The Political Sources of Government Redistribution in the Developed World:
A Focus on the Middle Class

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ABSTRACT

This paper focuses on the relationship between political participation and income redistribution by the state in the developed countries over the last 25 years, with a particular focus on middle income groups. The first part offers a detailed description of several aspects of government redistribution as it affects the second, third and fourth income quintiles, employing data from LIS income surveys. The second part describes a cross-national analysis of 71 country-years that seeks to explore the sources of variation in redistribution toward and away from individual middle income groups, with a particular focus on electoral turnout, the partisan orientation of national governments and union density. The third part takes a closer look at participation, employing data from the Comparative Study of Electoral Systems to calculate rates of several modes of participation by middle income groups, including voting in national elections, belonging to a labor union, individually contacting elected or public officials, participating in protests or demonstrations, and working with others to achieve a common public purpose. The overall conclusion is that political participation does matter, but that its relationship to government redistribution varies by mode of participation and by income subgroup within the broadly defined middle class.

In cross-national empirical work on income inequality and government redistribution, the greatest emphasis has been on the extremes of the income scale. Less work has been done on groups that are neither rich nor poor—the middle class. The lack of attention to this group is unfortunate for several reasons. Most obviously, the middle class, if defined in the traditional way as the three middle income quintiles, is by far the largest income group, and its fortunes play a correspondingly major role in determining those of society as a whole. In the political sphere, the middle class is a decisive actor in every developed country, one that has been assiduously courted by both the left and the right—with good reason, since support from at least part of the middle class is an indispensible component of nearly every governing coalition. Beyond this, the relative economic standing of the middle class is widely believed—not least by its own members—to have declined since the early 1980s, after steady improvement in the first part of the post-World War II period. The political causes and implications of this have rarely been explored, at least in cross-national empirical work.

The intention of this paper is to examine several aspects of middle class politics and economics in the developed world over the last 25 years. Specifically, we will consider the relationship between, on the one hand, government redistribution toward and away from middle income groups and, on the other, the degree and nature of political participation by those groups. The analysis employs data from a number of sources, with special reliance on the Luxembourg Income Study (LIS), our source of data on household income, and the Comparative Study of Electoral Systems (CSES), our source of data on political participation by income quintile.

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The paper is divided into three parts. The first offers a detailed description of government redistribution as it affects middle income groups. The second presents the results of a national-level pooled cross-sectional/time series analysis of 71 country-years covering the period from 1979 to 2006. This analysis explores the sources of government redistribution toward and away from middle income groups with reference to a number of national-level political and economic variables that have commonly been employed in the literature, including electoral turnout and the partisan composition of governing cabinets. The third part of the paper offers a description of cross-national variation in several modes of political participation at the level of income quintile, including voting, contacting an elected official, participating in a protest or demonstration, working with others to solve a public problem, or belonging to a labor union. This section includes a multilevel analysis of the 11 countries for which disaggregated data are available both for government redistribution and for electoral turnout and other aspects of political participation.

I. Government Redistribution and the Middle Class

Our key dependent variable is the role of taxes and public social transfers in redistributing income toward and away from each of five income quintiles. Although the sources of cross-national variation in redistribution have been extensively explored for overall inequality and for the poor, less attention has been directed to middle income groups.[1] In this section, we will introduce our measures of government redistribution and describe their effect on income shares in the countries we are examining.

As has been indicated, our basic source of data on household income is the Luxembourg Income Study (LIS). In employing LIS data to measure government redistribution, the main limiting factor is that in a substantial number of LIS surveys income

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is measured net of taxes, making it impossible to construct a measure that taps the entire redistributive effect of the public sector. Still, over 70 appropriate surveys remain. In measuring income we have employed the standard LIS conventions for household size equivalization, top and bottom coding, treatment of zero income, income coverage, etc.— those used in computing the widely used LIS "key figures," which are documented on the LIS website.[2]

The most straightforward, and by far the most common, way of measuring the effect of taxes and social transfers on various income groups is to compute before- and after-government quintile shares. This is accomplished by first ranking households according to their pre-tax and -transfer income and dividing them into 5 equal groups, each representing 20% of income survey respondents. Next, taxes are deducted and transfers are added to each household's income and the population is re-ranked by post-government income and again divided into 5 quintiles. We will call this the "conventional" measure of redistribution.

In calculating the conventional measure of redistribution, we compare the income share of each quintile before and after transfers have been added and income taxes and social insurance contributions deducted. The difference represents the net change in a quintile's income share as a result of transfers and taxes. To cite an example, the share of all income received by the second lowest income quintile (QII, the lower middle class) from private sector sources in Canada averaged 10.8% across 8 LIS surveys over the period from 1981 to 2004. When transfers were added and taxes deducted, this quintile's share had risen to an average of 13.4%, for a net gain of 2.6 percentage points. Of course, the net position of an income group with respect to redistribution can be negative as well as positive. For example, the Canadian fourth quintile (QIV), the upper middle class, received an average of 25.2% of

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all pre-government income, but when transfers were added and taxes deducted its share had fallen to 23.5%, for a net redistribution value of -1.7%.

Figures for pre- and post-government quintile shares for each of the 13 countries we examine are presented in table 1. The difference between them, our measure of conventional redistribution, is displayed in the final column of the table. These represent national means across multiple income surveys, an average of 5.5 per country; full results for all surveys are available from the authors. In describing these figures, we start from the bottom. As can be seen, QI's pre-government income share is very low, in no case more than 3.1% for the countries considered—far less than a proportional quintile share of 20%. After transfers are added and taxes deducted (for this group it is mainly the former), QI's share in every case increases. However, as displayed in the final column, the extent to which taxes and transfers improve the poor's income share varies greatly, from a high of an approximately 8% improvement (Belgium, Denmark, Sweden and the Netherlands) to a low of about 4% (the United States).

