

# Fiscal redistribution in the developed countries: new insights from the Luxembourg Income Study<sup>1</sup>

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This paper offers a detailed discussion of fiscal redistribution in developed countries, employing data that have been computed from the LIS's micro-level database. LIS data are detailed enough to allow us not only to measure overall redistribution but also to explore whether redistribution has been achieved primarily through taxes or transfers; to determine whether it is associated with the size or the internal target efficiency of social benefits; to compare the redistributive effect of the most important individual transfers; to focus separately on households in poverty and those headed by persons of working age; and to explore trends in redistribution between the late 1970s and early 2000s. The paper concludes by demonstrating the practical usefulness of the data presented by conducting an empirical analysis of several proposed explanations for cross-country and over-time variance in fiscal redistribution.

**Keywords:** Luxembourg Income Study, redistributing income, fiscal redistribution, disposable income, Gini index

**JEL classification:** H20: taxation, subsidies and revenue; H50: national government; expenditures and related policies; I30: welfare and poverty

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## 1. Introduction

The role of the state in redistributing income is at the core of the discipline of political science. Indeed, perhaps the most familiar definition of politics itself is that of Harold Lasswell (1936): ‘Who gets what, when, how.’ The discipline’s focus on redistribution was recently reaffirmed, more than half a century after Lasswell wrote, when the American Political Science Association (APSA) (2004) launched a major task force on ‘Inequality and American Democracy’ exploring the effect of income inequality and state redistribution on political participation, governance and public policy.

Unfortunately, as one of the reports of the APSA task force (Hacker *et al.*, 2004, pp. 5–13) notes, data on income redistribution have until very recently been available for only a small handful of developed countries, and even here they have rarely been strictly comparable cross-nationally. With a few exceptions, previous cross-national work—when it has focused on distribution at all—has examined either pre-government wages (Rueda and Pontusson, 2000; Pontusson *et al.*, 2002; Moene and Wallerstein, 2003) or post-government disposable income (Gustaffson and Johansson, 1999; Alderson and Nielsen, 2002).<sup>2</sup> Neither of these measures, however, directly assesses the redistributive role of the state: the former does not account for either taxes or transfers, while the latter offers no sense of the extent to which observed post-government income inequality was the product of state redistribution, as opposed to market forces.

Without empirical data on redistribution, researchers conducting cross-national studies of the welfare state have until very recently been forced to rely on such proxies as the share of social benefits in gross domestic product. This is, for example, a key dependent variable in major recent book-length studies by Swank (2002), Huber and Stephens (2001) and Hicks (1999), and in literally dozens of journal articles on social policy in the developed world. Even fewer cross-national studies have examined the redistributive role of taxes, and those that have done so have often focused on such imprecise measures as the proportion of direct taxes raised from corporations as opposed to individual households as a rough measure of tax progressiveness (Swank, 1998; Garrett and Mitchell, 2001). The lack of cross-national data for so central a variable as state redistribution has been lamented by several prominent researchers. Swank (2002, p. 72),

<sup>2</sup>The most important exceptions are Bradley *et al.* (2003) and Kenworthy and Pontusson (forthcoming, 2006). Direct redistribution figures of various kinds have also been examined by Mitchell (1991), Mahler *et al.* (1999), Huber and Stephens (2001); Crepaz (2002), Mahler (2004) and Kenworthy (2004). However, none of these studies offers anything like the detail provided here.

for example, indicates that his major cross-national study of the contemporary welfare state focused on the ratio of social benefits to GDP not so much for its own sake as because it is 'highly correlated with more theoretically and substantively important outcomes such as income redistribution'. Similarly, Hacker *et al.* (2004, pp. 5–6) quote Castles and Mitchell's (1993, p. 96) observation that 'in the absence of any independent measures of outcomes, both aggregate expenditures and types of instruments necessarily become proxies for distributional consequences, making any serious distinction between means and ends impossible'.

Fortunately, the situation has improved considerably in the last few years through the efforts of the Luxembourg Income Study (LIS), which offers micro-data on public and private sources of income that are much more extensive, comparable, detailed and accurate than even the best data of a few years ago.<sup>3</sup> Specifically, the LIS offers data on a large number of individual sources of income from both the private and public sectors. Moreover, LIS data generally permit researchers to adjust for taxes and social insurance contributions assessed on income recipients. Using the LIS dataset, it is possible to estimate direct redistribution for most developed countries, often for five or more points in time, covering the period between the late 1970s and the early 2000s.

The aim of this paper is to offer an overview of the many opportunities the LIS dataset provides to measure fiscal redistribution in the developed world. Two specific tasks will be undertaken. First, and most important, the paper will offer a detailed discussion of several aspects of redistribution, making available to researchers a good deal of newly computed data that are, to our knowledge, unavailable elsewhere. LIS data are detailed enough to allow us not only to measure overall redistribution, but also to explore whether redistribution has been achieved primarily through taxes or transfers; to determine whether it is associated with the size or the internal target efficiency of social benefits; to compare the redistributive effect of the most important individual transfers; to focus separately on households in poverty and those headed by persons of working age; and to explore trends in redistribution between the late 1970s and the early 2000s. Second, in an effort to demonstrate the practical usefulness of the data presented, the paper will offer a brief empirical analysis of several proposed sources of cross-national and over-time variance in fiscal redistribution in the developed world.

<sup>3</sup> The LIS is a cooperative research project among national statistical agencies of over 25 countries. For detailed descriptions, see Atkinson *et al.* (1995), Gottschalk and Smeeding (1997), and the LIS website, <http://www.lisproject.org>.

## 2. Fiscal redistribution in comparative perspective

### 2.1 *Measuring income inequality using the LIS*

The central aim of the LIS is to 'harmonize' the micro-data reported in income surveys conducted by national statistical authorities or research institutes so that they conform to a common definitional framework. As has been indicated, LIS surveys offer data on a large number of individual sources of private and public sector income, and generally permit income to be measured both before and after direct taxes.

Before beginning our discussion of fiscal redistribution, it is necessary to briefly mention a few technical details.<sup>4</sup> Unlike most social indicators, the basic unit in measuring income is ordinarily not the individual but the household, whose members (or single member) live together and pool their income. Since households vary in size, it is desirable to construct an 'equivalency scale' that accounts for the number of household members, while at the same time accounting for economies of scale in supporting progressively larger households. In accordance with most work using the LIS database, we have 'equivalized' income by dividing household size by the square root of the number of household members, weighting households by the number of members they include. We thus compare income at the level of individuals, but in a way that accounts for the structure of the household in which they live. As to missing data, we have included households that report zero private sector income (i.e. all of their income is derived from the state) but have excluded the small number of households that report zero disposable (post-government) income, on the assumption that these households must receive at least some income from unreported sources.

A second issue arises from the practice of some income surveys to, for reasons of confidentiality, 'top code' the very highest incomes at some maximum value that varies from survey to survey, and the fact that there are some national differences in the underreporting of very high incomes. To account for this, we have employed the standard LIS conventions in this area, which top-code household income at 10 times the median of non-equivalized income (and also bottom-code income at 1% of equivalized mean income) (Gottschalk and Smeeding, 1997).

