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Baird, Katherine

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Accounting for private health care expenses in measures of nations' redistributive effort

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Accounting for Private Health Care Expenses In Measures of Nations' Redistributive Effort

Katherine Baird

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Accounting for Private Health Care Expenses In Measures of Nations' Redistributive Effort

Katherine Baird

Professor of Economics

Division of Politics, Philosophy and Public Affairs

School of Interdisciplinary Arts and Sciences

University of Washington Tacoma

1900 Commerce St

Tacoma, WA 98402-3100

Email: kebaird@uw.edu

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Including Private Health Care Costs in Measuring Nations' Redistributive Effort

Abstract:

As health care costs rise, so too does the importance of assessing their incidence, and factoring these costs into measures of post-government income distribution. This paper contributes to this assessment by calculating the effect of government policy on the distribution of income by adjusting income not only for taxes paid and social transfers received, but also for households' health expenditures. Standard measures of the effect of government policy on the distribution of income inconsistently accounts for these expenses; such inconsistencies result in biased measures of post-government income distribution. Here we account as much as possible for this inconsistency to provide more accurate cross-national comparisons of governments' redistributive effort. Using eight nationally-representative household datasets from 2010, we modify post-government income by treating households' health care costs similarly across countries. The results show the degree of bias in common estimates of the distribution of disposable income. In Switzerland and the US, for instance, estimates of post-government poverty rates climb by three to four percentage points once we account for households' medical expenses. We find that including private health care spending in measures of countries' redistributive effort results in greater variation among countries in their redistributive effort. We conclude that future assessments of governments' redistributive effort should uniformly account for the burden nations' health care financing policies place on households.

Key Words: Gini, health finance, inequality, Reynolds-Smolensky, international comparison, poverty

INTRODUCTION

This paper merges two distinct investigations into the effect of nations' policies on the distribution of income. This merger provides a fuller account of the degree to which government policy succeeds in combating inequality and poverty and distributing health care costs fairly. The first literature assesses governments' redistributive role by contrasting the poverty and income inequality that results from markets with levels after accounting for taxes and social transfers, the primary mechanisms by which governments redistribute income. A second literature investigates how countries distribute health care costs across citizens to assess the progressivity or regressively of different countries' health care systems.

Researchers typically conduct these two lines of inquiry independently of one another. Yet this separation results in an incomplete and even inaccurate portrayal of differences among countries in the degree to which its policies reduce inequality and poverty. This is because some nations finance their health care systems almost entirely through taxes, while others do so via private payments separate from taxes. A comparison of governments' redistributive role based on taxes and social transfers alone thus includes the burden of paying for health care only insofar as taxes fund health care; the comparison will *not* capture the differential burden it places on households from private medical expenditures. At the same time, studies examining the burden health care financing policies place on different income groups do not account for the many other government policies that differentially place burden on and distribute benefits to individuals based on their income. An inequitable sharing of health care expenses within a country could theoretically be offset by more redistributive policies in other domains.

Gaining a true understanding of the government's redistribute role thus requires combining both of these inquiries. This paper accomplishes this by estimating a more inclusive indicator of governments' redistributive role through examining the combined effect taxes, social transfers, and private health care spending have on households' income. While the comparison provided is not without its own shortcomings and omissions, we believe it provides a more complete and accurate portrayal of differences in countries' redistributive effort. Given the heavy and growing burden health care spending places on households, the essential and non-discretionary nature of this spending, and the central role governments play in determining the funding mechanism by which health care costs are distributed across households, we contend that accurate assessments of governments' redistributive role in the future should account for all of health care's dollars.

BACKGROUND

However financed, all health care costs are ultimately paid for by individuals. In countries with public insurance, these are usually paid for through taxes, often ones designated for health care. Countries with private insurance generally rely on premium payments. Although these may be paid for or subsidized by taxes, they are most commonly paid for by individuals and their employers. Finally, some health care expenses are not paid for by either public or private insurance but are paid for out-of-pocket (OOP). This occurs when individuals directly pay some portion of the cost of health care services or products consumed, or when particular medical goods and services are not covered by insurance. Of course in cases where individuals do not have insurance, their entire health care expenses are (at least theoretically) paid out-of-pocket. In short, individuals pay for health care through a combination of taxes, lower wages, and direct payments for premiums and OOP expenses.