TABLE 1 ABOUT HERE

What of QII, the lower middle class? As can be seen, net redistribution for this group is also in every case positive. However, the range of percentage improvement again varies widely, with the greatest gains in Belgium, Sweden and Denmark, and the smallest in Canada, the United States and Switzerland. QIII, the "middle-middle" class, is a transitional group with respect to redistribution: net redistribution is positive in 7 and negative in 6 of our 13 countries, although in all cases the change in income share is small.

For QIV (the "upper middle" class), net redistribution is in all cases negative, but the degree to which the income share of this group decreases again ranges widely, from about

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-1% (the U.S.) to about -4% (Belgium). Finally, we consider QV, the highest quintile. Net government redistribution for this group is again negative for all countries, but the degree to which this is true ranges from a share decline of about -5% for Switzerland to one of about -10% for Belgium.

FIGURE 1 ABOUT HERE

It is often said, not least by middle income groups themselves, that the position of the middle class has been eroding over the last two decades in comparison to other groups. Do our figures bear out this widespread perception? One way of considering this, at least in a preliminary way, is to sort the results described above by LIS "Wave," with Wave I covering the period around 1980, Wave II around 1985, Wave III around 1990, Wave IV around 1995, Wave V around 2000 and Wave VI around 2005. The main results are shown in figure 1. As can be seen, the pre-government income share of QI has indeed eroded over the last 25 years, declining from 2.3% of all income to 1.5%. Government redistribution toward this quintile has, however, largely—although not completely—kept pace with this decline. As to the middle income quintiles, QII and QIII have each seen their share of pre-government income fall; this is particularly true of QII, a decline that may represent the loss of manufacturing jobs in many developed countries. For each group, though, government redistribution has largely kept pace, although disposable income shares have declined to some extent. As to QIV, both its pre-government share and the extent of (net negative) government redistribution have remained steady; in the end, the disposable income of this group has remained virtually unchanged over the period. Finally, as can be seen, the big gainers over the last 25 years have been the households in quintile V, the highest income group. Its pre-government income share has increased nearly 3 percentage points, less than half of which has been

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"clawed back" by higher taxes or lower transfers. The end result is that this group's disposable income share has improved over the period, the only quintile whose income has done so.

The central advantage of the conventional approach to measuring redistribution is its straightforwardness: pre-government income is pre-tax income that households *actually* receive from private sector sources and disposable income is income they *actually* receive after direct taxes have been deducted and social transfers added. However, critics have pointed out that the conventional method's "pre-government" counterfactual, while accurately measuring income received from the private sector, is artificial to the extent that it fails to account for "second order" effects (Bradley et al., 2003: 209; Bergh, 2005; Beramendi, 2001). These operate when the income guarantees arising from pension schemes in countries in which the retirement system is entirely or largely public artificially depress the "pre-government" income of the elderly by discouraging them from saving for retirement or paying into private systems.[3] To offer an example, the lowest income quintiles may, in countries with comprehensive public pensions, appear to have very low private sector income. But that is only because these households have concrete expectations of ample income from the state in retirement and thus see less need to secure private income in old age than households in countries in which private pension systems operate parallel to public systems. A prime example is Belgium; as can be seen, in table 1, the two lowest income quintiles in Belgium are at the very bottom among countries in private sector income, but near the middle in disposable income.[4]

One way of addressing the problem of second order effects is to eliminate the elderly from consideration by focusing only on households headed by those of "prime age," usually

defined as 25-59 years old. However, since the focus of this paper is on political participation it seems questionable to simply eliminate the elderly, who are among the most active participants in many democratic political systems. Instead, we have treated public and private pensions, which offer similar guarantees of income in old age, in a similar manner. Specifically, we have added household income received from public old-age pensions to private sector pensions, including both as "pre-government" income, on the assumption that the income guarantees built up over a lifetime of contributions are much the same whether the system is a mix of public and private plans or almost entirely public.[5]

With this background, we offer figures for what we call "pensionless redistribution," government redistribution by means other than public pensions. Obviously, this alternative measure has its own limitations; for example, public pensions, unlike private pensions, are mandatory and often involve a measure of redistribution in their payout formulas. Still, figures for pensionless redistribution do serve as a useful counterpoint to the conventional measure. Country-level averages for pre-government income plus pensions and pensionless redistribution rates are offered in table 2.

It is evident that the lowest quintile is the one most affected by our treatment of public pensions in the same manner as private; their share of "pre-government" income increases in every country we examine. This is illustrated by the Belgian example offered earlier: this country moves from the bottom to the middle of the pre-government spectrum for the two lowest income quintiles. The lowest quintiles in France, Germany and Switzerland also experience fairly large increases in their total income shares when pensions are included in household income, reflecting the well-known generosity of their public pension systems. At the other end of the spectrum, QIV and QV's shares decrease in every country we examine.

The income share of the "middle-middle" class (QIII) remains virtually unchanged, with a small decline of 0.2% of total income after treating pensions as private income. Comparing the final columns of tables 1 and 2, we can see that public pensions play a substantial role in redistribution in the developed world. In particular, share gains for the lowest two quintiles and losses for the highest two are nearly halved once we eliminate the effect of pensions..[6]

TABLE 2 ABOUT HERE

To this point we have compared income shares of middle quintiles before and after public social transfers have been added and direct taxes deducted. However, analysis at this level is limited in that, by comparing snapshots of the situation before and after government redistribution, such a measure does not capture the inter-quintile dynamics that produced these results. There are a number of measures of income mobility that tap these dynamics (see Morillas, 2009), notably the Shorrocks Index, but none is quite suited to our purposes since summary measures of this type capture average income mobility across all groups.[7] When the focus is on individual income quintiles, a straightforward way to measure income mobility is to create a quintile transition matrix that reports the percentages of households moving up or down across quintile boundaries as a result of government redistribution (Burkhauser, 1997).