A third issue concerns the choice of a summary indicator of income inequality. Although there are many available measures, each with its own advantages and disadvantages, by far the most common is the Gini index, which ranges from 0

<sup>4</sup> A comprehensive discussion of these and related measurement issues is available in Canberra Group (2001).

(all recipients receive exactly the same income) to 1.0 (one recipient receives all income).<sup>5</sup> This is the indicator we will employ to summarize overall inequality in pre-government or post-government income. In addition, we have calculated figures that focus specifically on the very lowest income groups, employing a measure that taps both the number of those in poverty and the depth of their poverty.

LIS surveys are organized into five 'waves,' centring on 1980, 1985, 1990, 1995 and 2000. Within each wave, the years of individual surveys vary slightly and national surveys are occasionally unavailable for a particular wave. In this study, we have focused on 59 LIS surveys for 13 developed countries covering the period between 1979 and 2000. In the interest of reporting only the most reliable and comparable data, we have intentionally chosen not to incorporate a number of other LIS surveys that have commonly been employed by those using the LIS dataset in cross-national work. These include surveys for Austria, Italy, Ireland, Luxembourg and Spain, and the 1985, 1988, 1996 and 2000 Belgian surveys, all of which report income net of taxes and are thus unsuitable for assessing state redistribution;<sup>6</sup> several 'historical' surveys from the 1960s to the 1970s, which offer data that cover an earlier period and are not as consistent definitionally as later surveys; the 1981 French survey, whose design is not completely consistent definitionally with that of earlier or later French surveys; the 1995 and 1997 Danish surveys, which were withdrawn by the LIS because of data problems in July, 2004; and surveys for Eastern European, Latin American and Asian countries.<sup>7</sup>

## 2.2 Fiscal redistribution

The starting point in computing summary figures for income redistribution is to measure the distribution of pre-government income. The first and most important source of pre-government income is earnings, which are comprised of wages and salaries, and income from self-employment. To this figure we add income from property and from pensions of private and public sector employees to arrive

<sup>5</sup> Of 27 pooled cross-sectional/time-series studies of income distribution surveyed by Atkinson and Brandolini (2004), all but 4 employ Gini indexes.

<sup>6</sup> French income surveys for 1984, 1989 and 1994 permit us to assess the redistributive effect of income taxes but not mandatory social insurance contributions, since wages are expressed net of contributions. However, since French social insurance contributions are assessed at a fixed rate (US Social Security Administration, 2004), they are unlikely to be highly redistributive. We thank Paul Alkemade of the LIS staff for clarifying income coverage in the French surveys.

<sup>7</sup> Of the two LIS surveys available for France in 1984, we chose the survey based on the Family Budget Survey (1984b) to enhance comparability with the later French surveys. Our figures reflect a major revision of the 1984, 1989 and 1994 German data sets, which became available in May, 2004 and a major revision of the US 1991 data set, which became available in June, 2005.

at 'market income' (LIS summary variable MI). Next, we add to market income three additional, relatively minor, sources of income: alimony and child support; 'other regular private income' (mainly income from relatives or private charities); and 'other cash income' (a miscellaneous category that reflects income from private sources). We call the total 'private sector income', defined simply as pre-tax income that derives from the private sector.

In measuring the effect of direct state redistribution via taxes and transfers, it is first necessary to add to private sector income a number of social transfers. In LIS income surveys, the coverage of social benefits is quite extensive. The main categories are social retirement benefits; universal child and family allowances; unemployment compensation; sick pay; accident pay; disability pay; maternity pay; military/veterans/war benefits; 'other social insurance'; 'near-cash benefits' (in-kind transfers whose values are easy to determine, such as food, medical, housing, heating, educational or child care allowances); and means-tested cash benefits of various kinds. After summing all of these private and public sources of income, we arrive at 'total gross income'. The next and final step is to deduct from total gross income the most important taxes that are paid directly by households at the source: income taxes and mandatory social insurance contributions. We have now arrived at our measure of post-tax and post-transfer income, called 'disposable income'. This is, of course, the income households actually receive.

The traditional way of measuring fiscal redistribution is to express it in relative terms, that is, to calculate the Gini index of private sector income inequality, subtract from it the Gini index of disposable income inequality, divide by the private sector Gini, and convert the result to a percentage (see, Bradley *et al.*, 2003; Ferrarini and Nelson, 2003). However, as Kenworthy and Pontusson (2005, p. 467) have recently argued, there is much to be said for focusing on the absolute rather than the relative difference between the Gini indexes of pre-government and post-government income, especially if one is measuring variation over time. Not only is this formulation more straightforward; it also allows one to compare the extent of state redistribution in a way that is not affected by trends in market income inequality. In accordance with Kenworthy and Pontusson's arguments, we will focus on the absolute change in the Gini index of private sector income inequality before and after taxes and transfers have been taken into account. We will, however, also report the more traditional relative-change figures in our full 59-survey dataset.

### 2.3 Overall redistribution

At this point, it is useful to refer to some actual figures. Unfortunately, the complete figures for various aspects of state redistribution that have been computed for this paper are too extensive to be made available in printed form.

Instead, they are available for download by interested researchers at <http://www.lisproject.org/publications/fiscalredistdata/fiscresd.htm>.

Although we cannot present our full 59-survey dataset in printed form, we have averaged individual survey results for each LIS country and listed them in a series of country-level tables. The first of these, Table 1, offers data on a number of aspects of fiscal redistribution. (A graphical representation is offered in Figure 1.) As can be seen in Section A, the most extensive overall fiscal redistribution occurs in Belgium, Sweden, the Netherlands and Finland, while households in Switzerland, the US, Canada and Australia experience the least extensive state redistribution. As is evident in the table, the distribution of disposable income is a product both of private sector income and of state redistribution. Even such egalitarian countries as Belgium, Sweden or the Netherlands do not start with a particularly egalitarian distribution of private sector income; in each case, in fact, their Gini index of private-sector income inequality is above the 13-country average. Instead, the egalitarian distribution of post-government income in these countries is primarily a product of extensive state redistribution. Conversely, the relatively inegalitarian distribution of disposable income in Switzerland, the US, Canada and Australia is more a result of limited state redistribution than of a highly inegalitarian distribution of private sector income. Indeed, in three of these countries private-sector income inequality is below the 13-country average, while in the fourth, the US, pre-government inequality is no higher than in a number of other countries with a much more egalitarian distribution of post-government income.