Nations differentially rely on these three financing mechanisms. As shown in Table 1, among member nations of the Organization for Economic Cooperation and Development (OECD), the US (48.4 percent of the total), Mexico (47.1 percent) and Chile (45.5 percent) rely the least on taxes to fund health care, while the UK (88.5 percent) relies the most. On average in OECD nations, tax revenue pays 72 percent of all health care expenses. Private insurance, on the other hand, covers from zero percent of total health care expenditures (Iceland, Slovak Republic and Turkey), to 35.1 percent in the US. Finally, OOP expenses finance a low of 5.3 percent of total health care expenses in the Netherlands to more than 40 percent in Russia and Mexico.[1]

TABLE 1 HERE

Not only do countries vary in the way in which each finances health care, they also display different trends over time.[1] This coupled with the rising cost of health care has led researchers to investigate how these expenses are apportioned across the income distribution. In widely-cited articles, Wagstaff et al. (1999) and van Doorslaer et al. (1999) examine data from 12 OECD countries, and reach generalizations about the progressivity of different financing mechanisms.[2,3] They also estimate the overall effect of health care expenses on a country's income distribution. The two papers show that health care costs are more unequally distributed than is gross income in about half of their sample of 12 countries, and are more equally distributed in the other half. Their estimates, however, do not consider the impact of tax and social transfer policies on the distribution of income, and the potential for these policies to counteract the equalizing or unequalizing effect of a country's health care financing policies.

A separate, more recent body of literature focuses exclusively on the financial effect out-of-pocket expenditures have on the poor. In less developed countries, the poor commonly meet their health care needs through out-of-pocket payments, and some researchers recalculate poverty rates after subtracting for these expenses.[4,5,6] van Doorslaer et al. (2006), for instance, re-estimate poverty rates in eleven Asian nations after accounting for OOP spending, finding that this modification adds 2.7 percentage points to the share of the total population below a poverty threshhold.[7] A robust literature also measures the frequency with which households in developing countries encounter large health expenditures, with particular attention paid to its incidence among the poor.[8]

The impoverishing effect of OOP expenses has also been the subject of research in developed countries. OOP expenses place many individuals otherwise above the poverty line, below it, [9-12] and commonly place a particularly high financial burden on the poor, the elderly, and those in poor health.[13,14] In fact in the mid 1990s, the US National Academy of Sciences recommended that one's poverty status in the US be determined *after* deducting health care expenses from income,[15] recommendations that eventually became folded into what are now the US's Supplementary Poverty Rates. That out-of-pocket health expenses are especially high for America's poor is apparent in estimates that by one measure at least, Medicaid (public insurance for the poor) keeps three million Americans above the poverty line, making Medicaid the US's third most influential poverty-reducing program.[16]

Quite apart from research investigating differences in the financial burden health care places on those with different incomes, is the work of organizations such as the World Bank and the OECD that regularly calculate national-level indicators of countries' redistributive effort. Typically, "redistributive effort" is defined as the difference between the distribution of market

income (pre-government income) with income after accounting for taxes and social transfers (termed disposable, or post-government income). Table 2 presents OECD calculations of pre- and post-government income for the countries used in this study (discussed below). The top half of Table 2 presents Gini coefficients and poverty rates both before (pre-government) and after (post-government) accounting for taxes and social transfers. The bottom half of Table 2 is discussed below.

TABLE 2 HERE

We use Gini coefficients to measure income inequality and define poverty using the European Commission's definition of income below 60 percent of the country's median. As Table 2 shows, pre-government Gini coefficients commonly fall in the .45 to.50 range, while post-government Ginis typically range from .30 to .40, with the difference being a measure of governments' redistributive effort. The top half of Table 2 also shows that around one-third of citizens in the sample countries have pre-government income placing them below the poverty threshold, while around 15 to 25 percent do based on post-government income. The degree to which government policy successfully reduces poverty is another common indicator of governments' redistributive effort.

