475	0.323	0.264	45%	72%	28%	0.407	0.329	0.272	33%	58%	42%
Norway 2013	0.446	0.293	0.248	44%	78%	22%	0.391	0.298	0.258	34%	70%	30%
Panama 2013	0.514	0.482	0.467	9%	69%	31%	0.488	0.470	0.455	7%	56%	44%
Peru 2013	0.483	0.465	0.455	6%	63%	37%	0.460	0.449	0.438	5%	52%	48%
Poland 2013	0.484	0.317	0.316	35%	100%	0%	0.442	0.320	0.319	28%	99%	1%
Slovakia 2013	0.425	0.287	0.268	37%	88%	12%	0.361	0.283	0.269	26%	85%	15%
South Africa 2012	0.664	0.625	0.572	14%	42%	58%	0.636	0.621	0.571	10%	23%	77%
South Korea 2012	0.337	0.314	0.306	9%	75%	25%	0.304	0.290	0.283	7%	68%	32%
Spain 2013	0.520	0.379	0.343	34%	80%	20%	0.471	0.383	0.349	26%	72%	28%
Sweden 2005	0.466	0.274	0.237	49%	84%	16%	0.391	0.272	0.235	40%	76%	24%
Switzerland 2013	0.425	0.300	0.295	31%	96%	4%	0.346	0.289	0.285	18%	94%	6%
Taiwan 2013	0.333	0.304	0.308	8%	115%	-15%	0.308	0.290	0.296	4%	152%	-52%
UK 2013	0.537	0.364	0.330	39%	83%	17%	0.459	0.364	0.335	27%	77%	23%
USA 2013	0.509	0.418	0.377	26%	69%	31%	0.464	0.411	0.374	19%	58%	42%
Mean LIS-31	0.481	0.367	0.332	31%	76%	24%	0.429	0.364	0.330	23%	66%	34%
N	31	31	31	31	31	31	31	31	31	31	31	31

Additional calculations show the correlation between inequality of the total population versus the working-age population is rather high. The same holds for fiscal redistribution. Below plots for both population groups are presented. Pearson Correlation is .86 and over, indicating that our choice of the coverage of the population does matter, although not to a large extent. We conclude that focusing on the total population – from this point forward - will not give strong biases.

Figure A1 Linkage of income inequality and fiscal redistribution for total population and working-age population (18-65) across 31 LIS countries around 2013



Source: Database Wang & Caminada (2017) based on LIS, and own calculations

A2 Different equivalence scales methods

Figures on measured income inequality and fiscal redistribution may be influenced as well, depending on the equivalence scales method applied. To test for this we apply three widely used equivalence scales methods: from LIS, OECD modified, and OECD original. Table A2 presents the results. Levels of income inequality and fiscal redistribution as measured by different equivalence scales methods (means of 31 countries around 2013) hardly show differences. The measured fiscal redistribution ranges from 0.149 to 0.153. Moreover, all equivalence scales methods show that overwhelmingly largest part of total fiscal redistribution comes from social transfers (share ranges from 76 to 77 percent), while taxes play a minor role (ranging from 23 to 24 percent). Moreover, Pearson Correlation of levels of income inequality and fiscal redistribution across all 31 countries for the three equivalence scales methods used show values of .99 and over, indicating that the equivalence scale method used hardly matters.

Table A2 Effects of three different equivalence scales methods

Panel (a): Mean Gini Coefficients of 31 countries (Total population)

	Gini Market Income	Gini Disposable Income	Fiscal Redistribution	Share from Transfers	Share from Taxes
LIS equivalence scale	0.481	0.332	0.149	76%	24%
OECD modified	0.483	0.330	0.152	76%	24%
OECD original	0.489	0.336	0.153	77%	23%
Range (Max - Min)	0.008	0.005	0.004	1%	1%

Panel (b): Pearson Correlation Matrix several equivalence scales (Gini Total Population)

	LIS	OECD modified	OECD original
Market income			
LIS	1.0000		
OECD modified	0.9989	1.0000	
OECD original	0.9973	0.9994	1.0000
Disposable income			
LIS	1.0000		
OECD modified	0.9989	1.0000	
OECD original	0.9974	0.9994	1.0000
Fiscal redistribution			
LIS	1.0000		
OECD modified	0.9997	1.0000	
OECD original	0.9988	0.9996	1.0000

A3 Different global income inequality indices

From literature it is well known that levels of measured income inequality and fiscal redistribution depend on the global inequality indicator used. To test for sensitivity, we apply five widely used indicators: Gini, Atkinson Coefficient (with $e=0.5$ and $e = 1.0$), Mean Log Deviation and Theil Coefficient. Of course, levels of income inequality and fiscal redistribution around 2013 across 31 countries as measured by different indicators differ; see Table A3 (panel a). The highest level of fiscal redistribution is measured by Mean Log Deviation and Atkinson Coefficient ($e=1$), while other indices produce rather comparable levels of fiscal redistribution. Moreover, all indicators show that overwhelmingly largest part of total fiscal redistribution comes from social transfers (share ranges from 76 to 92 percent), while taxes play a minor role (ranging from 8 to 24 percent).

Note, however, that Pearson Correlation of levels of income inequality across all 31 countries show values of .98 and over for disposable income, illustrating that our results do not seem to be very sensitive to the global income inequality indicator used. Pearson correlation of fiscal redistribution is .93 and over, while figures for market income inequality are somewhat lower (0.83 and over).