#### *2.4 Disaggregating tax and transfer redistribution*

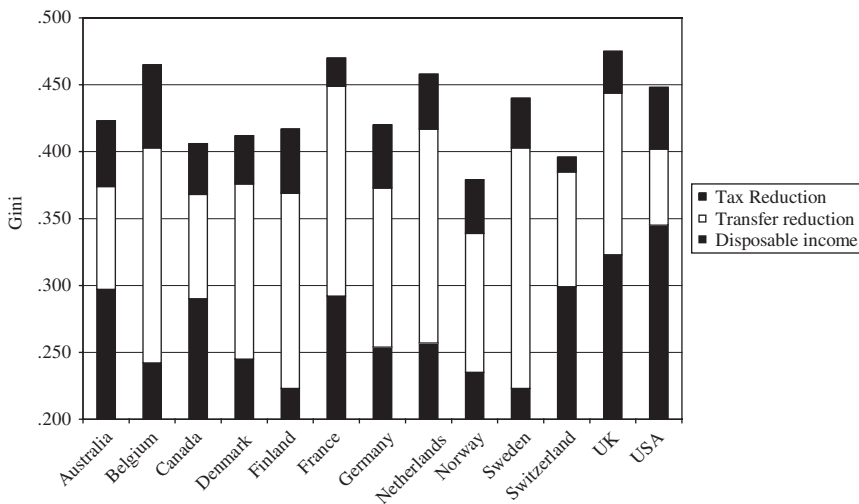
Most of the few empirical studies that have measured fiscal redistribution at all have stopped at this point. However, the obvious next step is to disaggregate the effects of taxes and transfers, the two vehicles whereby the state directly affects private income. Unfortunately, determining the relative prominence of taxes and transfers in overall fiscal redistribution using LIS data is not an entirely straightforward task. The most immediate problem is that LIS figures for transfers do not account for any taxes on those transfers; instead, these are deducted later, after private income and transfers have been added. Ideally one would prefer to distinguish between taxes on transfers and on private sector income, but the national income surveys on which the LIS relies do not permit this. With this in mind, we have first measured the redistributive effect of gross transfers and then measured the redistributive effect of all taxes. Specifically, we have employed the following formulas: Transfer reduction =  $Gini_{private} - Gini_{private+transfers}$ ; and tax reduction =  $Gini_{private+transfers} - Gini_{private+transfers-taxes}$ . In doing so, however, we have of necessity overstated the redistributive effect of transfers in countries

Table 1 Aspects of fiscal redistribution: averages by country and by LIS Wave

Country <sup>a</sup>	Section A			Section B			Section C			Section D		
	Gini coefficients			Fiscal redistribution			Relative shares			Social benefits size and target efficiency		
	Private	Disposable	Fiscal redist.	From taxes	From transfers		Taxes	Transfers		Budget size	Efficiency	
Belgium	0.465	0.242	0.223	0.062	0.161		28.0	72.0		22.0	-0.125	0.107
Sweden	0.441	0.223	0.218	0.038	0.180		17.5	82.5		27.3	-0.062	0.107
The Netherlands	0.458	0.257	0.202	0.041	0.160		20.4	79.6		22.7	-0.015	0.088
Finland	0.417	0.223	0.194	0.048	0.146		24.9	75.1		21.5	-0.134	0.087
France	0.469	0.292	0.177	0.021	0.157		12.0	88.0		24.4	0.053	0.099
Denmark	0.412	0.245	0.167	0.036	0.131		21.2	78.8		19.0	-0.142	0.055
Germany	0.421	0.254	0.167	0.047	0.119		27.9	72.1		15.2	-0.223	0.089
UK	0.475	0.323	0.153	0.031	0.121		20.7	79.3		15.0	-0.281	0.044
Norway	0.379	0.235	0.144	0.040	0.104		27.9	72.1		14.3	-0.246	0.039
Australia	0.423	0.297	0.126	0.049	0.077		39.2	60.8		8.9	-0.379	0.030
Canada	0.406	0.290	0.116	0.038	0.078		33.0	67.0		11.1	-0.222	0.037
USA	0.447	0.345	0.102	0.046	0.056		44.7	55.3		7.7	-0.180	0.033
Switzerland	0.396	0.299	0.097	0.011	0.086		12.4	87.6		12.2	-0.059	0.073
MEAN	0.432	0.271	0.160	0.039	0.121		25.4	74.6		17.0	-0.155	0.068
Wave	Averages by WAVE											
1980	0.404	0.266	0.138	0.037	0.101		28.3	71.7		14.4	-0.175	0.055
1985	0.421	0.266	0.156	0.039	0.116		26.5	73.5		16.4	-0.158	0.066
1990	0.430	0.269	0.161	0.038	0.123		24.8	75.2		17.4	-0.153	0.073
1995	0.456	0.282	0.173	0.042	0.131		25.7	74.3		17.9	-0.181	0.067
2000	0.441	0.294	0.147	0.039	0.108		27.5	72.5		14.9	-0.167	0.061

<sup>a</sup>Countries listed in descending order of the degree of total fiscal redistribution.





**Figure 1** Aspects of fiscal redistribution, country averages.

in which they are taxed (Ferrarini and Nelson, 2003).<sup>8</sup> Beyond this, it must be noted that not all taxes are accounted for in LIS income surveys. In particular, LIS figures do not reflect indirect taxes, such as sales and value added taxes, the exact amount of which is rarely known precisely even by those paying them and whose incidence is thus very difficult to measure.

Complete figures for all 59 LIS surveys are available in our downloadable dataset, while averages for our 13 countries are reported in Table 1, Section B, and expressed graphically in Figure 1. Across our 13 countries, direct taxes account for an average of 25.4% of total fiscal redistribution while transfers account for an average of 74.6%. These overall figures are, however, averages of fairly diverse national values on this variable. This is clearly evident in the figures for individual countries. As can be seen, Sweden, among the most egalitarian Organisation for Economic Co-operation and Development (OECD) countries, accomplishes the vast majority of its total fiscal redistribution via transfers, relying only to a limited extent on direct taxes (Steinmo, 1993). This is also true of France, Switzerland, the UK, the Netherlands and several Scandinavian countries.

<sup>8</sup> The alternative would have been first to deduct taxes from private sector income and then to add gross transfers to that figure, calculating tax reduction as  $Gini_{private} - Gini_{private-taxes}$ ; and transfer reduction as  $Gini_{private-taxes} - Gini_{private+transfers-taxes}$ . That would, however, overstate the redistributive effect of taxes on private sector income to the extent that taxes are levied on state transfers. We have preferred the former method because it is consistent with the LIS approach, which is to first add transfers to private income and then deduct taxes.

On the other hand, some of the less egalitarian OECD countries, including the US, Australia and Canada, rely to a much greater extent on direct taxes to accomplish the fiscal redistribution that does occur.

### *2.5 Target efficiency vs. redistributive budget size*

When scholars have considered the redistributive effect of social benefits, one of the most common distinctions they have drawn has been between programmes' size and the extent to which they are targeted towards low-income groups by means-testing (Beckerman, 1979; Atkinson, 1995, pp. 223–261; Wilensky, 2002, pp. 252–262). In a recent study, Korpi and Palme (1998, p. 663) have posited a 'paradox of redistribution' whereby 'the more we target benefits to the poor . . . the less likely we are to reduce poverty and inequality.' The paradox arises from the fact that highly targeted programmes have the support of a small and isolated political base; as they put it, targeted programmes offer 'no rational base for a coalition between those above and below the poverty line. In effect, the poverty line splits the working class and tends to generate coalitions between better-off workers and the middle class against the lower sections of the working class' (Ibid., p. 663). Comprehensive programmes, on the other hand, even when they are organized according to social insurance principles, tend to encourage coalitions between the working and middle classes that leave low-income groups less isolated.