We have made such calculations for the households in our 71 LIS income surveys for our measures of both conventional and pensionless redistribution. The results, averaged by country, are reported in table 3. As can be seen, the most common outcome is that households remain in the same quintile after taxes and transfers as before: for a large share of households, roughly 60%, government redistribution does not move income recipients very far in either direction. This is especially true when we account for pensions by treating them

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as private income, which is shown in the bottom half of the table. Still, the stability of initial incomes with respect to taxes and transfers does vary across countries. The highest percentage of households that do not move across a quintile boundary as a result of taxes and transfers (including public pensions) is 78% in Australia; also quite high are the United States (71%), Canada (68%) and the United Kingdom (64%). On the other end of the mobility spectrum are Belgium, Germany and Sweden, although even in the lowest case, Sweden, nearly half (48%) of all households remain in their pre-government quintile. Once we remove the mobility effects of public pensions, shown in the bottom half of the table, the percentage of households remaining in their initial pre-government income quintile is even higher, averaging 71%. As to individual countries, fully 85% of U.S. households remain in the same quintile after taxes and non-pension transfers, followed by Canada (81%), Switzerland (79%) and Australia (79%). At the other extreme, "only" 57% and 59% of Swedish and Danish households, respectively, remain in their initial income quintile.

TABLE 3 ABOUT HERE

Examining the inter-quintile movement that does occur, we begin by focusing on movement up from QI into the broadly defined middle class (QII, QIII and QIV), a proportion that ranges from a high of about 10% (Belgium, France, Netherlands and Switzerland) to a low of about 5% (Australia and Finland). As shown by comparing the top and bottom parts of the table, nearly half of this movement is, on average, due to public pensions. As our previous analysis of pensionless redistribution suggests, countries with relatively generous public pension systems, such as Belgium, France, Switzerland and Germany, show the greatest disparities in quintile movements when treating public pensions as private income.

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For both conventional and pensionless redistribution many fewer households move down into the three middle income quintiles from QV than move up into them from QI; the percentage share is in all cases less than 5%. Somewhat more households move down from the broad middle income groups represented by QII-QIV to the lowest quintile, a number that ranges from almost 12% for Sweden to under 5% for the U.S. and Australia for conventional redistribution to a high of nearly 10% for Sweden and a low of 2% for the U.S. for pensionless redistribution. This is considerably greater than the percentage of households that move from the middle three quintiles into the top quintile, which averages 3% when pensions are included as transfers and about 2% when they are not.

Continuing, there are a non-trivial number of households that move *within* the broad middle income group represented by QII, QIII and QIV. Of these, most move down, an average across all income surveys of just over 10% with pensions considered as a transfer and 8% without. Somewhat fewer move up within QII-QIV, an average across all LIS surveys of about 7% for conventional and 5.5% for pensionless redistribution. Finally, a tiny number of households move across *three* quintile boundaries, from the highest to the lowest quintile or from the lowest to the highest, as a result of government redistribution: in all but one case, the proportion is less than 1% (not shown).

It is possible to offer a summary measure of movement into and out of the broadly defined middle class as well as up and down within the three middle quintiles, that reflects the net gain and loss of middle income groups in comparison to others. Comparing the top and bottom halves of the table we can see that pensions play a vital role in promoting middle class membership: as can be seen in the second-to-last column of table 3, the net increase in the size of the broad middle class is largely dependent on the effect of public pensions.

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Specifically, for conventional redistribution all but two countries, Finland and Sweden, report increases in the size of the middle class as a result of taxes and transfers. These positive values range from a high of nearly 6% in Belgium to a low of 0.1% in Norway. Examining the bottom half of the table, we can see that taxes and non-pension transfers result in a decrease in the size of the middle class in a majority of countries: only Germany, the Netherlands and Switzerland report increases, in each case less than 1%. At just over -3%, Sweden experienced the largest net decrease in the size of the middle class, followed by France, Finland and Australia.

The final column reports the net upward movement across quintiles. Once again, we can see that pensions play an important role in mobility. For example, only Switzerland reports positive upward movement as a result of taxes and non-pension transfers, and this value is only slightly larger than zero (0.3%). The others range from -11% in Sweden to essentially no movement in the U.S. (-0.1%) for an average of about -4%, suggesting that the average net effect of non-pension redistribution is to move households down from their pre-government income starting position. This downward mobility is reduced when pensions are treated as a transfer, with the liberal states, Canada, the U.K. and U.S., reporting the largest net upward movement.

II. Explaining Cross-Country Variation in Government Redistribution

Now that we have offered measures of several aspects of government redistribution as it applies to the middle class, it is time to explore the sources of cross-country and over-time variation in redistribution. In the last decade a broad consensus has emerged concerning the main explanatory variables that should be considered. Since these have been described in detail in other work, we will offer only a brief discussion at this point.[8]

As has been indicated, the central aim of this paper is to consider whether the extent to which middle income groups gain or lose from government redistribution is related to the extent to which they express political "voice"—that is, make demands on the political system. The most fundamental way of making such demands in a democracy is by voting; competitive elections are, in fact, one of the essential institutions that distinguish democracies from authoritarian systems. However, there is wide variation across the contemporary democracies in average turnout in national elections, ranging from almost 90% of the eligible electorate in some countries to 50% or less in others. It is useful to ask whether this wide variation is related to the equally wide variation in government redistribution. Turnout is measured as the share of the eligible population that voted in a national election as close in time as possible to the year of a given LIS survey. Our measure reflects elections to the lower house of a country's legislature, expect in the presidential systems, Finland, France and the United States, where it represents the nearest presidential elections.[9]