Table A3 Different global income inequality indicators*Panel (a): Mean global income inequality indicators of 31 countries (Total population)*

	Inequality Market Income	Inequality Disposable Income	Fiscal Redistribution	Share from Transfers	Share from Taxes
Gini Coefficient	0.481	0.332	0.149	76%	24%
Atkinson Coefficient (eps=0.5)	0.231	0.098	0.133	85%	15%
Atkinson Coefficient (eps=1)	0.513	0.190	0.323	90%	10%
Mean Log Deviation	0.751	0.217	0.534	92%	8%
Theil Coefficient	0.426	0.207	0.219	79%	21%
Range (Max - Min)	0.520	0.234	0.401	16%	16%

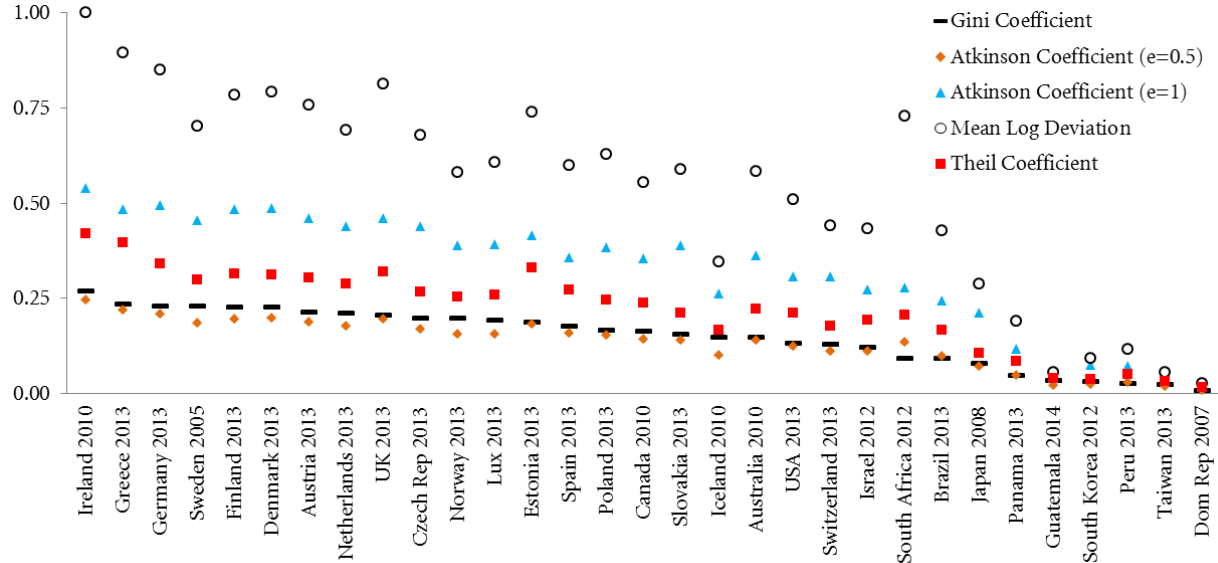
Panel (b): Pearson Correlation Matrix several global measures of inequality (Total population)

	Gini Coefficient	Atkinson Coeff (e=0.5)	Atkinson Coeff (e=1)	Mean Log Deviation	Theil Coefficient
Market income					
Gini Coefficient	1.0000				
Atkinson Coefficient (e=0.5)	0.9602	1.0000			
Atkinson Coefficient (e=1)	0.8398	0.9469	1.0000		
Mean Log Deviation	0.8586	0.9663	0.9859	1.0000	
Theil Coefficient	0.9917	0.9641	0.8319	0.8669	1.0000
Disposable income					
Gini Coefficient	1.0000				
Atkinson Coefficient (e=0.5)	0.9923	1.0000			
Atkinson Coefficient (e=1)	0.9848	0.9964	1.0000		
Mean Log Deviation	0.9919	0.9951	0.9972	1.0000	
Theil Coefficient	0.9876	0.9977	0.9898	0.9864	1.0000
Fiscal redistribution					
Gini Coefficient	1.0000				
Atkinson Coefficient (e=0.5)	0.9765	1.0000			
Atkinson Coefficient (e=1)	0.9826	0.9886	1.0000		
Mean Log Deviation	0.9369	0.9891	0.9695	1.0000	
Theil Coefficient	0.9693	0.9943	0.9727	0.9796	1.0000

Source: Database Wang & Caminada (2017) based on LIS, and own calculations

Figure A3 illustrates fiscal redistribution as measured by five global indicator for 31 countries. Countries are ranked by the level of fiscal redistribution by the Gini's. Note that other global indicators of inequality show a rather similar pattern (although levels of redistribution vary), i.e. the country ranking hardly alters, with an exception for Mean Log Deviation. We conclude that the levels of income inequality and the magnitude of fiscal redistribution indeed depend on the indicator used, but that both the country ranking of fiscal redistribution and the decomposition of fiscal redistribution (shares of transfers versus taxes) do not seem to depend that much on the global indicator of income inequality used.

Figure A3 Fiscal redistribution as measured by several inequality indicators (Total population)



Source: Database Wang & Caminada (2017) based on LIS, and own calculations

A4 Different inequality indices of primary income and disposable income and fiscal redistribution