With this background in mind, it is useful to explore empirically these two aspects of transfers with reference to the LIS database. Is redistribution associated with transfers' overall size or with their target efficiency? Is there, as is often suggested, a tradeoff between the two? Using LIS micro-data it is possible to calculate a measure of the average value of social transfers as a percentage of households' pre-tax income: the larger the value, the greater the share of total income that derives from transfers. It is also possible to calculate a summary index of the degree to which transfers are targeted towards low-income groups. This is done by applying Kakwani's (1986) 'index of concentration' to transfers; this index 'takes on the value of  $-1.0$  if the poorest person gets all transfer income,  $0$  if everybody gets an equal amount, and  $+1.0$  if the richest person gets all transfer income' (Korpi and Palme, 1998, p. 684).<sup>9</sup>

Figures for the size and target efficiency of social benefits are available for all 59 surveys in the complete downloadable dataset; country averages are reported in Table 1, Section C. As can be seen, there is indeed considerable variance among

<sup>9</sup> We are grateful to Joakim Palme for providing us a programme to produce target efficiency values from LIS micro-data. For reasons of consistency, we have converted Korpi and Palme's OECD equivalency scale to the square root scale used for other measures.

developed countries in the average size of public social benefits relative to total household income, ranging from highs of 27.3% in Sweden and 24.4% in France to lows of 7.7% in the US, 8.9% in Australia, 11.1% in Canada and 12.2% in Switzerland. More generally, Esping-Andersen's (1990) familiar typology of welfare states seems largely to be borne out; in particular, three of the four smallest values are for the 'liberal' welfare states, the US, Australia, Canada and the UK. (The fourth is Switzerland, which is not discussed by Esping-Andersen, but which would also appear to fit into the 'liberal' category.)

What of target efficiency? As can be seen, there is a good deal of cross-national variance here as well. The pattern is, however, less clear than for the redistributive budget size. For example, France, whose overall redistributive budget size was second largest of any country's, maintains transfer programmes that are actually slightly regressive, while target efficiency is very low in several other countries with large social expenditures, notably the Netherlands, Sweden and Belgium. On the other hand, Australia and the UK, in the lower half among our countries in overall redistributive budget size, maintain the most highly target-efficient programmes. Interestingly, the US, at the very bottom of our list of the size of social transfers, is near the middle with respect to target efficiency.

As has been indicated, the prominence of social transfers in household income and their degree of internal target efficiency are often represented as a tradeoff. Specifically, those arguing from a power resources perspective claim that the size of highly target-efficient programmes is limited by the lack of political power of their main constituency, the poor, while the more powerful political base of universal programmes supports more extensive, if less internally progressive, social benefit coverage (Korpi, 1983). Is this the case empirically? In fact, it is: across 59 surveys, our measures of the target efficiency and relative size of transfers are strongly positively correlated (that is, as programmes become more target efficient, their size shrinks):  $b = 37.03$  (7.05),  $t = 5.26$ ,  $R^2 = 0.47$ . (See the note following Table 3 for technical details concerning this and other pooled cross-sectional/time-series regressions reported in this section.)

Of these two aspects of transfer redistribution, which is most important? In exploring this question, we have entered our values for the size and target efficiency of social benefits across our 59 surveys into a multiple regression in which the dependent variable is the extent of fiscal redistribution arising from transfers. The size of the social budget is indeed very strongly related to transfer redistribution:  $b = -0.01$  (0.00),  $t = 22.67$ ;  $R^2 = 0.97$ . Target efficiency is also related to transfer redistribution such that redistribution increases as benefits become more internally progressive, but the relationship is much weaker:  $b = -0.07$  (.02),  $t = -4.18$ ;  $R^2 = 0.97$ . All in all, the paradox of redistribution posited by Korpi and Palme appears to be supported by these data.

## 2.6 Disaggregating transfers by programme type

So far, transfers have been considered as an undifferentiated whole. This has been by far the most common approach in the literature, even in studies in which social benefits/GDP have been used as a rough proxy of transfer redistribution. Recently, however, a few researchers have begun to disaggregate social benefits by mode and have found that different types of programmes are related to other important variables in distinct ways. Burgoon (2001), for example, found that the effect of economic globalization on social benefit provision varied considerably by programme type. Similarly, Moene and Wallerstein (2003) found that many public benefits were unrelated to wage inequality, while others, notably those providing unemployment and disability insurance, and sickness pay, were fairly strongly related.

In examining individual programmes it is especially useful to distinguish between social retirement and unemployment benefits, the most important programmes benefiting two major types of households, those headed by the elderly and by working-aged adults. Figures representing the reduction in the Gini index of private income inequality owing to pensions and unemployment compensation (and also all other transfers) are available in the downloadable dataset, with country averages reported in Table 1, Section D.

To start, it is evident that pensions play a major role in overall income redistribution in all of the countries under examination.<sup>10</sup> Across our 13 countries, the average reduction of the Gini index of private sector income as a result of total transfers is 0.121. For pensions alone, the average reduction is 0.068, indicating that more than half of all state redistribution owing to transfers is the product of retirement pensions alone. This should come as no surprise, given the size of pensions and the fact that they are directed towards a part of the population, the elderly, which has few sources of private sector income. As can be seen, the redistributive character of pensions varies considerably from country to country. For example, the Gini index of inequality in Belgium and Sweden is reduced by fully 0.107 as a result of pension benefits, while the comparable reduction is only 0.037 in Canada, 0.033 in the US and 0.030 in Australia.

<sup>10</sup> Finland, the Netherlands and Switzerland have a number of 'compulsory occupational schemes providing an earnings-related amount to all employees and self-employed persons, organized by sector of activity and covering almost the totality of Finnish [and Dutch and Swiss] workers' (see <http://www.lisproject.org/techdoc/fi/fiindex.htm>). Although these are classified by LIS as private sector pensions, they advise that, for the sake of comparability, '...the compulsory occupational schemes are to be considered a part of ... social security'. (<http://www.lisproject.org/techdoc/variabdef.htm>). On the advice of Teresa Munzi of the LIS staff, we have considered these occupational pensions (LIS variables v32 in Waves 1–3 and v32s1 and v32sr in Waves 4–5) to be public social transfers for these three countries.

What of the reduction of income inequality as a result of unemployment compensation? As can be seen in Table 1, section D, the reduction is considerably smaller than that associated with pensions: indeed, the average reduction of the Gini index of private sector income associated with these programmes averages only 0.013 across our 13 countries, representing less than a fifth of the redistributive effect of pensions. Again, national values vary considerably: in Denmark and Belgium, the Gini index of private income inequality is reduced by more than 0.020 Gini points as a result of unemployment compensation benefits, while in the US the reduction is only 0.002. These figures do not, of course, mean that unemployment benefits are unimportant: although they are received by a far smaller proportion of all households than are pensions, and thus accomplish less total redistribution, they are obviously critical to the relatively small number of households facing extended periods of unemployment. Still, it does seem evident that they do not loom particularly large in the 'big picture' of overall fiscal redistribution—which is hardly unexpected, since these benefits apply to working aged households, the group with the greatest access to private sector income.