Another perennial theme in the literature looks not to the percentage of the eligible electorate that votes but rather to the ideological orientation of the parties they vote for. A large body of literature, often called "power resources theory," argues that "it is fruitful to view welfare states as outcomes of, and arenas for, conflicts between class-related socio-economic groups" (Korpi and Palme, 2003: 425). Within this tradition, the most common focus has been on the ideological orientation of governing coalitions; indeed, one of the longest-standing preoccupations of political scientists has been the degree to which leftist parties in government drive redistribution, or rightist parties forestall it. The alternative possibility is, of course, that the longstanding income guarantees of the contemporary welfare state are so ingrained that they are beyond the power of either the left or the right to change,

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except at the margins. Our measure of partisan orientation, from Armingeon et al. (2009)

taps the share of left and right parties in governing cabinets in the year of a given LIS survey.

There are a number of other variables that are hypothesized to help explain the extent

of government redistribution. Perhaps the most straightforward approach is the median voter

theorem, first articulated by Meltzer and Richard (1981), who posit that government

inequality reduction is positively related to the extent of pre-government inequality

(Milanovic, 2001: 368-369; Milanovic, 2010; Scervini, 2009). Our measure of pre-

government income by quintile is calculated from LIS surveys; as described earlier, it

includes market income plus private transfers.

Yet another much-examined variable said to be associated with government

redistribution is membership in labor unions. The expectation is straightforward: organized

labor tends to be among the most vigorous supporters of government programs that benefit its

members, and it is argued that the share of the labor force that is organized will be positively

related to the size and redistributive nature of social programs. Our measure of union density

is from Visser (2009); it taps the share of the labor force that belongs to a union, excluding

retired or other non-working members.

Yet another variable looks to economic globalization. The critique by those skeptical

of globalization is clear: that extensive international ties of trade, direct foreign investment

and finance tend to involve governments in a "race to the bottom" in the provision of public

social benefits, in an effort to retain a country's position in export and capital markets. In

measuring economic globalization we have employed the KOF index of globalization

(Dreher, 2006, Dreher et al., 2008; updated in 2009), which taps both actual movements of

goods, services and capital across national boundaries and national restrictions on such movement.

Finally, it is necessary to introduce two control variables that together tap the "need" for social benefits, in an effort to isolate the extent to which government redistribution is driven by variation in demographic and economic trends across countries and over time. Two such variables will be employed. The first is the share of the population that is 65 or older, which affects the pension entitlements that are a major component of public benefits in all developed countries. The second is the unemployment rate, which is linked directly to unemployment compensation and indirectly to a number of other benefits received by households headed by those of working age. Both are from Armingeon et al. (2009).

Our initial empirical analysis considers conventional redistribution. The main results are reported in the left half of table 4.[10] We begin with QI. As can be seen, the results offer some support for the median voter hypothesis: as the pre-government income share received by households in QI rises, the improvement in that quintile's income share declines, a relationship that is statistically significant at the $p < .01$ level. We also find evidence that more extensive global linkages are significantly positively related to redistribution toward this quintile. Finally, there is a significant positive relationship between national electoral turnout and the percentage improvement of the income share of the lowest income group.

TABLE 4 ABOUT HERE

What of the QII, the lower middle class? This quintile also confirms the median voter hypothesis. In addition, there is evidence of a strong positive relationship with union density and a positive, but somewhat weaker, relationship with electoral turnout.

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As to QIII, there continues to be a significant positive relationship between union density and the improvement in this group's income share, offering further support for the median voter hypothesis. There is also a statistically significant relationship between this quintile's income share and electoral turnout, but the direction is reversed from that for lower quintiles: as turnout increases, its income share improvement as a result of taxes and/or transfers, on average, decreases.

Next we turn to QIV, the upper middle income group. Here we find no evidence for the median voter hypothesis; in contrast to the quintiles below, this group's pre-government income share is unrelated to the size of its net gain from government redistribution (which is in this case always negative, although to varying degrees). There is also a negative relationship between both of our control variables and the net change in QIV's income share as a result of taxes and social transfers: as the proportion of the population that is over age 65 increases, the net position of QIV becomes less favorable—no doubt reflecting financing of public pensions. The same relationship is in evidence for the unemployment rate: as it rises, QIV's situation with respect to taxes and transfers declines, likely reflecting transfers associated with unemployment compensation. Finally, the negative relationship between turnout and the relative position of this group continues the negative direction first found in QIII, but more strongly: as turnout rises, and the electorate thus becomes more representative of the entire population with respect to income, redistribution away from this group increases.

QV, the highest quintile, demonstrates the same negative relationship with electoral turnout as QIV. In addition, it appears that as economic globalization rises, the net position of this group with respect to taxes and transfers deteriorates. The same is true of membership

in labor unions, whose efforts primarily benefit quintiles below this one, but are disproportionately financed by taxpayers in this group.

The last five columns in table 4 report the results of our regressions with pensionless redistribution as our dependent variable. The results are broadly similar, although weaker, than our findings for conventional redistribution reported above. In particular, there is evidence that as voter turnout increases, redistribution to this group increases as well. Conversely, higher rates of electoral participation are associated with less redistribution toward the top quintile, though this coefficient is only significant at the $p < 0.10$ level. The other notable differences are that union density is negative and significant in QIII but not significant in the other quintiles, and the percentage of the population over 65 is no longer positive and significant in any model. Overall, these differences highlight the central role of pensions in the contemporary welfare state. Pensions obviously represent an inter-generational transfer, but they also reflect a transfer across income groups, and when they are excluded from one's conception of the welfare state one inevitably leaves out a large part not only of welfare economics but also of welfare politics. Thus, while pensionless redistribution addresses one problem, second order effects, it is only at the expense of defining away one of the most important of all social programs.