LIS Dataset	Total population						Total population					
	Gini Coefficient						Atkinson Coefficient (epsilon=0.5)					
	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes
Australia 2010	0.477	0.368	0.330	31%	74%	26%	0.233	0.112	0.091	61%	85%	15%
Austria 2013	0.493	0.322	0.279	44%	80%	20%	0.255	0.087	0.067	74%	89%	11%
Brazil 2013	0.542	0.468	0.450	17%	80%	20%	0.264	0.179	0.166	37%	86%	14%
Canada 2010	0.481	0.356	0.317	34%	76%	24%	0.229	0.107	0.085	63%	85%	15%
Czech Rep 2013	0.457	0.293	0.258	44%	82%	18%	0.226	0.071	0.056	75%	91%	9%
Denmark 2013	0.476	0.291	0.249	48%	82%	18%	0.253	0.074	0.055	78%	91%	9%
Dominican Rep 2007	0.498	0.494	0.490	2%	55%	45%	0.204	0.199	0.196	4%	62%	38%
Estonia 2013	0.540	0.429	0.352	35%	59%	41%	0.285	0.154	0.102	64%	72%	28%
Finland 2013	0.487	0.347	0.259	47%	61%	39%	0.253	0.108	0.056	78%	74%	26%
Germany 2013	0.520	0.344	0.291	44%	77%	23%	0.280	0.097	0.070	75%	87%	13%
Greece 2013	0.567	0.410	0.332	41%	67%	33%	0.313	0.144	0.093	70%	77%	23%
Guatemala 2014	0.427	0.424	0.394	8%	11%	89%	0.150	0.147	0.129	14%	16%	84%
Iceland 2010	0.393	0.287	0.245	38%	71%	29%	0.155	0.071	0.053	66%	83%	17%
Ireland 2010	0.564	0.366	0.294	48%	74%	26%	0.319	0.108	0.072	77%	85%	15%
Israel 2012	0.494	0.410	0.371	25%	68%	32%	0.224	0.136	0.113	50%	79%	21%
Japan 2008	0.382	0.321	0.302	21%	76%	24%	0.148	0.087	0.077	48%	86%	14%
Luxembourg 2013	0.475	0.317	0.283	40%	82%	18%	0.226	0.081	0.068	70%	92%	8%
Netherlands 2013	0.475	0.323	0.264	45%	72%	28%	0.240	0.089	0.061	74%	84%	16%
Norway 2013	0.446	0.293	0.248	44%	78%	22%	0.212	0.075	0.056	73%	88%	12%
Panama 2013	0.514	0.482	0.467	9%	69%	31%	0.227	0.190	0.178	22%	76%	24%
Peru 2013	0.483	0.465	0.455	6%	63%	37%	0.206	0.185	0.177	14%	73%	27%
Poland 2013	0.484	0.317	0.316	35%	100%	0%	0.240	0.086	0.087	64%	100%	0%
Slovakia 2013	0.425	0.287	0.268	37%	88%	12%	0.203	0.071	0.062	69%	94%	6%
South Africa 2012	0.664	0.625	0.572	14%	42%	58%	0.400	0.319	0.264	34%	60%	40%
South Korea 2012	0.337	0.314	0.306	9%	75%	25%	0.107	0.086	0.082	23%	88%	12%
Spain 2013	0.520	0.379	0.343	34%	80%	20%	0.258	0.119	0.100	61%	88%	12%
Sweden 2005	0.466	0.274	0.237	49%	84%	16%	0.233	0.065	0.049	79%	91%	9%
Switzerland 2013	0.425	0.300	0.295	31%	96%	4%	0.186	0.076	0.074	60%	98%	2%
Taiwan 2013	0.333	0.304	0.308	8%	115%	-15%	0.097	0.077	0.079	19%	110%	-10%
UK 2013	0.537	0.364	0.330	39%	83%	17%	0.288	0.108	0.092	68%	92%	8%
USA 2013	0.509	0.418	0.377	26%	69%	31%	0.245	0.145	0.119	51%	80%	20%
Mean LIS-31	0.481	0.367	0.332	31%	76%	24%	0.231	0.118	0.098	58%	85%	15%
N	31	31	31	31	31	31	31	31	31	31	31	31

A4 Different inequality indices of primary income and disposable income and fiscal redistribution

LIS Dataset	Working age population						Working age population					
	Gini Coefficient						Atkinson Coefficient (epsilon=0.5)					
	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes
Australia 2010	0.414	0.347	0.313	25%	67%	33%	0.174	0.102	0.084	52%	80%	20%
Austria 2013	0.417	0.320	0.280	33%	70%	30%	0.175	0.087	0.068	61%	82%	18%
Brazil 2013	0.516	0.463	0.444	14%	74%	26%	0.235	0.175	0.162	31%	81%	19%
Canada 2010	0.432	0.358	0.322	26%	67%	33%	0.181	0.110	0.089	51%	78%	22%
Czech Rep 2013	0.375	0.285	0.255	32%	75%	25%	0.145	0.068	0.055	62%	86%	14%
Denmark 2013	0.402	0.290	0.250	38%	74%	26%	0.180	0.076	0.057	68%	85%	15%
Dominican Rep 2007	0.490	0.487	0.483	1%	51%	49%	0.197	0.193	0.191	3%	58%	42%
Estonia 2013	0.473	0.419	0.349	26%	44%	56%	0.209	0.149	0.103	51%	56%	44%
Finland 2013	0.408	0.364	0.260	36%	30%	70%	0.174	0.122	0.058	67%	45%	55%
Germany 2013	0.419	0.343	0.296	29%	62%	38%	0.176	0.098	0.074	58%	76%	24%
Greece 2013	0.504	0.416	0.341	32%	54%	46%	0.240	0.147	0.099	59%	66%	34%
Guatemala 2014	0.430	0.429	0.398	7%	3%	97%	0.151	0.150	0.132	13%	7%	93%
Iceland 2010	0.347	0.284	0.245	29%	62%	38%	0.116	0.070	0.053	54%	74%	26%
Ireland 2010	0.517	0.363	0.294	43%	69%	31%	0.269	0.107	0.072	73%	82%	18%
Israel 2012	0.458	0.399	0.359	22%	59%	41%	0.188	0.130	0.107	43%	71%	29%
Japan 2008	0.351	0.323	0.303	14%	59%	41%	0.116	0.088	0.078	33%	74%	26%
Luxembourg 2013	0.416	0.316	0.283	32%	75%	25%	0.168	0.081	0.068	59%	87%	13%
Netherlands 2013	0.407	0.329	0.272	33%	58%	42%	0.170	0.094	0.065	62%	72%	28%
Norway 2013	0.391	0.298	0.258	34%	70%	30%	0.159	0.081	0.062	61%	81%	19%
Panama 2013	0.488	0.470	0.455	7%	56%	44%	0.203	0.181	0.170	16%	66%	34%
Peru 2013	0.460	0.449	0.438	5%	52%	48%	0.186	0.172	0.165	11%	65%	35%
Poland 2013	0.442	0.320	0.319	28%	99%	1%	0.197	0.089	0.089	55%	100%	0%
Slovakia 2013	0.361	0.283	0.269	26%	85%	15%	0.138	0.070	0.063	54%	91%	9%
South Africa 2012	0.636	0.621	0.571	10%	23%	77%	0.364	0.315	0.264	27%	49%	51%
South Korea 2012	0.304	0.290	0.283	7%	68%	32%	0.083	0.072	0.069	17%	83%	17%
Spain 2013	0.471	0.383	0.349	26%	72%	28%	0.209	0.123	0.104	50%	82%	18%
Sweden 2005	0.391	0.272	0.235	40%	76%	24%	0.163	0.065	0.049	70%	86%	14%
Switzerland 2013	0.346	0.289	0.285	18%	94%	6%	0.113	0.071	0.069	38%	97%	3%
Taiwan 2013	0.308	0.290	0.296	4%	152%	-52%	0.081	0.069	0.072	11%	136%	-36%
UK 2013	0.459	0.364	0.335	27%	77%	23%	0.210	0.110	0.097	54%	88%	12%
USA 2013	0.464	0.411	0.374	19%	58%	42%	0.199	0.141	0.118	41%	72%	28%
Mean LIS	0.429	0.364	0.330	23%	66%	34%	0.180	0.116	0.097	46%	77%	23%
N	31	31	31	31	31	31	31	31	31	31	31	31