Such standard estimates of countries' redistributive effort, however, only include the distributional burden of health care financing insofar as health care is paid for through taxes. As mentioned earlier, on average taxes account for only 72 percent of all of health care costs in OECD countries (Table 1), with the rest coming from private expenditures on premiums and OOP costs. And since the percent of health care costs financed by such private expenditures varies by country, and can be quite large and regressive, this omission both overstates countries' redistributive effort, and potentially misrepresents how redistributive effort compares across countries.

To our knowledge, no study has explicitly incorporated this inconsistency into assessments of governments' redistributive effort. Yet the rising cost of health care, as well as upward trends in the use of private funding sources, indicate that this omission is probably increasingly skewing assessments of countries' redistributive effort. This paper documents the importance of this exclusion, thereby explicitly bringing the financing of a nation's health care system into discussion of how to reduce income inequality and poverty.

DATA AND METHODS

We wish to account for the burden health care financing places on households in order to more comprehensively and accurately measure the effect of national policy in poverty and the distribution of income. To do this, we first calculate traditional measures of governments' redistribution effort, and then recalculate them after accounting for the health care expenditures left out of these standard measures. For both endeavors we use household survey (HS) data in eight countries made available through the Luxembourg Income Study (LIS).[17] LIS produces harmonized versions of participating nations' HS data so that variables such as market (pre-

government) and disposable (post-government) income are consistently defined and uniformly measured based on international standards.

All LIS datasets contain household-level information on income and consumption, as well as demographic information on household members. A number of HS datasets also include private medical spending, defined as OOP expenses and, in a couple of instances, households' expenditures on private health insurance. To arrive at the sample of countries in this study, we start with all countries containing data on households' medical spending, and then eliminate those where per-capita OOP spending substantially deviate from the OECD's estimates (Hungary and Italy), where OOP spending data include non-health related expenses (Taiwan), where the most recent HS data is over 15 years old (Estonia and Romania), where the nation is a low income country (China, Guatemala, India, Mexico, Peru, Serbia, and South Africa), and where the country did not provide both pre- and post-government income (Slovenia and Russia). This leaves eight countries: Canada, France, Australia, Israel, Japan, Poland, the US, and Switzerland. The household data set for all countries are for the year 2010, except for Japan (2008) and Switzerland (2004). An Appendix A provides detail on each of the eight datasets, and Appendix B presents descriptive statistics. All data in this paper use LIS population weights to account for possible selection bias in the sampled population, and income and health expenditures are bottom-coded to zero.

Variable Definitions

Income. ***Market***, or pre-government income, is measured as all household earnings from capital and labor. ***Disposable income***, or post-government income, is defined as market income less all taxes paid plus all social transfers received. Since LIS standardizes these variables, they are defined identically across the eight nations, although France presents a minor exception (see

Appendix A). Note that the difference between market and disposable income accounts for all household health care expenses paid for through higher taxes, but does not include non-tax expenditures on private premiums or OOP expenses. Because of this, we introduce a third definition of household income, termed ***adjusted disposable income***: household disposable income less all households' private medical expenses (detailed below). The analysis in this paper is based on individuals rather than households, and to assign individuals a share of household income (called *equivalized income*) we employ the standard practice of dividing household income by the square root of household size. All members of the same household are assigned the same equivalized income whether this is defined as market, disposable, or adjusted disposable income.

Medical Expenses. In six of the eight HS data sets, household medical spending is measured by households' out-of-pocket expenditures. These are the actual expenses incurred while consuming health care, and include deductibles, co-insurance, copayments, and expenses not covered by insurance (which for the uninsured would include everything). The countries in this study adhere relatively closely to this definition, and the magnitude of OOP costs in them correspond with OECD estimates. Households' medical spending in the US and Canada additionally include the cost of health insurance premiums; for these two countries, then, adjusted disposable income accounts for households' OOP *and* premium expenses. We will return shortly to the potential problem in six of the eight countries of not accounting for premium costs.

Poverty. Following the definition used by the European Commission, we label an individual as in poverty if his or her income (however defined) falls below 60 percent of the nation's median (equivalized) disposable income.