Public pensions and unemployment compensation together constitute an average of about two-thirds of all social transfers in the countries we are examining. LIS surveys also cover a number of other benefits, including accident, sickness, disability and maternity pay; veterans' benefits; child and family allowances; near-cash in-kind benefits; and means-tested cash transfers of various sorts. For a variety of technical reasons having to do with cross-national comparability, it is difficult to compare these benefits individually, but it is possible to examine them as a group. As can be seen in Table 1, Section D, the redistributive effect of these other social benefits ranges a good deal, from a high of 0.073 Gini points in the UK to being slightly regressive in Switzerland.

## 2.7 Poverty

So far, we have examined overall income inequality. There is, however, a long-standing tradition in the literature on social welfare that focuses on households with very low income—those in poverty. The traditional approach in cross-national analysis has been to compare the proportion of all households whose equivalized income is <50% of their country's median income; the larger this proportion, the more extensive poverty is said to be. Recently, however, Brady (2003) has argued that this 'headcount' approach—while it tells part of the story—fails to tap the depth of poverty among households that fall below half their country's median income. (Formally, such measures do not meet Sen's (1976 p. 219) criterion that if a household among those in poverty becomes poorer, one's measure of poverty should increase.) To address this concern, he

suggests employing an indicator of the 'income gap,' measured as the difference between the median income of the entire population and the mean income of the poor (as defined above), standardized by the population median income (Brady, 2003, p. 727). Of course, this measure also has limitations: while it effectively captures the depth of deprivation in a country, it gives no indication of how many households fall into poverty. In tapping both of these dimensions in a single indicator, Brady suggests multiplying the poverty headcount by poverty intensity to create a composite poverty reduction measure.

Values of Brady's poverty index for all 59 surveys are available in our complete downloadable dataset; country averages are reported in Table 2, Section A. As can be seen, across our 13 countries the average country score on Brady's composite poverty ratio for private sector income ranges from a high of 27.7 in Belgium to a low of 17.1 in Switzerland. Particularly notable is the high rate of private sector poverty in many countries that are widely thought of as egalitarian. For example, among our 13 countries pre-government poverty is highest in Belgium, the Netherlands and Sweden—not countries that are known to be especially inequalitarian. The picture is, however, dramatically different when we shift focus to apply our measure to post-government disposable income. As can be seen in the next column, if we were to rank our countries by post-government poverty, they would appear in almost the opposite order from their private sector income rankings. In particular, the United States would be at the very top of this list, with a poverty ratio of 11.6, substantially higher than the next highest score, that of Australia. On the other hand, some of the countries near the top of our list of pre-government poverty, including Belgium, the Netherlands and Sweden, would be in the middle or at the bottom of this list. Clearly, the difference between these rankings is explained by redistribution. This is borne out in the final column of Table 2, Section A, which differentiates the social democratic and corporatist regimes of Europe, in which states make a major effort to reduce poverty, from the 'liberal' welfare states of the US, Switzerland, Canada and Australia, where the effort is much smaller.

## 2.8 'Prime-aged' household heads

To this point, this paper has examined fiscal redistribution across all households. This is, in fact, the focus of most studies exploring income inequality and redistribution. Like all measures of redistribution, however, our measure is dependent on the 'counterfactual' to the observed post-government distribution, the distribution of pre-government income. One possible problem with this approach is the possibility that, as put by Bradley *et al.* (2003, p. 209), 'in countries with comprehensive public pension systems ... pensioners [will] make little other provision for retirement. ... Thus, pre-tax income inequality (and poverty) will

**Table 2** Poverty reduction (A) and prime-age fiscal redistribution (B): averages by country and by LIS Wave

Section A				Section B			
Country <sup>a</sup>	HC <sup>b</sup> × GAP <sup>c</sup>			Country <sup>d</sup>	Gini coefficients		
	Private	Dispos- able	Poverty reduction		Private	Dispos- able	Fiscal redistri- bution
Belgium	27.7	4.1	23.6	Belgium	0.361	0.224	0.137
The Netherlands	26.7	4.5	22.3	Finland	0.334	0.203	0.131
Sweden	25.7	4.4	21.3	Sweden	0.335	0.220	0.114
Finland	22.2	3.2	19.0	France	0.384	0.270	0.114
Denmark	24.1	5.6	18.5	Denmark	0.321	0.214	0.107
UK	25.4	7.3	18.0	The Netherlands	0.364	0.258	0.106
France	22.7	5.3	17.4	UK	0.416	0.318	0.098
Germany	21.5	4.4	17.1	Australia	0.370	0.283	0.088
Norway	19.3	4.0	15.3	Canada	0.364	0.284	0.080
Australia	21.3	8.0	13.3	Norway	0.297	0.228	0.069
Canada	19.1	7.6	11.5	USA	0.404	0.339	0.065
Switzerland	17.1	5.7	11.4	Germany	0.322	0.259	0.063
USA	20.1	11.6	8.5	Switzerland	0.314	0.288	0.026
MEAN	22.5	5.8	16.7	MEAN	0.353	0.261	0.092
Wave	Averages by WAVE			Wave	Averages by WAVE		
1980	19.8	5.4	14.4	1980	0.329	0.257	0.072
1985	21.9	5.8	16.2	1985	0.340	0.255	0.085
1990	22.7	6.0	16.8	1990	0.351	0.261	0.090
1995	24.8	6.5	18.3	1995	0.384	0.277	0.107
2000	21.4	6.7	14.6	2000	0.374	0.287	0.087

<sup>a</sup>Countries listed in descending order of poverty reduction.<sup>b</sup>HC refers to headcount, i.e. the percentage of all households whose equivalized income falls <50% of their country's median.<sup>c</sup>GAP refers to the poverty gap, the ratio of the mean income of the poor to the median income of the population.<sup>d</sup>Countries listed in descending order of the degree of total fiscal redistribution.

be artificially high and the reduction in inequality also exaggerated.' In addressing this concern Bradley *et al.* (2003) simply eliminate from their analysis all households headed by persons over the age of 59 (and also under the age of 25 years).

Bradley *et al.*'s (2003) concern about the validity of the 'pre-government' counterfactual for elderly households is only one manifestation of a concern

that applies to all age groups. More formally, such concerns reflect the fact that, while measures of fiscal redistribution capture the direct (or 'first-order') effects of the state on private sector income, they do not capture any feedback (or 'second-order') effects whereby taxes or transfers influence taxpayers or transfer recipients to 'adjust their economic decisions to the nature and changes of policy interventions' (Beramendi, 2001, p. 5). Second-order effects involving taxes could have either of two contradictory results: an 'income effect' that leads workers to respond to higher marginal tax rates by working more hours in an effort to make up for lost income; or a 'substitution effect' whereby higher marginal rates make income recipients prefer leisure to work, thus, reducing households' cash income. The effect of transfers is similarly complex. It is indeed possible that the promise of future transfers will exert a negative effect on recipients' willingness to save for retirement, as suggested by Bradley *et al.* (2003). It is, however, just as possible that transfers available to 'prime aged' workers will discourage them from participating in activities that enhance their current private sector income or encourage them to absent themselves from the labour force. These possibilities are, in fact, at the core of the conservative critique of transfers to the working-aged population (Plotnick, 1984, p. 28). On the other hand, it is also possible that the security provided by social transfers will contribute to human capital in such a way as to increase recipients' private income. In sum, then, counterfactual concerns affecting households headed by elderly persons are also likely to affect households headed by prime-aged persons.