A4 Different inequality indices of primary income and disposable income and fiscal redistribution

LIS Dataset	Total population						Total population					
	Atkinson Coefficient (epsilon=1)						Mean Log Deviation (MLD)					
	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes
Australia 2010	0.544	0.220	0.183	66%	90%	10%	0.785	0.249	0.202	74%	92%	8%
Austria 2013	0.595	0.174	0.134	77%	92%	8%	0.903	0.191	0.144	84%	94%	6%
Brazil 2013	0.546	0.325	0.304	44%	91%	9%	0.789	0.392	0.362	54%	93%	7%
Canada 2010	0.524	0.210	0.169	68%	89%	11%	0.741	0.236	0.186	75%	91%	9%
Czech Rep 2013	0.546	0.134	0.106	81%	94%	6%	0.789	0.143	0.112	86%	95%	5%
Denmark 2013	0.598	0.148	0.113	81%	93%	7%	0.912	0.160	0.120	87%	95%	5%
Dominican Rep 2007	0.375	0.363	0.358	5%	73%	27%	0.471	0.451	0.444	6%	73%	27%
Estonia 2013	0.620	0.284	0.205	67%	81%	19%	0.967	0.334	0.229	76%	86%	14%
Finland 2013	0.592	0.189	0.108	82%	83%	17%	0.898	0.210	0.115	87%	88%	12%
Germany 2013	0.630	0.185	0.136	78%	90%	10%	0.995	0.205	0.146	85%	93%	7%
Greece 2013	0.666	0.260	0.184	72%	84%	16%	1.098	0.301	0.203	82%	89%	11%
Guatemala 2014	0.274	0.265	0.232	15%	23%	77%	0.321	0.307	0.265	18%	24%	76%
Iceland 2010	0.367	0.139	0.104	72%	87%	13%	0.457	0.150	0.110	76%	89%	11%
Ireland 2010	0.686	0.210	0.147	79%	88%	12%	1.159	0.235	0.159	86%	92%	8%
Israel 2012	0.497	0.262	0.226	55%	86%	14%	0.688	0.304	0.256	63%	89%	11%
Japan 2008	0.366	0.171	0.154	58%	92%	8%	0.456	0.187	0.167	63%	93%	7%
Luxembourg 2013	0.533	0.159	0.143	73%	96%	4%	0.761	0.174	0.154	80%	97%	3%
Netherlands 2013	0.562	0.172	0.125	78%	89%	11%	0.826	0.189	0.134	84%	92%	8%
Norway 2013	0.506	0.154	0.119	77%	91%	9%	0.706	0.168	0.127	82%	93%	7%
Panama 2013	0.447	0.349	0.330	26%	83%	17%	0.592	0.430	0.400	32%	85%	15%
Peru 2013	0.425	0.366	0.354	17%	83%	17%	0.553	0.456	0.437	21%	84%	16%
Poland 2013	0.561	0.175	0.177	68%	101%	-1%	0.824	0.192	0.195	76%	100%	0%
Slovakia 2013	0.515	0.142	0.125	76%	96%	4%	0.723	0.153	0.134	81%	97%	3%
South Africa 2012	0.741	0.548	0.463	37%	70%	30%	1.352	0.794	0.622	54%	76%	24%
South Korea 2012	0.251	0.181	0.178	29%	96%	4%	0.289	0.199	0.195	32%	96%	4%
Spain 2013	0.566	0.241	0.209	63%	91%	9%	0.834	0.276	0.235	72%	93%	7%
Sweden 2005	0.552	0.127	0.097	82%	93%	7%	0.804	0.136	0.102	87%	95%	5%
Switzerland 2013	0.446	0.140	0.140	69%	100%	0%	0.591	0.151	0.150	75%	100%	0%
Taiwan 2013	0.201	0.149	0.154	23%	112%	-12%	0.224	0.161	0.167	25%	112%	-12%
UK 2013	0.635	0.205	0.177	72%	94%	6%	1.009	0.230	0.195	81%	96%	4%
USA 2013	0.540	0.279	0.234	57%	85%	15%	0.776	0.327	0.267	66%	88%	12%
Mean LIS-31	0.513	0.223	0.190	63%	90%	10%	0.751	0.261	0.217	71%	92%	8%
N	31	31	31	31	31	31	31	31	31	31	31	31