Table 3 presents detail on the way in which health care is financed in each of this study's eight countries. Where data are available, we also specify whether private insurance is paid for by the government (taxes), employers, or by households. Based on this breakdown, Column 10 in Table 3 presents estimates of the percentage of total health care expenses that are deducted from market income when calculating standards measures of households' disposable income—i.e., the post-government income in Table 2. Recall that these measures of governments' redistributive effort contrast market (pre-government) income with disposable (post-government) income.

TABLE 3 HERE

As Table 3 column 10 shows, traditional measures of post-government income accounts for only 60 percent of Switzerland's health care costs, but 81 percent of Japan's. In other words, these measures inconsistently account for the burden on households of paying for the nation's health care system. In countries with strong public insurance programs, traditional measures of countries' redistributive effort include most of the cost of the nation's health care system; in those with a heavy reliance on private financing sources, they do not.

The second-to-last column in Table 3 presents the same information for our new measure of adjusted disposable income (disposable income less private health care costs) rather than disposable income. As this column shows, we estimate that the percentage of total health expenses accounted for in this new *adjusted* measure of disposable income ranges from 87 percent in the case of Israel and Switzerland, to 96 percent in the case of Japan, Poland and the United States. The last column in Table 3 displays the difference between columns 10 and 11--

in other words, our estimate of the *additional* percentage of health care expenses captured in our new *adjusted* measure of disposable income due to the inclusion of out-of-pocket costs and, in the case of Canada and the US, insurance premiums.[19] These additions range from 7.7 percent of the nation's total health care expenses in the case of France, to 26.4 percent in the case of Switzerland. While our estimates are unable to account for all of households' health care spending, they now include a higher and more consistent share of them, thus making cross-national comparisons more uniform in how it accounts for the distributional burden of the nation's health care system.

RESULTS

The top half of Table 2 presented OECD estimates of Gini coefficients and poverty rates both before and after accounting for taxes and social transfers. The bottom half of Table 2 presents identical estimates derived from LIS's data. As shown, the two sources provide nearly identical estimates of pre- and post-government Gini coefficients and poverty rates. To gauge the significance of excluding households' private health expenditures from measures of governments' redistributive effort, we now redo the analysis in the bottom half of Table 2 by defining post-government income as adjusted disposable income rather than disposable income.

The first two rows in the top and bottom half of Table 4 reproduce Table 2's estimates of Gini coefficients and poverty rates from the LIS data. Row three in each half calculates governments' "redistributive effort" as the difference in inequality or poverty rates based on pre- versus post-government income. A fourth row shows Gini coefficients and poverty rates based on this paper's adjusted disposable income. As shown, Gini coefficients range from .23 in Japan

to .39 in the US and Israel when based on adjusted disposable income, and poverty rates range from 17 percent in France and Japan to 30 percent in Israel.

A fifth row in each half of Table 4 presents the absolute *decline* in governments' redistributive effort when defined as adjusted disposable income instead than disposable income. This modification leaves countries' redistributive effort measured by Gini coefficients mostly unchanged: Including private medical spending increases the Gini by only.01 points in the US, Australia, Israel, Japan and Poland, and .02 points in Switzerland. When measuring governments' redistributive effort by changes in poverty rates, however, including the cost of private medical spending noticeably increases them. In the US, Switzerland, and Poland, poverty rates grow by 3 to 4 percentage points (bottom half of Table 4, row 5).

A final row six in Table 4 expresses these absolute declines in governments' redistributive effort (row 5) relative to the country's total redistributive effort (row 3). In the US, for example, adjusted disposable income increases the Gini coefficient by .01 points (row 5), or by 10 percent of the government's total redistributive (row 6). In Switzerland, the government's redistributive effort is 20 percent smaller once adjusted disposable income is substituted for disposable income. In the other six nations, adjusted disposable income reduces governments' redistributive effort (measured by the Gini) by a much smaller 1 to 6 percent.