In deference to the argument by Bradley *et al.* (2003), we have computed values for overall fiscal redistribution that are based only on households headed by persons between the ages of 25 and 59. Complete results for all 59 surveys are available in the downloadable data set; country averages are presented in Table 2, Section B. In examining these figures, it is immediately evident that the extent of fiscal redistribution is reduced substantially when we focus only on households headed by working-aged adults: as can be seen, the average change in the Gini index associated with overall fiscal redistribution is 0.092, considerably lower than the 0.160 figure for all age groups. This is, of course, to be expected: households headed by persons of working age are, on average, the part of the population with the best prospects to earn market income and the least need for state transfers. As a practical matter, how much difference does it make to omit households headed by persons under age 25 and over age 59? The short answer is: quite a bit. When we construct a 59-survey pooled regression relating fiscal redistribution across all households to that across households headed by persons of working age, we find that they are not as strongly related as might be expected: the  $R^2$  of such an equation is only 0.55.

What overall conclusion can be drawn about the implication of this issue for cross-national analysis of income redistribution? While we accept that



redistribution figures based on data that exclude households headed by the elderly are valuable for some purposes (and have provided them in our downloadable data set), we do not agree that they are sufficient for a full examination of fiscal redistribution in the developed world. For one thing, as has been indicated, unaccounted-for second order effects are likely to affect not only households headed by elderly persons but also those headed by prime aged persons, and it seems somewhat inconsistent to adjust for one and not the other. Beyond this, it is in our view questionable simply to exclude from consideration the single social group that has made the greatest income gains over the last half century as a result of state redistribution, having been transformed from one of the most deprived groups in society to a group experiencing average levels of economic well-being. We believe that an arguably more productive—and certainly less drastic—solution to possible second-order effects associated with pensions is to examine that mode of transfer separately and to compare its redistributive effect with that of transfers directed towards households headed by working-aged persons, as we have done earlier in this paper in our discussion of the redistributive effect of pensions and unemployment benefits.

Moving beyond the particular issue of the age structure of households, it seems evident that if one's goal is to offer a comprehensive measure of second-order effects across a large number of countries, Hicks and Swank's (1984, p. 268) pessimistic conclusion of two decades ago—that this 'is a task quite beyond current theories, techniques and data even for the . . . nations for which measurement of direct fiscal effects is now attainable'—continues to hold to this day. Nonetheless, there is a tangible quality to LIS figures for private sector income that alternative counterfactuals would not share. This is, after all, income that survey respondents report that they have actually received from the private sector rather than income they might have received had state redistributive policies caused them to behave differently. In sum, we believe that a first-order-effects approach represents an important starting point in any effort to assess state redistribution in the developed world.

## 2.9 *The temporal dimension of fiscal redistribution*

To this point we have focused on cross-country comparisons. It is now useful to offer a brief analysis of the temporal dimension of state redistribution. This discussion speaks to the large literature on welfare state retrenchment of the last decade, with some scholars emphasizing the rollback of long-standing benefit programmes (Clayton and Pontusson, 1998; Korpi and Palme, 2003) and others stressing their resilience (Piersen, 1996).

What light can LIS household-level data shed on this debate? As can be seen in the bottom sections of Tables 1 and 2, it is possible to group LIS surveys not by

country but by wave, comparing fiscal redistribution over the 5 LIS waves centring on 1980, 1985, 1990, 1995 and 2000. As is evident in Table 1, Section A, private sector income inequality has grown over the last two decades: the average Gini index in Wave I (1980) equalled 0.404 while the average in Wave V (2000) equalled 0.441. However, fiscal redistribution has also, on average, grown over the period, with the result that post-government disposable income inequality has increased less rapidly than private sector inequality. As Section B shows, the increase in overall fiscal redistribution is the product of both taxes, whose effect in reducing the Gini index of private sector inequality rose from 0.037 to 0.039 Gini points, and transfers, whose distributive effect grew from 0.101 to 0.108 Gini points.

As can be seen in Section C of the same table, there has been some movement but little overall change in our budget size and target efficiency variables between the late 1970s and the early 2000s. The same has been true of our measures of the individual redistributive effect of pensions and unemployment compensation: as can be seen, the redistributive effect of pensions increased slightly while that of unemployment compensation has remained virtually the same. Time trends for our other measures are also reported in the bottom parts of Tables 1 and 2. To summarize: there have been slight increases in Brady's indicators of both pre-government and post-government poverty, although the former has increased more rapidly than the latter; and private sector inequality across households headed by prime-aged persons, the age group most subject to market competition, has grown somewhat faster than for all households—although, once again, state redistribution has generally kept pace.

While these average figures are broadly representative of trends in our data, they should not be taken too literally because the number of LIS surveys varies to some extent from wave to wave, and wave averages thus do not consistently represent exactly the same countries. A more precise picture may be obtained by examining country-by-country time trends, which can be done using our 59-survey data set. When time trends in our 13 countries are examined individually, we find that inequality of private sector income has increased in 11 of 13 (all but the Netherlands and Switzerland), reflecting the widely reported global increase in intra-country inequality of private sector income (Firebaugh, 2003). However, in most countries of the developed world state redistribution has largely kept pace with this increase: fiscal redistribution has, in fact, increased in 8 of our 13 countries, stayed essentially the same (within 0.005 Gini points) in 3 and decreased in only 2.

What overall conclusion can be drawn from this longitudinal analysis regarding the welfare state retrenchment debate? As we see it, the broad picture is clear: while private sector income inequality has indeed increased in many countries, state redistribution has also grown, calling into question any general 'race to

the bottom' in social benefit provision (Mishra, 1999) arising from global competition (see also Kenworthy, 2004; and Kenworthy and Pontusson, forthcoming, 2006).

### 3. Sources of cross-national variance in redistribution

To this point, this paper has offered a discussion of the many ways in which the LIS can help us compare fiscal redistribution across the developed countries over the last two decades. It is our hope that our discussion and the data we have presented will be of value to future researchers interested in exploring a core function of the contemporary state, which is redistributing income generated by the market.

The intention of this final, much briefer, section is to employ the data introduced above in addressing an important research issue. Among the most commonly addressed questions in the empirical literature on the welfare state concerns the sources of variance across countries and over time in the extent and nature of fiscal redistribution. Three major explanations dominate the literature. First, a long tradition of power resources theory emphasizes the class basis of political participation. In the words of Korpi and Palme (2003, p. 425), 'proponents for what has become known as the power resources approach argued that it is fruitful to view welfare states as outcomes of, and arenas for, conflicts between class-related socio-economic interest groups . . .'. A second explanatory tradition draws from a structuralist approach that emphasizes the importance of broad demographic and economic variables in establishing the parameters within which social policy is formulated; among the most prominent scholars associated with this perspective are Pampel and Williamson (1989) and Wilensky (2002). Third, there has been a good deal of attention to the nature of political—economic institutional arrangements in the developed world, particularly those that govern labour-management relations. Many scholars have been associated with this perspective; perhaps the most influential has been Esping-Andersen (1990).