A4 Different inequality indices of primary income and disposable income and fiscal redistribution

LIS Dataset	Working age population						Working age population					
	Atkinson Coefficient (epsilon=1)						Mean Log Deviation (MLD)					
	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes
Australia 2010	0.426	0.206	0.173	59%	87%	13%	0.554	0.231	0.189	66%	89%	11%
Austria 2013	0.427	0.172	0.134	69%	87%	13%	0.557	0.189	0.144	74%	89%	11%
Brazil 2013	0.487	0.320	0.299	39%	89%	11%	0.668	0.386	0.355	47%	90%	10%
Canada 2010	0.421	0.221	0.181	57%	83%	17%	0.547	0.250	0.200	63%	86%	14%
Czech Rep 2013	0.364	0.129	0.106	71%	91%	9%	0.453	0.138	0.112	75%	92%	8%
Denmark 2013	0.461	0.159	0.123	73%	90%	10%	0.618	0.173	0.132	79%	92%	8%
Dominican Rep 2007	0.362	0.353	0.348	4%	68%	32%	0.449	0.435	0.428	5%	68%	32%
Estonia 2013	0.464	0.284	0.214	54%	72%	28%	0.623	0.334	0.241	61%	76%	24%
Finland 2013	0.435	0.212	0.114	74%	69%	31%	0.570	0.239	0.121	79%	74%	26%
Germany 2013	0.426	0.191	0.144	66%	83%	17%	0.556	0.212	0.155	72%	86%	14%
Greece 2013	0.537	0.271	0.196	63%	78%	22%	0.769	0.316	0.218	72%	82%	18%
Guatemala 2014	0.277	0.272	0.238	14%	13%	87%	0.324	0.317	0.272	16%	13%	87%
Iceland 2010	0.270	0.139	0.106	61%	80%	20%	0.315	0.149	0.112	65%	81%	19%
Ireland 2010	0.614	0.211	0.148	76%	87%	13%	0.951	0.237	0.160	83%	90%	10%
Israel 2012	0.414	0.252	0.215	48%	81%	19%	0.535	0.291	0.242	55%	83%	17%
Japan 2008	0.274	0.173	0.155	43%	85%	15%	0.320	0.190	0.168	47%	86%	14%
Luxembourg 2013	0.407	0.161	0.146	64%	94%	6%	0.523	0.175	0.157	70%	95%	5%
Netherlands 2013	0.417	0.186	0.136	67%	82%	18%	0.540	0.206	0.146	73%	85%	15%
Norway 2013	0.395	0.170	0.135	66%	87%	13%	0.503	0.186	0.146	71%	89%	11%
Panama 2013	0.400	0.338	0.319	20%	77%	23%	0.511	0.413	0.384	25%	78%	22%
Peru 2013	0.387	0.345	0.333	14%	77%	23%	0.489	0.423	0.405	17%	78%	22%
Poland 2013	0.473	0.180	0.182	61%	101%	-1%	0.640	0.199	0.201	69%	101%	-1%
Slovakia 2013	0.355	0.143	0.129	64%	94%	6%	0.438	0.154	0.138	68%	95%	5%
South Africa 2012	0.699	0.550	0.470	33%	65%	35%	1.202	0.799	0.634	47%	71%	29%
South Korea 2012	0.188	0.150	0.148	21%	95%	5%	0.208	0.162	0.160	23%	95%	5%
Spain 2013	0.474	0.251	0.219	54%	88%	12%	0.643	0.289	0.248	61%	90%	10%
Sweden 2005	0.409	0.132	0.101	75%	90%	10%	0.526	0.142	0.107	80%	92%	8%
Switzerland 2013	0.255	0.132	0.133	48%	101%	-1%	0.294	0.141	0.142	52%	101%	-1%
Taiwan 2013	0.163	0.133	0.141	14%	136%	-36%	0.178	0.142	0.152	15%	136%	-36%
UK 2013	0.500	0.214	0.190	62%	92%	8%	0.693	0.240	0.210	70%	94%	6%
USA 2013	0.446	0.276	0.233	48%	80%	20%	0.590	0.322	0.266	55%	83%	17%
Mean LIS	0.407	0.223	0.191	53%	85%	15%	0.542	0.261	0.218	60%	87%	13%
N	31	31	31	31	31	31	31	31	31	31	31	31

A4 Different inequality indices of primary income and disposable income and fiscal redistribution

LIS Dataset	Total population					
	Theil Coefficient					
	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes
Australia 2010	0.412	0.234	0.190	54%	80%	20%
Austria 2013	0.444	0.181	0.140	68%	86%	14%
Brazil 2013	0.534	0.400	0.366	31%	80%	20%
Canada 2010	0.416	0.224	0.179	57%	81%	19%
Czech Rep 2013	0.388	0.152	0.121	69%	88%	12%
Denmark 2013	0.425	0.156	0.114	73%	87%	13%
Dominican Rep 2007	0.450	0.441	0.434	4%	53%	47%
Estonia 2013	0.536	0.343	0.207	61%	59%	41%
Finland 2013	0.432	0.259	0.119	73%	55%	45%
Germany 2013	0.491	0.205	0.150	70%	84%	16%
Greece 2013	0.590	0.327	0.194	67%	67%	33%
Guatemala 2014	0.333	0.329	0.293	12%	12%	88%
Iceland 2010	0.280	0.149	0.113	60%	79%	21%
Ireland 2010	0.567	0.227	0.147	74%	81%	19%
Israel 2012	0.426	0.287	0.232	45%	72%	28%
Japan 2008	0.265	0.182	0.160	40%	79%	21%
Luxembourg 2013	0.399	0.169	0.139	65%	88%	12%
Netherlands 2013	0.415	0.193	0.127	69%	77%	23%
Norway 2013	0.367	0.155	0.114	69%	84%	16%
Panama 2013	0.472	0.413	0.387	18%	69%	31%
Peru 2013	0.413	0.381	0.363	12%	64%	36%
Poland 2013	0.426	0.180	0.180	58%	100%	0%
Slovakia 2013	0.341	0.145	0.128	62%	92%	8%
South Africa 2012	0.797	0.711	0.590	26%	42%	58%
South Korea 2012	0.198	0.167	0.159	19%	80%	20%
Spain 2013	0.472	0.242	0.198	58%	84%	16%
Sweden 2005	0.399	0.136	0.100	75%	88%	12%
Switzerland 2013	0.337	0.167	0.160	52%	96%	4%
Taiwan 2013	0.196	0.161	0.164	16%	108%	-8%
UK 2013	0.519	0.234	0.200	61%	89%	11%
USA 2013	0.462	0.308	0.252	46%	73%	27%
Mean LIS-31	0.426	0.254	0.207	51%	79%	21%
N	31	31	31	31	31	31

