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Facts & Figures: Income inequality and fiscal redistribution in 29 countries



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The growing interest in national and cross-national differences in earnings and income inequality has produced a wide range of studies lately. Economists are increasingly focusing on the links between rising inequality and the fragility of economic growth. The International Monetary Fund stated that rising income inequality in advanced and developing economies has coincided with growing public support for income redistribution. Moreover, lower inequality of disposable income is robustly correlated with faster and more durable economic growth, for a given level of fiscal redistribution.

Different social policies bring different types of welfare systems, leading to various outcomes in the income distribution. Since one of the functions of many national social protection systems is to reduce income inequality, this blog may provide relevant information for policy makers. Chen Wang and I updated our [Leiden Budget Incidence Fiscal Redistribution Database](#), based on the the Luxembourg Income Study (LIS) in which microdatasets from nearly forty countries have been harmonised. Consequently it is possible to study income inequality and fiscal redistribution across countries.

A standard analysis of fiscal redistribution is to compare pre-tax-transfer income inequality and post-tax-transfer income inequality. Primary income inequality is given by a summary statistic of pre-tax, pre-transfer incomes and disposable income inequality is given by the same summary statistic of disposable equivalent incomes. Inequality is measured by the Gini coefficient which ranges from 0 (all households have equal incomes) to 1.0 (the richest household receives all income). Table 1 presents the framework for accounting income inequality and redistribution through various income sources. From nearly 300 variables in the dataset, we chose those related to household income (all kinds of income sources), total number of persons in a household and household weight (in order to correct sample bias or non-sampling errors) to measure income inequality and fiscal redistribution across countries.

Table 1	Income components	Income inequality and fiscal redistribution
	Gross wages and salaries + Self-employment income + cash property income + Occupational and private pensions + private transfers + other cash income = Primary income	Income inequality before social transfers and taxes
	+ Social security cash benefits	-/- Redistributive effect of social transfers
	= Gross income	= Income inequality before direct taxes
	-/- Pay Roll (Mandatory payroll taxes)	-/- Redistributive effect of direct taxes
	-/- Income taxes	
	= Disposable income	= Income inequality after social transfers and taxes

Table 2 (or Figure 1) shows our estimates for 29 countries. Countries are listed in order of their Gini of disposable income from smallest to largest. A wide range of inequality exists across the countries. The lowest disposable income inequality is found in the Nordic countries and the Netherlands, while Brazil, Guatemala, India, Peru and South Africa are the most unequal nations. Nine countries have rather low values around 0.24-0.28: Denmark, Sweden, Norway, the Netherlands, Slovak Republic, Switzerland, Luxembourg, Austria and Belgium. These countries are followed by eleven countries (France, Germany, Hungary, Ireland, Japan, Taiwan, Australia, Canada, Italy, Greece and Spain) with below-average Gini coefficients. Nine countries face above-average inequality, among others the United Kingdom and the United States of America. The most unequal countries face Gini coefficients of disposable equivalent income above 0.5.

The pattern of primary income inequality (before social transfers and taxes) is quite different from disposable income inequality. Belgium, Germany, Ireland and Hungary have below average levels of inequality of disposable income, but the highest level of primary income inequality, with values around 0.55. Taiwan and Japan have very low levels of primary income inequality, but around average inequality of disposable income.

With respect to fiscal redistribution, our budget incidence analysis indicates that the pattern is diverse across countries. Direct income taxes on labour income and social benefits decrease inequality by an average of 30 percent. For instance, the average Gini coefficient for disposable income was 14 percentage points below that of the average primary income Gini (0.339 versus 0.482). The largest redistribution is found for Belgium, Ireland, Hungary, Germany, Sweden, Czech Republic and Sweden, while India, Peru, Taiwan and Guatemala show hardly any fiscal redistribution. Note that fiscal redistribution in the United States of America is higher compared to several European countries such as Greece, Italy, Spain, the United Kingdom, and the Netherlands.

Finally, we observed a sizeable increase in primary or market household inequality in a subsample of 20 most affluent countries over the last 25 years. In most countries, the extent of fiscal redistribution had increased as a whole, too. Tax-benefit systems have offset two-thirds of the increase in primary income inequality. This is the case because a progressive tax and benefit system tends to redistribute income even more when market inequality rises (e.g., due to unemployment or rising incomes of top earners).