In exploring these traditions empirically, we will introduce six variables, two representing each of the three explanatory traditions. Perhaps the most commonly addressed question from a power resources perspective is whether the partisan orientation of national governments is an important determinant of the extent of fiscal redistribution. Despite several decades of intensive work on this topic, the verdict is still in doubt. While a number of empirical studies have found support for the importance of partisanship, others have found little or no relationship. One reason for this lack of consensus may be that in nearly all of the empirical work on the topic the dependent variable is not fiscal redistribution *per se* but rather the size of social benefit programmes relative to the

economy. In measuring the partisan orientation of national governments, we employ a measure of 'cabinet balance' (from Armingeon *et al.*, 2004) that classifies national cabinets in a given year on a 5-point scale ranging from hegemony of right-wing parties (1) to hegemony of left-wing parties (5).

A second variable associated with a power resources perspective reflects political 'voice,' as expressed in the most widespread mode of participation in the developed democracies, voting in national elections. In the last few years, there has been growing attention to electoral turnout, sparked by the fact that many empirical studies have found this variable to be strongly related to social benefit provision and/or an egalitarian distribution of income (see, Hicks, 1999; Crepaz, 2002; Mahler, 2002; Kenworthy and Pontusson, 2005). The rationale for expecting a positive relationship between turnout and state redistribution is straightforward: As put by Lijphart (1997, pp. 2–3 and p. 5), summarizing a wide range of empirical studies, 'low voter turnout means unequal and socio-economically biased turnout. ... Who votes, and who doesn't, has important consequences for who gets elected and for the content of public policies.' Electoral turnout is measured as the share of the voting aged population that voted in the national election immediately prior to a given LIS survey; data are from IDEA (2002).

The variable most often examined by scholars working within the structuralist tradition is the percentage of the population that is aged. Age is, for example, the single most important explanatory variable in Pampel and Williamson's (1989) comprehensive empirical analysis of social benefit expenditures and is also very prominent in Wilensky's (2002) extensive cross-national analysis of the contemporary welfare state. In examining the effect of demographic factors, we will employ a variable measuring the proportion of the population that is 65 or older (from World Bank, 2003).

In examining programmes aimed at the non-elderly population, the most commonly employed structural variable has been the unemployment rate. Since the earliest days of the welfare state, governments have considered unemployment a problem of public, rather than purely private, concern and transfers aimed at supporting the income of the unemployed have been very widespread. The unemployment rate is measured as the share of the economically active population that is unemployed (Armingeon *et al.*, 2004; original source: *OECD Economic Outlook*).

Finally, we have employed variables measuring several aspects of labour market institutions. Perhaps the most commonly examined variable in this tradition is the degree to which institutional arrangements are characterized by 'neocorporatism,' that is, they embody high-level bargaining between peak associations representing management and organized labour under the aegis of the government (see Wilensky, 2002, pp. 85–86)—institutions that are said to be

associated with relatively extensive social protection by the state. In measuring 'neo-corporatism' we have employed a measure developed by Hicks (1999, pp. 140–141). In constructing his measure, Hicks averaged two widely used earlier scales, those of Lijphart and Crepaz (1991), which relied on expert judgements to measure 'general' (i.e., not left-oriented) corporatism; and Hicks and Swank (1992), which more closely reflected the strength of labour unions and social democratic parties.

A second much-examined variable in this tradition is the proportion of the workforce that belongs to labour unions; the expectation is that unions can be expected to favour policies that benefit their low-income and medium-income constituents by providing a wider range of public social benefits. Our sources for this variable are Golden *et al.* (2002; original source: Ebbinghaus and Visser, 2000), supplemented by International Labor Organization (2003). In a few cases, figures are for a slightly different year than that of the corresponding LIS survey.

Clearly, the three perspectives described above are not incompatible: in fact, most cross-national empirical studies have found at least some support for each. Still, these approaches do represent major themes of the literature, and it is worthwhile to examine the relative importance of variables associated with each. Similarly, the list of variables employed in our analysis is hardly exhaustive; indeed, the most ambitious empirical studies on social policy have often included a dozen or more independent variables. Given that our 59 cases impose obvious degrees-of-freedom limitations, we feel that the six variables introduced above—all of which have been widely employed in previous work—should suffice to demonstrate the usefulness of the data we have presented in the earlier part of the paper in addressing an important research question concerning social policy in the developed world.

Table 3 reports the result of a series of unbalanced pooled cross-sectional/time-series regressions in which the variables introduced above are related to each of our measures of fiscal redistribution.<sup>11</sup> We begin with our broadest measure, the change in the Gini index of private income inequality as a result of taxes and transfers together. As can be seen in Table 3, Equation (1), fiscal redistribution is significantly related to one variable representing each of the three traditions we have identified. To start, the unemployment rate is positively related to fiscal redistribution—hardly surprising in that economic distress in

<sup>11</sup> Our target efficiency and social budget size variables make most sense when considered in relation to one another. Since the expected relationship of the former to our independent variables is somewhat unclear, and since the relationship of the latter would seem to mirror that of traditional measures of social benefit expenditures, we have not included these variables in our empirical analysis.

**Table 3** Regression analysis: sources of variation in welfare generosity

	Cabinet balance	Turnout	Per cent elderly	Rate unemployed	Union density	Neo- corporatism	R <sup>2</sup>
(1) Fiscal redistribution	-0.002 0.003	0.001*** 0.000	0.005 0.003	0.007*** 0.001	-0.029 0.036	0.091** 0.040	0.712
(2) Tax redistribution	0.000 0.001	0.000* 0.000	-0.002 0.001	0.000 0.001	0.014 0.012	-0.008 0.012	0.248
(3) Transfer redistribution	-0.002 0.003	0.000 0.000	0.006** 0.003	0.007*** 0.002	-0.043 0.038	0.099** 0.041	0.714
(4) Pension redistribution	-0.003 0.003	0.000 0.000	0.005 0.004	0.003 0.002	-0.029 0.035	0.062 0.040	0.362
(5) Unemployment redistribution	0.001 0.001	0.000 0.000	0.000 0.001	0.002*** 0.000	0.010 0.009	0.013 0.008	0.432
(6) Other transfers	0.000 0.001	0.001 0.000	0.002 0.004	0.002** 0.001	-0.024 0.020	0.023 0.028	0.407
(7) Prime-age fiscal redistribution	0.002 0.002	0.000 0.000	0.000 0.002	0.009 0.001	0.025 0.025	0.031 0.025	0.650
(8) Poverty reduction	-0.436 0.258	0.122*** 0.039	*0.606 0.340	0.795*** 0.113	-5.275 4.116	10.199** 4.678	0.759

Note: Since our LIS surveys constitute an unbalanced pool (i.e. the years of LIS surveys vary slightly and not all countries have conducted surveys in all years) we have used a statistical technique throughout this paper that employs OLS regression with Huber White 'sandwich' robust standard errors clustered by country; see Bradley *et al.*, 2003 for a full discussion. We have also assessed the possibility of collinearity among our independent variables by calculating the variance inflation factor statistic. However, the highest value for this statistic in any equation was under 5, well below the conventional criterion of 10 (Neter *et al.*, 1996, p. 387), and most were much lower. Top number is slope coefficient; bottom number is robust standard error.