A4 Different inequality indices of primary income and disposable income and fiscal redistribution

LIS Dataset	Working age population					
	Theil Coefficient					
	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes
Australia 2010	0.310	0.209	0.171	45%	73%	27%
Austria 2013	0.313	0.179	0.141	55%	78%	22%
Brazil 2013	0.477	0.387	0.353	26%	73%	27%
Canada 2010	0.334	0.227	0.185	45%	72%	28%
Czech Rep 2013	0.258	0.144	0.118	54%	82%	18%
Denmark 2013	0.304	0.158	0.116	62%	78%	22%
Dominican Rep 2007	0.432	0.426	0.419	3%	51%	49%
Estonia 2013	0.406	0.326	0.204	50%	40%	60%
Finland 2013	0.301	0.296	0.119	60%	3%	97%
Germany 2013	0.316	0.204	0.156	51%	70%	30%
Greece 2013	0.459	0.330	0.204	56%	50%	50%
Guatemala 2014	0.335	0.334	0.299	11%	2%	98%
Iceland 2010	0.216	0.144	0.112	48%	69%	31%
Ireland 2010	0.472	0.221	0.145	69%	77%	23%
Israel 2012	0.363	0.273	0.217	40%	62%	38%
Japan 2008	0.219	0.184	0.160	27%	61%	39%
Luxembourg 2013	0.301	0.166	0.137	55%	82%	18%
Netherlands 2013	0.300	0.201	0.133	56%	59%	41%
Norway 2013	0.281	0.162	0.123	56%	75%	25%
Panama 2013	0.422	0.391	0.366	13%	56%	44%
Peru 2013	0.375	0.355	0.337	10%	53%	47%
Poland 2013	0.354	0.185	0.184	48%	100%	0%
Slovakia 2013	0.241	0.141	0.128	47%	89%	11%
South Africa 2012	0.716	0.692	0.584	18%	18%	82%
South Korea 2012	0.159	0.142	0.136	14%	73%	27%
Spain 2013	0.383	0.247	0.205	47%	77%	23%
Sweden 2005	0.282	0.135	0.099	65%	80%	20%
Switzerland 2013	0.221	0.155	0.150	32%	93%	7%
Taiwan 2013	0.167	0.147	0.152	9%	133%	-33%
UK 2013	0.379	0.232	0.206	46%	85%	15%
USA 2013	0.380	0.297	0.247	35%	63%	37%
Mean LIS	0.338	0.248	0.203	40%	67%	33%
N	31	31	31	31	31	31

A4 Different equivalent scales: Gini of primary income and disposable income and fiscal redistribution