With the exception of the US and Switzerland, then, the Gini coefficient is relatively insensitive to whether or not health care expenditures are more comprehensively accounted for in households' post-government income. However, poverty rates prove quite sensitive to this inclusion. The fifth row in the bottom half of Table 4 shows that post-government poverty rates increase by 1 to 4 percentage points when substituting adjusted disposable income for disposable income. The final row 6 expresses these increases in poverty rates relative to the government's

total effect on poverty rates (row 3). In the US, for instance, 38 percent of those landing above the poverty threshold once government taxes and transfers are accounted for, are below it once their health-related expenses are factored in. Except in France and Poland, the use of disposable rather than adjusted disposable income inflates estimates of governments' redistributive effort by more than 10 percent.

DISCUSSION

This analysis demonstrates that subtracting households' private health expenses from post-government income results in lower estimates of governments' role in redistributing income and reducing poverty. While the analysis here does not include all private health care expenditures, and in that sense is not intended to be definitive, it demonstrates that measures of redistribution based on disposable income provide high and biased estimates of the effectiveness of different countries policies on reducing poverty and income inequality. The inclusion of private health care spending particularly matters in countries where this is an important source of health care dollars.

Explaining variation in the financing of different countries' health care systems extends beyond this paper's scope. But all else the same, we might expect that where countries rely disproportionately on private sources, governments' redistributive role (as traditionally measured) will be larger, since these traditional measures omit much of the nation's health care costs. Once redistributive efforts are more comprehensively measured by accounting for households' health expenditures, one might reasonably expect that countries will converge in the degree to which they redistribute income and reduce poverty.

Yet the evidence presented here finds the opposite: a negative correlation exists between nations' redistributive effort (as traditionally measured by row 3 in Table 4), and the reversal in this effort attributable to private health care spending (row 5). Measured by Gini coefficients, the correlation is -.69; for poverty rates, it is -.48. In our sample of eight countries, at least, those countries that do more to redistribute income via taxes and social transfers, also rely more on tax revenue to fund their health care system. In short, including private health care spending in measures of countries' redistributive effort *increases* rather than *decreases* the difference among countries in their redistributive effort. This offers another reason why distributional analyses of government policy are incomplete without considering the incidence of health care spending.

LIMITATIONS

There are at least four limitations to this study, the first being its incomplete accounting of households' total health care expenses. As Table 3 shows, the paper's estimates omit some important sources of health care spending. And not only do some exclusions remain, but the size varies by country, from 4 percent of all health care costs is some countries, to a high of 13 percent in others. For this reason, the paper's analysis is best viewed as demonstrating how more comprehensively accounting for the distributional burden of health financing policy changes our assessments of how effective government policy is an addressing income inequality and poverty.

Second, the study implicitly treats health care expenditures as non-discretionary, on par with the non-discretionary nature of taxes. However, when private health expenditures reflect preferences and income, they begin to look like other essential goods such as housing, food and education--all of which may likewise vary across countries in the amount spent by public versus private sources. One might naturally ask: why stop at health care? In measuring the

redistribution of income that results from government policy, why not also consider the impact of private expenditures on food, shelter and education?

Yet health care differs from these goods in a number of important ways. One is its unknown and potentially much larger magnitude at the household level. Two is the significant differences among countries in the use of public versus private funding sources, differences not as evident in housing, food and education. Nonetheless, the potentially discretionary nature of private health care spending renders our method particularly relevant when measuring poverty rates, as those at the lower end of the spending distribution are less likely to be spending discretionary dollars on health care. We thus believe our results best illustrate the bias embodied in standard measures of governments' effect on poverty. In the end, though, our main contention is that measures of countries' redistributive effort should treat *all* health care expenses uniformly. This means either capturing the incidence of the entire health care system, or excluding these expenditures altogether. Of these two options, we judge the first to be the more defensible one.

In scope, the paper leaves aside many controversies over how one should best measure nations' redistributive effort. As Garfinkel, Rainwater and Smeeding and a recent OECD report show, [20, 21] there are many additional unsettled issues surrounding how post-government income is best measured, and a third limitation is that this paper does not engage this larger debate. A final shortcoming is we show how greater consistency in accounting for the distribution of health care costs affects measures of countries redistributive effort through two measures: changes in post-government Gini coefficients, and the other is changes in post-government poverty rates. Other measures could be added here, such as 90/10 ratios, Atkinson indexes, and coefficients of variation. Such a more detailed analysis, however, might best wait until survey data more accurately accounts for the full range of private dollars households devote to health care costs.