After having described our results in some detail, we will highlight a few more general themes. First, and most broadly, it seems evident that the middle class as we have defined it is not of one piece. Specifically, QII and QIII have a good deal in common with one another and, at least for some variables, with QI. QIV, on the other hand, even though it extends well into what most people would consider the middle class, tends to have more in common with QV than with the quintiles below. Although there are exceptions, there does

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seem to be a demarcation about two thirds of the way up within our broadly defined middle class, with the lower and middle middle classes (QII and QIII) on one side and the upper middle class (QIV) on the other.

As to independent variables, it is notable that only a single significant relationship links our variable measuring the partisan composition of governments and net redistribution toward or away from any income quintile. This reflects the difficulty governments face in making major cuts—or, for that matter, major enhancements—to longstanding social entitlements, whatever their ideological dispositions. There is also some evidence of a relationship between economic globalization and government redistribution, which was associated with the income share of the lowest and highest income quintiles. However, this was in the opposite direction from the one globalization critics would lead us to expect: as globalization rises, the net share improvement of taxes and government transfers rises for the lowest income quintile and declines for the highest. This provides some confirmation of the "domestic compensation" hypothesis that is widely accepted in the political science literature, which argues that governments in open economies systematically supply more government redistribution than in less open economies, in an effort to compensate groups that would otherwise suffer most from global competition—thus maintaining broad public support for a basically liberal system (Ruggie, 1982; Katzenstein, 1982).

As to union density, this variable is consistently related in the expected direction to net redistribution. What is notable is that a positive relationship continues through the third quintile, indicating that in highly unionized countries organized labor often extends well up the income spectrum. The relationship is, in fact, only reversed for QV, the highest quintile. (It is unrelated in either direction to the share improvement of QIV.)

Last, we consider national-level electoral turnout, which is positively related to the net

share improvement of the bottom two quintiles, but negatively related to that of the top three.

Specifically, electoral turnout is strongly positively related to the income share of QI and, less

strongly, to that of QII. The direction reverses for QIII and, even more sharply, for QIV and

QV.

Table 5 reports the relationship between our variables and movement of households

across quintile boundaries as a result of government redistribution, offering a more detailed

look at the broader relationships reported above. We begin by examining the percentage of

the population experiencing no movement between quintiles. Both the size of the elderly

population and the unemployment rate are significantly negatively related to this variable,

although the latter at the $p < 0.10$ level. This suggests that, as the number of pensioners (or

unemployed) increases, movement between quintiles as a result of transfers increases as well.

When we examine pensionless redistribution, we find that relationship with the share of the

population that is elderly is still negative and significant but that the unemployment rate is no

longer statistically significant. In addition, we find that electoral mobilization and union

density are associated with larger movement across income quintiles when taxes and non-

pension transfers are added to household income.

<center>TABLE 5 ABOUT HERE</center>

Examining movement from the low to the middle quintiles (QII-QIV) we find that

larger elderly population and high unemployment rates are, as one would expect, related to

movement from the bottom quintile to the middle quintiles when we include pensions as a

transfer. These results do not, however, continue to hold when pensions are treated as a

source of private income. Moreover, greater electoral participation is related to more

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movement up from the bottom to the middle quintiles when examining pensionless

redistribution, again offering some confirmation of our earlier results. Higher rates of union

membership, however, appear to retard movement from QI to the broad middle class when

we examine pensionless redistribution, which is not consistent with our previous results. One

reason may be the "inside-outside" union dynamics described by Rueda (2005), in which

unionized workers compete with more marginal non-unionized workers in securing and

protecting benefits for their members.

With respect to the net growth of the middle class and net movement upward as a

result of taxes and transfers, there are few statistically significant results to discuss, regardless

of whether pensions are treated as a transfer or not.

III. A Closer Look at Political Participation

The preceding section offered some interesting results in identifying variables that

help explain the income gains or losses, and movement into and out of middle income groups

as a result of taxes and transfers. Although these variables have been much studied, their

effect specifically on the middle class has been considered less frequently.

As was shown, the overall level of turnout in national elections is positively related to

the net change in the income share of QI and QII, unrelated in either direction to QIII, and

negatively related to the net improvement of the position of QIV and QV as a result of taxes

and transfers. What drives this relationship is arguably not so much the level of turnout per

se as the extent to which turnout is skewed by income. The key underlying assumption is

that, in the words of Lijphart (1997: 4), "Who votes, and who doesn't, has important

consequences for who gets elected and for the content of public policies." While this is

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certainly plausible, there are to our knowledge no detailed and fully comparable statistics for turnout by income quintile for all of the 71 country-years we examine.

Until fairly recently, broad cross-national research exploring the relationship between electoral turnout and government redistribution reached something of a dead end at this point. However, in the last decade the situation has improved through the efforts of Comparative Study of Electoral Systems (CSES), a cross-national project not unlike the LIS in which the major public opinion surveys that are administered in many democratic countries at the time of national elections have been harmonized to include a number of questions in common. One major drawback for our purposes is that the CSES includes only recent elections, and its country coverage does not overlap completely with that of the LIS's "gross income" surveys. Still, there are 11 countries for which quintile-level data are available for both electoral turnout and other modes of political participation (from the CSES) and household income (from the LIS) for elections and surveys in the early and mid-2000s. While this is a much smaller data set that we have employed so far, it should offer at least some preliminary evidence on the relationship between income and various modes of political participation.