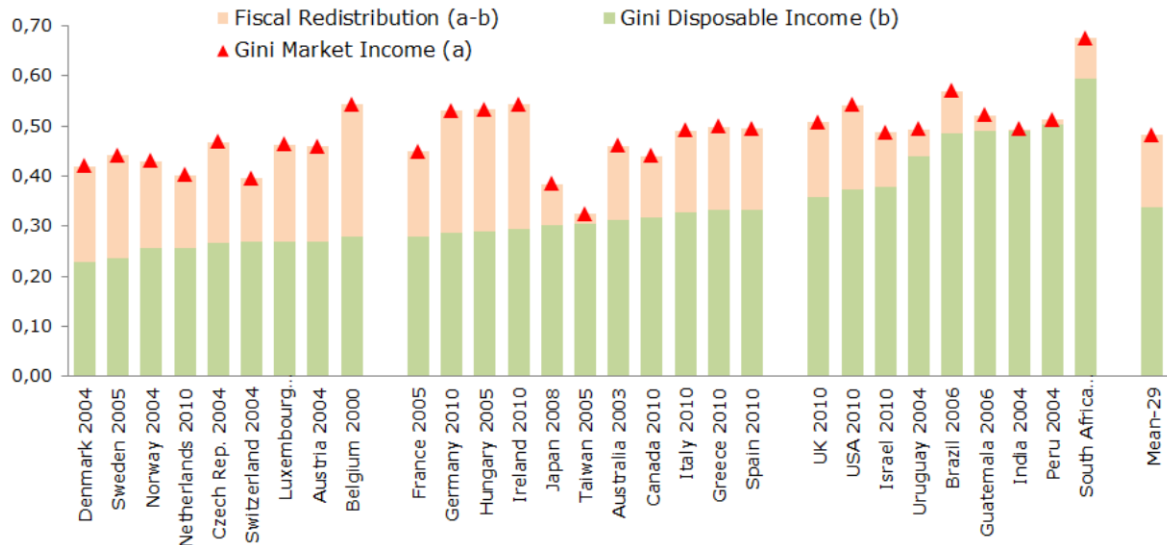
Table 2 Income inequality and fiscal redistribution in 29 LIS countries

Country	Gini Market Income	Gini Disposable Income	Fiscal Redistribution	Relative Fiscal Redistribution
	(a)	(b)	(a-b)	(a-b)/a*100
Denmark 2004	0.419	0.228	0.191	46%
Sweden 2005	0.442	0.237	0.205	46%
Norway 2004	0.430	0.256	0.174	40%
Netherlands 2010	0.401	0.257	0.144	36%
Czech Republic 2004	0.468	0.266	0.202	43%
Switzerland 2004	0.395	0.268	0.127	32%
Luxembourg 2010	0.462	0.269	0.193	42%
Austria 2004	0.459	0.269	0.190	41%
Belgium 2000	0.542	0.279	0.263	49%
France 2005	0.449	0.280	0.169	38%
Germany 2010	0.530	0.286	0.244	46%
Hungary 2005	0.533	0.289	0.244	46%
Ireland 2010	0.543	0.294	0.249	46%
Japan 2008	0.384	0.302	0.082	21%
Taiwan 2005	0.324	0.305	0.019	6%
Australia 2003	0.461	0.312	0.149	32%
Canada 2010	0.440	0.317	0.123	28%
Italy 2010	0.491	0.327	0.164	33%
Greece 2010	0.499	0.333	0.166	33%
Spain 2010	0.494	0.333	0.161	33%
UK 2010	0.507	0.357	0.150	30%
USA 2010	0.542	0.373	0.169	31%
Israel 2010	0.487	0.379	0.108	22%
Uruguay 2004	0.493	0.439	0.054	11%
Brazil 2006	0.570	0.486	0.084	15%
Guatemala 2006	0.521	0.490	0.031	6%
India 2004	0.493	0.491	0.002	0%
Peru 2004	0.512	0.502	0.010	2%
South Africa 2010	0.675	0.594	0.081	12%
Mean-29	0.482	0.339	0.143	30%

Fiscal redistribution: difference between the Gini indexes of pre-tax-transfer market income and post-tax-transfer equivalized disposable income. Equivalence scales are applied (household size is divided by the square root of the number of household members, weighting households by the number of members they include). Households which report no market income are included (i.e., all of their income is derived from social transfers), however, households with no disposable income are excluded. Standard LIS top- and bottom-coding conventions are applied. Excluding countries with no information for occupational pensions (this income source is excluded): Slovenia, Finland, Slovak Republic, Poland, Estonia, Russia and Mexico. Moreover, there are too many missing values for China and data for Colombia seem problematic too.

Source: [Leiden Budget Incidence Fiscal Redistribution Database](#), assembled by Wang & Caminada

Figure 1 Income inequality and fiscal redistribution in 29 LIS countries



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