CONCLUSIONS

This paper asked whether a more comprehensive accounting of the burden health care financing places on different households significantly changes our assessment of countries redistributive effort. Typical measures of this omit the impact private health care expenditures have on households' budgets; this paper measured the significance of this omission. We find that in some countries, notably Switzerland and the US in our sample of eight, deducting these expenses from disposable income significantly reduces estimates of these countries' redistributive effort. For instance in Switzerland, the reduction in the Gini achieved through government policy shrinks by 20 percent once households' private health care spending is accounted for. This omission results in even larger overestimates of the degree to which government policy reduces poverty.

While based on a limited sample, we also find that the unequalizing effect of private medical expenses tends to be larger in countries with smaller redistributive regimes, and that differences in countries' redistributive effort is therefore even larger than previously understood. This could suggest some common political explanation behind the degree to which governments redistribute income and the extent to which they rely on more regressive ways to finance health care. If true, studies linking health outcomes to inequality, or alternatively to the manner in which health care is financed, should consider the interrelationship between these two features of society, as causal explanations are likely more complicated. [22,23]

Overall the results underscore the importance of including all forms of health care financing in measurements of the effect of government policy on household income. The results demonstrate that monitoring and assessing governments' redistributive effort requires that all

aspects of health care financing be accounted for, as there is a strong potential for private medical spending to push individuals otherwise over the poverty line below it, and to widen income inequality. Without such inclusion, efforts such as recently underway in the US to steer health care in a more progressive direction,[24] could appear in statistical measures to have the opposite effect if it shifts health care financing from private to public sources.

Of course, an equitable sharing of health care's financial burden is not the only, or even the most important feature of any health care system. But in all nations it is an important goal, one closely related to equity and access, and is one that a more complete accounting of the effect national policy has on the distribution of income would help to advance.

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TABLE 1: Financing of Health Care By Source, Percentage of Total (2010)

	Government (Taxes)	Private Insurance	Out of Pocket
Australia	68.6	8.2	19.7
Austria	76.1	4.7	17.7
Belgium	77.7	4.2	17.9
Canada	69.9	12.8	15.4
Chile	45.5	19.5	35
Czech Republic	83.3	0.2	15.3
Denmark	84.6	1.7	13.7
Estonia	79.3	0.2	18.7
Finland	74.1	2.2	20.3
France	78	13.5	7.7
Germany	75.7	9.4	14.1
Greece	67.7	2.6	29.4
Hungary	64.7	2.8	27.2
Iceland	80.4	0	18.2
Israel	63.5	10.6	23.2
Italy	78.5	1	20.5
Japan	81.9	2.4	14.6
Korea	58	5.6	35.7
Luxembourg	84.9	3.7	10.2
Mexico	47.1	4	48.9
Netherlands	87	6	5.3
New Zealand	80.6	4.7	12.6
Norway	84.7	0	15
Poland	71.7	0.7	23.7
Portugal	70	4.7	24.8
Slovak Republic	71.9	0	22.8
Slovenia	73.3	13.1	12.7
Spain	74.8	4.1	20.8
Sweden	81.9	0.5	17
Switzerland	64.1	8.5	26.4
Turkey	78	0	16.9
United Kingdom	88.5	3.3	10.2
United States	48.4	35.1	12.5
Russia	53.3	2.1	42.7

Source: OECD (2015).

Note: The three sources of health care expenditures may not add to 100% because of payments in some countries by "other parties" such as non-profits.