LIS Dataset	Total population						Total population					
	Gini (LIS equivalence scale)						Gini (OECD modified equiv scale)					
	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes
Australia 2010	0.477	0.368	0.330	31%	74%	26%	0.477	0.363	0.323	32%	74%	26%
Austria 2013	0.493	0.322	0.279	44%	80%	20%	0.495	0.320	0.275	45%	80%	20%
Brazil 2013	0.542	0.468	0.450	17%	80%	20%	0.546	0.470	0.452	17%	81%	19%
Canada 2010	0.481	0.356	0.317	34%	76%	24%	0.481	0.353	0.313	35%	76%	24%
Czech Rep 2013	0.457	0.293	0.258	44%	82%	18%	0.458	0.288	0.252	45%	83%	17%
Denmark 2013	0.476	0.291	0.249	48%	82%	18%	0.474	0.283	0.240	49%	82%	18%
Dominican Rep 2007	0.498	0.494	0.490	2%	55%	45%	0.501	0.496	0.492	2%	57%	43%
Estonia 2013	0.540	0.429	0.352	35%	59%	41%	0.541	0.426	0.348	36%	60%	40%
Finland 2013	0.487	0.347	0.259	47%	61%	39%	0.486	0.344	0.254	48%	61%	39%
Germany 2013	0.520	0.344	0.291	44%	77%	23%	0.527	0.343	0.288	45%	77%	23%
Greece 2013	0.567	0.410	0.332	41%	67%	33%	0.571	0.409	0.334	42%	68%	32%
Guatemala 2014	0.427	0.424	0.394	8%	11%	89%	0.429	0.425	0.393	8%	10%	90%
Iceland 2010	0.393	0.287	0.245	38%	71%	29%	0.388	0.278	0.234	40%	71%	29%
Ireland 2010	0.564	0.366	0.294	48%	74%	26%	0.569	0.366	0.294	48%	74%	26%
Israel 2012	0.494	0.410	0.371	25%	68%	32%	0.501	0.418	0.379	24%	69%	31%
Japan 2008	0.382	0.321	0.302	21%	76%	24%	0.380	0.317	0.297	22%	77%	23%
Luxembourg 2013	0.475	0.317	0.283	40%	82%	18%	0.480	0.321	0.286	40%	82%	18%
Netherlands 2013	0.475	0.323	0.264	45%	72%	28%	0.475	0.320	0.260	45%	72%	28%
Norway 2013	0.446	0.293	0.248	44%	78%	22%	0.444	0.286	0.240	46%	78%	22%
Panama 2013	0.514	0.482	0.467	9%	69%	31%	0.521	0.487	0.472	9%	69%	31%
Peru 2013	0.483	0.465	0.455	6%	63%	37%	0.481	0.463	0.452	6%	63%	37%
Poland 2013	0.484	0.317	0.316	35%	100%	0%	0.493	0.323	0.323	35%	100%	0%
Slovakia 2013	0.425	0.287	0.268	37%	88%	12%	0.426	0.279	0.260	39%	88%	12%
South Africa 2012	0.664	0.625	0.572	14%	42%	58%	0.681	0.646	0.589	14%	39%	61%
South Korea 2012	0.337	0.314	0.306	9%	75%	25%	0.336	0.312	0.304	9%	76%	24%
Spain 2013	0.520	0.379	0.343	34%	80%	20%	0.522	0.378	0.343	34%	80%	20%
Sweden 2005	0.466	0.274	0.237	49%	84%	16%	0.464	0.268	0.230	50%	84%	16%
Switzerland 2013	0.425	0.300	0.295	31%	96%	4%	0.428	0.300	0.295	31%	96%	4%
Taiwan 2013	0.333	0.304	0.308	8%	115%	-15%	0.335	0.305	0.310	7%	117%	-17%
UK 2013	0.537	0.364	0.330	39%	83%	17%	0.537	0.361	0.326	39%	84%	16%
USA 2013	0.509	0.418	0.377	26%	69%	31%	0.512	0.420	0.379	26%	69%	31%
Mean LIS-31	0.481	0.367	0.332	31%	76%	24%	0.483	0.367	0.330	32%	76%	24%
N	31	31	31	31	31	31	31	31	31	31	31	31

A4 Different equivalent scales: Gini of primary income and disposable income and fiscal redistribution

LIS Dataset	Working age population						Working age population					
	Gini (LIS equivalence scale)						Gini (OECD modified equiv scale)					
	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes
Australia 2010	0.414	0.347	0.313	25%	67%	33%	0.415	0.344	0.309	26%	66%	34%
Austria 2013	0.417	0.320	0.280	33%	70%	30%	0.420	0.320	0.277	34%	70%	30%
Brazil 2013	0.516	0.463	0.444	14%	74%	26%	0.519	0.465	0.446	14%	74%	26%
Canada 2010	0.432	0.358	0.322	26%	67%	33%	0.432	0.357	0.319	26%	67%	33%
Czech Rep 2013	0.375	0.285	0.255	32%	75%	25%	0.377	0.284	0.253	33%	75%	25%
Denmark 2013	0.402	0.290	0.250	38%	74%	26%	0.401	0.284	0.243	39%	74%	26%
Dominican Rep 2007	0.490	0.487	0.483	1%	51%	49%	0.494	0.490	0.486	2%	53%	47%
Estonia 2013	0.473	0.419	0.349	26%	44%	56%	0.474	0.419	0.349	26%	44%	56%
Finland 2013	0.408	0.364	0.260	36%	30%	70%	0.407	0.364	0.256	37%	29%	71%
Germany 2013	0.419	0.343	0.296	29%	62%	38%	0.424	0.345	0.294	31%	61%	39%
Greece 2013	0.504	0.416	0.341	32%	54%	46%	0.509	0.418	0.345	32%	56%	44%
Guatemala 2014	0.430	0.429	0.398	7%	3%	97%	0.433	0.432	0.400	8%	3%	97%
Iceland 2010	0.347	0.284	0.245	29%	62%	38%	0.341	0.276	0.235	31%	61%	39%
Ireland 2010	0.517	0.363	0.294	43%	69%	31%	0.524	0.366	0.295	44%	69%	31%
Israel 2012	0.458	0.399	0.359	22%	59%	41%	0.465	0.407	0.367	21%	59%	41%
Japan 2008	0.351	0.323	0.303	14%	59%	41%	0.351	0.321	0.301	14%	59%	41%
Luxembourg 2013	0.416	0.316	0.283	32%	75%	25%	0.423	0.320	0.286	32%	75%	25%
Netherlands 2013	0.407	0.329	0.272	33%	58%	42%	0.407	0.327	0.269	34%	58%	42%
Norway 2013	0.391	0.298	0.258	34%	70%	30%	0.388	0.292	0.251	35%	70%	30%
Panama 2013	0.488	0.470	0.455	7%	56%	44%	0.494	0.475	0.460	7%	56%	44%
Peru 2013	0.460	0.449	0.438	5%	52%	48%	0.460	0.448	0.437	5%	52%	48%
Poland 2013	0.442	0.320	0.319	28%	99%	1%	0.453	0.329	0.328	28%	99%	1%
Slovakia 2013	0.361	0.283	0.269	26%	85%	15%	0.362	0.280	0.265	27%	85%	15%
South Africa 2012	0.636	0.621	0.571	10%	23%	77%	0.653	0.641	0.587	10%	19%	81%
South Korea 2012	0.304	0.290	0.283	7%	68%	32%	0.304	0.289	0.283	7%	68%	32%
Spain 2013	0.471	0.383	0.349	26%	72%	28%	0.474	0.384	0.350	26%	73%	27%
Sweden 2005	0.391	0.272	0.235	40%	76%	24%	0.389	0.267	0.229	41%	76%	24%
Switzerland 2013	0.346	0.289	0.285	18%	94%	6%	0.350	0.291	0.288	18%	94%	6%
Taiwan 2013	0.308	0.290	0.296	4%	152%	-52%	0.311	0.293	0.300	4%	158%	-58%
UK 2013	0.459	0.364	0.335	27%	77%	23%	0.461	0.364	0.334	28%	77%	23%
USA 2013	0.464	0.411	0.374	19%	58%	42%	0.467	0.414	0.376	20%	59%	41%
Mean LIS	0.429	0.364	0.330	23%	66%	34%	0.432	0.365	0.330	24%	66%	34%
N	31	31	31	31	31	31	31	31	31	31	31	31