\* $P < 0.10$ ; \*\* $P < 0.05$ ; \*\*\* $P < 0.01$  (two-tailed).  $N = 59$ .

general, and unemployment in particular, are among the most important concerns of the contemporary welfare state. Similarly, there is, as expected, a significant positive relationship between Hicks's measure of neo-corporatism and the extent of fiscal redistribution. Finally, we find that one of our power resources variables, electoral turnout, is strongly related to fiscal redistribution, suggesting that this aspect of political 'voice' helps to explain cross-national variance in redistributive policies in the developed world.

What happens when we separately examine fiscal redistribution via taxes and via transfers? As can be seen in Table 3, Equations (2) and (3), disaggregating redistribution in this way has an effect on findings. Specifically, tax redistribution is significantly positively related to electoral turnout in such a way that as turnout increases so too does the extent of tax redistribution. As for transfer redistribution, three significant relationships are in evidence. As would be expected, the

extent of fiscal redistribution accomplished by transfers is positively related to both the unemployment rate and the share of the population that is over age 65—hardly surprising given the centrality of the elderly and unemployed as beneficiaries of social transfers. In addition, Hicks's neo-corporatism indicator is strongly positively related to transfer redistribution, reaffirming the importance of this institutional variable.

What is the pattern when we examine the redistributive impact of individual social transfers? As can be seen in Table 3, Equation (4), the extent of redistribution by way of pensions is not strongly related to any of our independent variables—not even the percentage of the population that is over 65 years of age. (These variables are, however, significantly related at the zero order.) On the other hand, when we examine the sources of cross-national and over-time variance in redistribution associated with unemployment compensation benefits [see Table 3, Equation (5)], we find one strong relationship: fiscal redistribution via unemployment benefits is, as would be expected, positively related to the share of the population that is unemployed. As can be seen in Table 3, Equation (6), the same is true of the relationship between the unemployment rate and our measure of 'other' social benefits—at least some of which are linked to the economic distress that is associated with high unemployment. Finally, the importance of the unemployment rate in explaining benefits aimed primarily at the working-aged population is confirmed when we turn to the prime-aged population in Table 3, Equation (7): again, the most important variable affecting the extent of fiscal redistribution across this subset of all households is the unemployment rate.

Last, we consider the sources of cross-national variance in redistribution as it affects households in poverty. As can be seen in Table 3, Equation (8), both the unemployment rate and the share of the population that is elderly are related to state efforts to reduce poverty. In addition, there is a significant positive relationship between poverty reduction and Hicks's neo-corporatism indicator. Even stronger is the relationship between poverty reduction by the state and electoral turnout, reflecting the difference between countries in which all income groups vote at more or less the same rate, and countries in which the strong class differences reflected in low turnout appear to result in less extensive state redistribution from high to low-income groups.

In sum, our brief empirical analysis employing the data on fiscal redistribution introduced in the earlier part of the paper provides some confirmation of each of the three major explanatory traditions in this field. However, not every one of our variables is a significant predictor of every mode of fiscal redistribution. In particular, not a single significant relationship is in evidence for our cabinet balance variable: despite the prominence of partisan orientation in the literature it does not appear to explain cross-national and over-time

variance in any of our multiple measures of fiscal redistribution, at least for the limited range of countries and time periods we have examined.<sup>12</sup> In addition, no significant relationships are in evidence linking our measure of union density to any of our measures of fiscal redistribution. Although this appears somewhat surprising on the surface, it is consistent with the recent suggestion by Rueda (2005) that, as a result of the growing divergence between workers with secure employment and those without, labour unions have become more interested in supporting the interests of their own members than of low-income groups in general.

On the other hand, it is worth noting that our variable measuring electoral turnout is strongly related to overall fiscal redistribution; redistribution via taxes; and poverty reduction. This offers some confirmation of Kenworthy and Pontusson's (2005, p. 459) suggestion that 'voter turnout [may be] treated ... as a proxy for the electoral mobilization of low-income workers, condition[ing] the responsiveness of government policy to market income inequality trends'. As they go on to say, 'low turnout offers a potentially compelling explanation why the American welfare state has been so much less responsive to rising market inequality than other welfare states' (Kenworthy and Pontusson, 2006)—an analysis that can easily be extended to other countries.

This brief empirical analysis is hardly the last word in examining the sources of variance in fiscal redistribution across countries or over time. For one thing, our study, of necessity, covers only a limited number of countries and time periods. If more countries were included or the analysis went back farther in time, some variables might be more (or less) prominent. Moreover, as has been indicated, the relatively small number of country-years for which redistributive data are available does not offer enough degrees of freedom to assess simultaneously all of the many variables that have been examined in previous work. Still, it is hoped that this analysis has illustrated the utility of the data on fiscal redistribution introduced in the first part of the paper, permitting researchers to move beyond an examination of social benefits expenditures or, at best, overall redistribution to a much more detailed analysis of the multiple ways in which state redistribution is accomplished in the developed world.

<sup>12</sup> Several recent studies have produced mixed findings for this variable. For example, Hicks (1999, p. 179) found 'scant evidence for direct welfarist effects of partisan government'; Swank (2002) found partisan effects for some measures of social policy but not others; and Huber and Stephens (2001, pp. 66–71) found a fairly strong relationship for left-wing parties, but only in interaction with a variable measuring female labour force participation.



#### 4. Conclusion

The intention of this paper has been to offer an exploratory empirical analysis of state redistribution in the developed countries, with reference to micro-data on household income available from the LIS. Our aim has been to offer data on income redistribution that are more accurate, comparable, detailed and recent than those that have been used in past work. We have also tried to show in our brief empirical analysis that the data we have presented are of practical use in exploring an important research question.

Among the most important requisites of effective empirical social science research are sound theory, sound methods and sound data. In the cross-national examination of income redistribution, by far the least attention has been devoted to the last of these, and the main contribution of this paper is clearly in that area. More generally, we believe that the data we have described here offer a valuable opportunity to re-examine old questions about the political economy of the developed countries and raise new ones. For example, as was indicated in the previous section, one of the key debates in the cross-national literature has been whether fiscal redistribution is best explained by a power resources model focusing on political variables, a functionalist approach emphasizing the exigencies of demography or economics, or an institutional approach focusing on labour relations. Our analysis of data on several aspects of fiscal redistribution suggest that electoral turnout, both of our structural variables and our corporatism index are positively related to most (but not all) aspects of redistribution, while our measure of the partisan balance of national cabinets and of union density are unrelated. Similarly, there has been a long-standing debate concerning the redistributive effect of means-tested vs. comprehensive programmes. Our empirical analysis has shown that there appears to be a tradeoff between these programme types and that fiscal redistribution is more strongly related to the size of social benefits than to their target efficiency. Yet another important question of the last decade has been whether the welfare state is undergoing a widespread retrenchment. Our analysis has suggested that, while market income inequality has generally risen in the developed world, state redistribution has largely kept pace.

In exploring the causes and effects of state redistribution in the developed world, the literature has increasingly moved towards more disaggregated measures of social policy, an enterprise in which the LIS, with its detailed data on taxes and a large number of individual social benefits, offers a rich source of information. It is our hope that this paper will make a modest contribution to this evolving research agenda.

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