TABLE 2: Pre- and Post-Government Measures of Poverty and Inequality by Data Source [1]

	US	Australia	Canada	France	Israel	Japan	Poland	Swit.
	---OECD---							
Gini Coefficients								
Pre-Government	0.499	0.469	0.447	0.505	0.501	0.488	0.47	0.372
Post-Government	0.38	0.334	0.319	0.303	0.376	0.336	0.307	0.298
Poverty Rate (Percent of Population)								
Pre-Government	32.9%	31.0%	30.4%	39.6%	32.6%	36.1%	33.1%	17.9%
Post-Government	24.2%	21.6%	19.6%	14.4%	27.5%	22.1%	18.1%	15.7%
	---LIS---							
Gini Coefficients								
Pre-Government	0.511	0.476	0.447	0.511	0.511	0.428	0.499	0.357
Post-Government	0.373	0.33	0.318	0.292	0.387	0.221	0.314	0.268
Poverty Rate (Percent of Population)								
Pre-Government	35.0%	32.4%	31.1%	46.2%	35.4%	30.1%	43.8%	19.1%
Post-Government	24.2%	21.6%	20.2%	15.5%	28.1%	15.0%	16.3%	14.8%

[1]All data for 2010, except for Japan and Switzerland. For these two, OECD data is for 2009, while LIS is based on 2004 in the case of Switzerland, and 2008 in the case of Japan.

Sources: OECD Figures from OECD.Stat, available at http://stats.oecd.org/Index.aspx?DataSetCode=IDD#. LIS figures are based on authors' calculation (lisdatacenter.org).

TABLE 3: Financing of Health Care, and Estimated Inclusion in Disposable versus Adjusted Disposable Income, 2010[1]

	----------Financing of Health Care (% of Total)----------									Incl. in Income (% of total)		
	----------Government----------			----Private Insurance------				Out of		Disp	AdjDisp	
	Total	Gen Taxes	Soc Ins.	Total	Gov	Corp	HH	Pocket	Other	Inc [2]	Inc [3]	Diff
Australia	68.6	68.6	0	8.2				19.7	3.5	68.6	88.3	19.7
Canada	69.9	68.4	1.4	12.8				15.4	1.9	69.9	91.7	21.8
France	78	3.8	74.2	13.5	0	2.5	11	7.7	0.8	80.5	88.2	7.7
Israel	63.5	17	46.5	10.6				23.2	2.7	63.5	86.7	23.2
Japan	81.2	8.8	72.4	2.4	0	0	2.4	14.6	1.1	81.2	95.8	14.6
Poland	71.7	5.8	65.8	0.7	0	0.1	0.6	23.7	3.9	71.8	95.5	23.7
Swit.	58.4	16.9	41.5	8.5	0	1.8	7	26.4	1	60.2	86.6	26.4
US	48.4	n/a	n/a	35.1	7	16.8	11	12.5	4	72.2	95.7	23.5

Source: OECD.stat, available at http://stats.oecd.org/#

Notes: [1]2004 data for Switzerland, and 2008 for Japan.

[2] Estimated as total of all government and corporate financing sources.

[3] Estimated as percent included in disposable income, plus out-of-pocket. In the case of US, includes HH contributions to private insurance, and in the case of Canada, half of private insurance expenditures.

TABLE 4: How Using Adjusted Disposable Income Changes Measures of Governments Redistributive Effort

	US	Australia	Canada	France	Israel	Japan	Poland	Switzerland
Gini Coefficients Based On:								
(1)Market Income	0.51	0.48	0.45	0.51	0.51	0.43	0.50	0.36
(2)Disposable Income	0.37	0.33	0.32	0.29	0.39	0.22	0.31	0.27
(3) Redistributive Effort (1)-(2)	0.14	0.15	0.13	0.22	0.12	0.21	0.19	0.09
(4)Adjusted Disp Income	0.39	0.34	0.32	0.29	0.39	0.23	0.32	0.29
(5) Change in Redistribution (2)-(4)	-0.01	-0.01	0.00	0.00	-0.01	-0.01	-0.01	-0.02
% Change Redist Effort (5)/(3)	**-10%**	**-3%**	**-3%**	**-1%**	**-6%**	**-3%**	**-3%**	**-20%**
Poverty Rates Based On:								
(1)Market Income	0.35	0.32	0.31	0.46	0.35	0.30	0.44	0.19
(2)Disposable Income	0.24	0.22	0.20	0.16	0.28	0.15	0.16	0.15
(3) Redistributive Effort (1)-(2)	0.11	0.11	0.11	0.31	0.07	0.15	0.28	0.04
(4)Adjusted Disp Income	0.28	0.23	0.22	0.17	0.30	0.17	0.19	0.19
(5) Change in Redistribution (2)-(4)	-0.04	-0.02	-0.01	-0.01	-0.02	-0.02	-0.03	-0.04
% Change Redist Effort (5)/(3)	**-38%**	**-15%**	**-13%**	**-3%**	**-32%**	**-12%**	**-9%**	**-91%**

Source: Authors' calculations based on LIS data (lisdatacenter.org). All data for 2010 except Japan (2008) and Switzerland (2004).