It is useful to begin by describing CSES's measures of political participation. Of particular value for our purposes is a variable that asks survey respondents to place themselves into one of five income quintiles, with the exact income boundaries supplied by the interviewer. Placing respondents into quintiles in CSES surveys is not nearly as precise a process as is the case for LIS income surveys; for example, income reported in CSES surveys is not equalized for household size and, while the ideal is to measure disposable income from all sources, they do not achieve the high level of cross-national comparability in this

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regard that is the hallmark of the LIS. Despite these limitations, CSES surveys clearly offer the best available comparative data on political participation decomposed by income quintile.

In focusing on middle class politics, we are especially interested in political participation by the three middle quintiles. The basic intuition is that, to the extent that political variables matter, income groups' net benefit from public sector taxes and transfers will be related to the extent to which they make—or fail to make—demands on politicians in an effort to further their economic interest. In the worlds of V.O. Key (1949: 527), referring to elections but easily applied to other modes of participation, "the blunt truth is that politicians are under no compulsion to pay much heed to classes and groups of citizens who do not vote."

We begin with the most widespread form of electoral participation, voting in national elections. This is ultimately the most powerful mode of political participation of all, since only by this means are political leaders selected—and rejected. On the other hand, a vote is a blunt instrument; the message it is intended to convey, as well as the one received by elected officials, can vary greatly. While economic well-being is almost always a major consideration in voting, so too are national security, moral issues, regional identity and a host of others.

Still, it is worth exploring the extent to which voting varies across income groups, with particular reference to the middle classes. With this in mind, we refer to figure 2. We begin with average turnout, located in the far-right of the figure.[11] As can be seen, in several countries reported electoral participation is very high, above 90%. In these countries there is little room for turnout to vary by income. In others, though, turnout is much lower. Most prominent among the latter countries are Switzerland, the United States, the United Kingdom

and Finland. As can be seen, there is a substantial income skew to participation in these countries. For example, across all income quintiles, the difference between average turnout in the lowest and highest quintiles is fully 30 percentage points in the U.S. and 28 in the U.K. Finland is not far behind, with a difference of 23 points. The skew of voting is somewhat less in Switzerland, where all quintiles vote at low levels, but even here it spans 12 points, with Canada and France registering about 10 points. On the other hand, in a number of high-turnout countries income is only modestly related to turnout, with less than a 5 percentage point difference across income quintiles; these include Australia, Germany, Denmark and the Netherlands. In a few countries, as was noted, all income quintiles participate at almost exactly the same rate.

FIGURE 2 ABOUT HERE

What of the middle income groups specifically? As can be seen, the turnout rate of the three middle income quintiles is substantially below that of the highest quintile in the U.S.—over 20 percentage points for QII. Another large gap is in evidence for Finland, about 10 points. In the U.K., however, low rates of voting appear to be concentrated in the lowest income quintile; while middle income quintiles' participation is lower than that of the highest income group, the gap is not large. In other countries, there is only a modest gap between participation by middle income groups and those above or below them on the income scale, in the range of 5 points (Canada, Norway) or less.

There are, of course, other ways of participating politically beyond the powerful, but blunt, instrument represented by a vote (Verba et al.: 302). Several of these are reflected in CSES survey questions that ask respondents whether they have contacted an elected official or representative, participated in a demonstration or protest, or worked with like-minded

people during the last five years. The basic quintile results are reported in table 6. Perhaps

the most striking figure is the small percentage of all respondents who report that they have

done *any* of these things: in not a single country does the share of such participants include

even half of all respondents and in some cases it is under a tenth.

TABLE 6 ABOUT HERE

In offering a more detailed description, we begin with the question about contacting

elected or other public officials. As can be seen, there are large differences in national

averages. The highest values are for liberal regimes, including Australia, Canada and the

United States. In countries with high average participation of this type, there is typically not

a major income skew separating the middle income quintile from the highest. The major

exception is the United States, where those in the highest income quintile contact elected or

other public officials at a much higher rate than those of any other quintile, even the third and

fourth quintiles just below. This is also the case in Germany, Finland and Switzerland, but to

a substantially lesser extent than in the U.S.

What of participation in protests and demonstrations, a form of direct democracy that

may indicate frustration with the ordinary institutional channels for political participation?

As can be seen, none of the 11 countries registers a particularly high value on this variable,

although the U.K., the U.S and Finland are near the bottom. Clearly, mass participation of

this sort is not a major part of politics in the contemporary developed world, at least in these

11 countries.[12] As to the middle classes, a rather striking fact is that the rate of participation

in protests and demonstrations in most cases *rises* as one moves up the income scale. Clearly

this is not a strategy employed exclusively, or even mainly, by society's least advantaged

members.

A third mode of political participation is the number of respondents who report that they "worked with like-minded people" for a common public purpose, a phenomenon that is often associated with civil society. As can be seen, average values on this variable differ greatly across countries. Norway, Denmark and the U.S. are at the high end, while the U.K., Sweden and the Netherlands are at the bottom. Across quintiles, there is in nearly all cases an income skew to this mode of political participation, although the extent to which this is the case varies. In particular, the highest quintile almost always reports the highest levels of this sort of cooperation, perhaps reflecting its greater stake in society, and the lowest quintile the lowest. Middle income quintiles tend to be, not surprisingly, in the middle.

A more formal way for members of society to "work with other for a political purpose," especially one having to do with economic well-being, is to participate in labor unions, which are generally the single largest membership group in developed countries with an explicit interest in distributive issues. As is well known, and clearly demonstrated in figure 3, union membership varies enormously across countries; in our CSES surveys, under 11% of Americans report that they belong to a union, while fully 60% of Swedes or Danes say that they do. As can also be seen, however, there is a great deal of cross-class variation in union membership. In most countries with medium to high levels of union density, union membership is relatively low in the bottom quintile, whose members typically have only a limited attachment to the workforce, then rises in QII, peaks in QIII and QIV and remains relatively high even in QV.