A4 Different equivalent scales: Gini of primary income and disposable income and fiscal redistribution

LIS Dataset	Total population					
	Gini (OECD original equiv scale)					
	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes
Australia 2010	0.483	0.366	0.328	32%	75%	25%
Austria 2013	0.505	0.327	0.283	44%	80%	20%
Brazil 2013	0.554	0.479	0.461	17%	81%	19%
Canada 2010	0.486	0.357	0.318	35%	77%	23%
Czech Rep 2013	0.463	0.287	0.252	46%	83%	17%
Denmark 2013	0.478	0.280	0.238	50%	82%	18%
Dominican Rep 2007	0.509	0.504	0.500	2%	58%	42%
Estonia 2013	0.543	0.421	0.345	37%	62%	38%
Finland 2013	0.491	0.347	0.253	48%	61%	39%
Germany 2013	0.533	0.345	0.291	45%	78%	22%
Greece 2013	0.574	0.411	0.338	41%	69%	31%
Guatemala 2014	0.439	0.436	0.404	8%	9%	91%
Iceland 2010	0.391	0.280	0.237	39%	72%	28%
Ireland 2010	0.574	0.369	0.299	48%	74%	26%
Israel 2012	0.509	0.427	0.390	23%	69%	31%
Japan 2008	0.387	0.323	0.303	22%	77%	23%
Luxembourg 2013	0.490	0.332	0.298	39%	82%	18%
Netherlands 2013	0.480	0.322	0.264	45%	73%	27%
Norway 2013	0.449	0.287	0.242	46%	79%	21%
Panama 2013	0.529	0.497	0.483	9%	69%	31%
Peru 2013	0.487	0.469	0.458	6%	63%	37%
Poland 2013	0.500	0.330	0.330	34%	100%	0%
Slovakia 2013	0.433	0.281	0.263	39%	90%	10%
South Africa 2012	0.696	0.663	0.603	13%	35%	65%
South Korea 2012	0.338	0.314	0.306	9%	77%	23%
Spain 2013	0.525	0.382	0.347	34%	81%	19%
Sweden 2005	0.471	0.270	0.232	51%	84%	16%
Switzerland 2013	0.437	0.308	0.304	31%	97%	3%
Taiwan 2013	0.337	0.309	0.314	7%	123%	-23%
UK 2013	0.543	0.364	0.331	39%	84%	16%
USA 2013	0.519	0.426	0.386	26%	70%	30%
Mean LIS-31	0.489	0.371	0.336	31%	77%	23%
N	31	31	31	31	31	31

A4 Different equivalent scales: Gini of primary income and disposable income and fiscal redistribution

LIS Dataset	Working age population					
	Gini (OECD original equiv scale)					
	Market Income	Gross Income	Disposable Income	Relative FR	Share from Transfers	Share from Taxes
Australia 2010	0.422	0.351	0.316	25%	67%	33%
Austria 2013	0.430	0.328	0.285	34%	70%	30%
Brazil 2013	0.527	0.473	0.454	14%	74%	26%
Canada 2010	0.438	0.362	0.325	26%	67%	33%
Czech Rep 2013	0.384	0.289	0.258	33%	75%	25%
Denmark 2013	0.405	0.285	0.244	40%	75%	25%
Dominican Rep 2007	0.502	0.498	0.494	1%	55%	45%
Estonia 2013	0.478	0.420	0.353	26%	46%	54%
Finland 2013	0.411	0.369	0.257	37%	27%	73%
Germany 2013	0.431	0.350	0.298	31%	61%	39%
Greece 2013	0.514	0.422	0.352	32%	57%	43%
Guatemala 2014	0.445	0.444	0.411	7%	2%	98%
Iceland 2010	0.345	0.279	0.238	31%	62%	38%
Ireland 2010	0.531	0.373	0.303	43%	69%	31%
Israel 2012	0.474	0.417	0.378	20%	59%	41%
Japan 2008	0.358	0.328	0.308	14%	60%	40%
Luxembourg 2013	0.435	0.332	0.296	32%	75%	25%
Netherlands 2013	0.412	0.330	0.271	34%	58%	42%
Norway 2013	0.393	0.294	0.253	36%	70%	30%
Panama 2013	0.503	0.484	0.470	7%	56%	44%
Peru 2013	0.466	0.455	0.444	5%	52%	48%
Poland 2013	0.461	0.337	0.337	27%	99%	1%
Slovakia 2013	0.369	0.285	0.271	27%	85%	15%
South Africa 2012	0.669	0.659	0.601	10%	15%	85%
South Korea 2012	0.309	0.294	0.288	7%	70%	30%
Spain 2013	0.479	0.389	0.356	26%	73%	27%
Sweden 2005	0.396	0.271	0.233	41%	77%	23%
Switzerland 2013	0.361	0.302	0.298	17%	94%	6%
Taiwan 2013	0.316	0.299	0.306	3%	172%	-72%
UK 2013	0.468	0.370	0.341	27%	77%	23%
USA 2013	0.475	0.421	0.383	19%	59%	41%
Mean LIS	0.439	0.371	0.336	23%	66%	34%
N	31	31	31	31	31	31