Appendix A: LIS Sources of National Data and Notes on Observations

Country/ Year	**Data Source**	**Universe and Comments**
Australia 2010	Australian Bureau of Statistics *Household Expenditure Survey* and *Survey of Income and Housing*	Residents of private dwellings, excluding households with members of non-Australian defence forces, and households with diplomatic personnel.
Canada 2010	Statistics Canada *Survey of Labour and Income Dynamics*	All individuals in Canada, excluding residents of Yukon, the Northwest Territories and Nunavut, institutions, and persons living on Indian reserves or in military barracks.
France 2010	Institut National de la Stratistique et des Etudes Economiques *Enquête "Budget de Famille"*	Excludes collective households (such as hospices, religious communities, university campuses, workers dormitories, prisons, etc.) and persons without a residence. Market income is net rather than gross income.
Israel 2010	Central Bureau of Statistics *Household Expenditure Survey*	Excludes residents for kibbutzim, collective moshavim and Bedouins living outside of localities.
Japan 2008	Keio University Joint Research Center for Panel Studies *Japan Household Panel Survey*	Excludes households in which the oldest member is under the age of 20.
Poland 2010	Central Ststistical Office *Household Budget Survey*	Excludes collective households (e.g. students' hostels, social welfare homes) and household of foreigners
Switzerland 2004	Federal Statistical Office *Income and Expenditure Survey*	Excludes border residents, foreign tourists, and collective households (e.g. prisons).
United States	United States Census Bureau *Current Population Survey Annual Social and Economic Supplement*	Civilian non-institutional population in the United States.

Notes:

Weighting: all calculations are based on weighted values using "ppopwgt" variable. Out of pocket spending is variable hmcmed or hcmed. Variable for US premium spending is hmxvcs.

Bottom coding: All negative values for disposable income (dhi) or out-of-pocket spending (hcmed or hmcmed) are bottom-coded to zero.

APPENDIX B: Descriptive Statistics, By Country (Local Currency), 2010[1]

	United States	Australia [2]	Canada	France	Israel	Japan	Poland	Switzerland
Observations (Individuals)								
Total in Data Source	204,983	42,228	60,362	41,285	20,225	14,575	107,967	7,993
Number Used	204,983	22,170	60,362	41,285	20,225	10,852	109,967	7,993
Median Values, Household								
Market Income [3]	50,213	76,333	63,400	23,478	130,952	5,300,000	29,880	89,360
Disposable Income [4]	52,494	75,718	63,060	34,899	137,714	5,824,339	39,720	75,894
Health Expenses [5]	2,280	978	500	252	2,208	96,000	910	667
Adjusted Disposable Income	48,582	73,720	61,492	34,344	132,348	5,676,636	38,300	72,408
Median Values, Equivalized								
Market Income [3]	28,622	42,720	37,080	14,176	66,304	2,645,751	15,163	52,998
Disposable Income [4]	29,990	41,953	36,712	21,018	70,435	2,945,654	21,426	45,260
Adjusted Disposable Income	27,622	41,038	35,788	20,746	67,465	2,836,456	205,274	42,970

Source: Authors' calculations based on LIS data (lisdatacenter.org)

Notes: [1] Switzerland data is for 2004, and Japan is for 2008.

[2] Only select Australian households provided data on household expenditures.

[3] Market income is factor income plus occupational pensions (factor+hitsilo) except in Poland and France, where the latter is not provided.

[4] Disposable income measured according to LIS standards (LIS's variable dhi)

[5] Measured by LIS variable hmcmed, except in Japan (hcmed) and US (hmced+ hmxvcs). See Appendix for detail.