FIGURE 3 ABOUT HERE

In concluding this section on participation, we describe the results of a multi-level analysis that includes household-level demographic variables from the LIS and quintile-level

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political variables from the CSES, in an effort to explain cross-household and cross-country variation in government redistribution in the context of a merged dataset of Wave V or VI LIS surveys from 11 countries.[13] Our dependent variable measures net redistribution within households resulting from taxes and social transfers. Specifically, we subtract household taxes paid from total social transfers received and then divide by household gross income and equivalize to account for economies of scale. This value is multiplied by 100 to yield a percentage. Thus, a household that receives all of its income from the state and pays no taxes would have a net redistribution value equal to 100%. Conversely, a household that receives no social transfers but pays a quarter of its market income earnings in taxes would have a score equal to -25%.

We employ three independent variables at the household level that are hypothesized to play a major role in explaining variation in the net redistributive position of a household. The first is the number of persons in the household who are aged 65 or older, a demographic variable that drives entitlements but that is largely beyond the ability of policy-makers to influence.[14] The second and third are dummy variables that equal 1 if the household includes children or if there are no earners in the household, each of which would be expected to drive entitlements. In a perfect world we would also have individual-level data on political participation. However, since we must rely on CSES data that is aggregated at the quintile level, we have assigned the average level of turnout, etc. for an income quintile in a given country to all of the LIS households in the corresponding quintile.[15] Finally, we have pooled our 11 countries and then examined each quintile separately, conducting five multilevel analyses for each of five modes of participation—25 in all.

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Table 7 reports the results of the null models and models including only level 1 (individual level) variables. Our final models are presented in table 8. We begin by briefly discussing the null models, which are located in left side of the table and provide some useful information. First, the country intercepts report the cross-country mean value of net redistribution within each quintile. As shown, these values vary from an average of 73.5% net redistribution in the first quintile to -27.5% in the fifth.[16] Moreover, the results in table 7 also allow us to calculate intra-class correlation coefficients (ICC), which tell us the portion of the total variance that occurs between our 11 countries (our level 2 variables) (Heck et al., 2010: 79). The minuscule ICC value in the first quintile indicates that very little of the variation in this quintile is to be explained by cross-national differences. There is, however, a good deal of variance to be explained—18, 8 and 12% in QII, QIII and QIV, respectively— by country differences when examining the middle-income as well as the top quintiles (the ICC for QV is about 12%). Thus, developing multilevel models offers promise for those wishing to better understand middle class politics and social policy outcomes in the developed world. Finally, the variance of the intercepts and residuals reported in the null models in table 7 are needed to compute the proportions of within- and between-country variances explained by the level-1 and final multilevel models reported in the right hand columns of table 7 and in table 8, respectively.

TABLE 7 ABOUT HERE

The five right-hand columns in table 7 include our level-1 explanatory variables. We will discuss these variables in more detail when we describe the results of the final model. All but one of the variables are statistically significant at the $p < 0.01$ level. (The lone exception is the model for QV in which the presence of children in the household is unrelated

to household redistribution). As with the null models, the variances of the intercepts and residuals are needed to compute between- and within-country explained variance.

For purposes of brevity, table 8 only reports the results of the models where the participation variables attain statistical significance. We begin with a few overall observations. First, despite the promise seemingly offered by the ICC values for the middle quintiles reported in table 7, the results of the multilevel models lend limited support to the notion that greater political participation by the middle class, or other income groups, promotes redistribution toward those groups. Of the 25 models we test, only nine yield statistically significant results at the quintile-level. Of those, only 5 have signs in the predicted direction. Second, a large share of variation in net benefits from taxes and transfers accruing to households in each quintile occurs between countries, not within them. This, however, varies substantially by quintile and, to a lesser extent, by model.

For example, as shown in table 8, in the first quintile roughly 16% of the variation in household redistribution is accounted for by different rates of turnout between countries. The individual level variables offer little additional explanatory value for household redistribution in QI: variation among the independent variables at this level accounts for two percent of the variation within countries.

In the middle-income quintiles the individual level varaibles explain considerably more of the variance within countries—about 27% in QII and QIII and 25% in QIV. The between-country variances explained by the level-two participation variables—in QII and QIII it is protesting, in QIV it is contacting—also explain a greater proportion of the variance (about 20%) than found in the models for the first quintile. However, for these quintiles the individual-level variables explain a greater share of the variance within countries than the

level two variable(s) explain between countries. Finally, between 16 and 29% of the explained variance is between countries in the fifth quintile, while the explained within-country variance is about 11%.

TABLE 8 ABOUT HERE

In explaining intra-country variation, households with more elderly persons experience a more positive (or less negative) benefit position than those with fewer elderly members. In addition, households that do not include any earners are also larger recipients of redistribution from the state. These relationships are significant at the $p < 0.01$ level in every equation, which is not surprising, given that these categories include both the retired and unemployed. Finally, households with children are net beneficiaries of redistribution in every quintile except the top one, in which the estimates are not statistically significant.

What of political participation? We begin by examining turnout. Across the 11 countries included in our analyses, turnout seems to make some difference in explaining variation across countries in the net benefit position of households in the first and fifth quintiles. Consistent with our pooled cross-sectional time series results reported in table 4, the estimate is positive and significant at $p < 0.10$ (one-tailed) in the first quintile and changes direction in the fifth (actually, the sign changes direction in the third quintile, just as in our previous results). Thus, voter mobilization is associated with more redistribution toward the bottom quintile but more redistribution away from the top. A similar finding is obtained with respect to unionization. That is, our lone statistically significant result for this independent variable is found in the fifth quintile and is negative (although the estimates are positive but not significant in lower quintiles in the multilevel model).

As to the less tangible modes of participation, the first is contacting an elected or governmental official. For this variable the results suggest that a greater frequency of contact by individuals located in the bottom and top two quintiles of the distribution are associated with more net redistribution to households in those quintiles. This finding is consistent with our theoretical expectations, though we do not consider it to be conclusive. Next, we turn to our variable measuring whether survey respondents indicated that they worked with others to achieve a public good. In this case, we find a single relationship: higher levels of collaboration in the first quintile are related to somewhat greater net redistribution to households located at the bottom of the distribution. Finally, there are two negative and statistically significant relationships between participation in protests or demonstrations and net redistribution, both found in the middle class. The negative sign may actually suggest that members of middle quintiles receiving less than their "fair share" via taxes and transfers resort to political protest, contrary to our earlier speculation.

Conclusion

As was indicated at the beginning, this paper has sought to contribute to the literature on the middle class in several ways. The first and most straightforward has been to provide figures for government redistribution calculated from 71 Luxembourg Income Study income surveys. In contrast to most measures of redistribution, which either examine the entire income spectrum or concentrate on the poor, our focus has been on the three middle income quintiles. We have employed several basic approaches to measuring redistribution. The first is the conventional approach, which adds cash public sector benefits to and deducts direct taxes and social insurance contributions from households' pre-government income, re-ranking households after transfers have been added and taxes deducted. The second is

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"pensionless" redistribution, which addresses second order effects associated with public pensions by excluding them from redistribution. Finally, we have computed a quintile transition matrix which tracks movement of households across quintile boundaries as a result of government redistribution, distinguishing between households that remain in the same quintile and those that move up or down as a result of taxes and/or transfers.

The second part of the paper offers a country-level empirical analysis exploring the effect of several variables on the gains and losses from government fiscal policies experienced by the middle income quintiles. Among the more notable results are our failure to find strong effects in either direction arising from the partisan orientation of the government in power at the time of a LIS survey; the finding that union density is positively associated with on redistribution, and that this relationship is largely a middle class phenomenon that extends farther up the income scale than is the case with our other variables; and, most broadly, the fact that for many variables the second and third quintiles have more in common with one another than with the fourth quintile.

Finally, we examine quintile averages representing several modes of political participation for the 11 countries for which both LIS income surveys and election surveys available from the CSES are available for about the same point in time, focusing not only on much-studied variables like electoral turnout and union membership but also on such modes of participation as contacting an elected or public official, participating in a protest or demonstration or working with others to achieve a common public goal. This discussion ends with a multi-level empirical analysis that includes both household-level income variables from LIS surveys and quintile-level variables for various modes of participation from the CSES. Our expectation that participation would be positively related to redistribution was

only borne out to a small degree, much more weakly than we had anticipated—perhaps because of the small number of countries included in our analysis and the fact that participation is, of necessity, measured only at the quintile level.

In sum, this paper has focused on the relationship between political participation and government redistribution as it affects the middle class, a group which has tended to be neglected in the large empirical literature on this topic, if not in the public debate. Our hope is that the data we have collected, much of it to our knowledge unavailable elsewhere, will help to inform a research enterprise that what will continue to grow in importance in the coming decade.

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Table 1. Mean Pre- and Post-government Quintile Income Shares and Conventional Redistribution

Country	Pre-government shares					Post-government shares					Redistribution by share				
	QI	QII	QIII	QIV	QV	QI	QII	QIII	QIV	QV	QI	QII	QIII	QIV	QV
Australia	1.3	10.1	17.6	25.8	45.2	7.7	12.9	17.8	23.9	37.7	6.5	2.8	0.1	-1.9	-7.5
Belgium	0.2	8.1	18.5	27.5	45.7	9.9	14.7	18.7	23.4	33.4	9.7	6.6	0.2	-4.2	-12.3
Canada	2.6	10.8	17.6	25.2	43.8	7.8	13.4	18.0	23.5	37.3	5.2	2.6	0.3	-1.7	-6.5
Denmark	1.1	10.6	19.6	26.7	42.1	9.9	15.0	19.1	23.1	32.9	8.8	4.4	-0.5	-3.6	-9.2
Finland	3.1	11.0	18.3	25.5	42.2	10.4	15.1	18.8	22.8	33.0	7.3	4.1	0.5	-2.7	-9.2
France	0.8	8.3	15.3	23.1	52.5	7.4	12.1	15.6	20.3	44.7	6.5	3.7	0.3	-2.8	-7.8
Germany	1.4	11.1	18.2	25.5	43.9	9.4	14.3	18.0	22.7	35.7	8.0	3.2	-0.2	-2.8	-8.2
Netherlands	1.4	11.6	18.3	25.7	43.1	9.6	14.4	18.1	23.1	34.9	8.3	2.8	-0.2	-2.6	-8.2
Norway	2.4	12.1	18.9	25.3	41.2	9.9	15.1	18.7	22.6	33.8	7.5	3.0	-0.3	-2.7	-7.5
Sweden	1.3	8.9	18.6	26.8	44.4	10.0	15.5	19.0	22.9	32.6	8.8	6.5	0.3	-3.9	-11.8
Switzerland	3.1	12.5	17.9	24.2	42.3	8.6	13.8	17.7	22.5	37.5	5.4	1.3	-0.2	-1.7	-4.9
UK	0.8	8.2	17.1	26.0	48.0	7.5	12.3	17.0	23.2	40.0	6.8	4.1	-0.1	-2.8	-7.9
US	2.2	9.5	16.3	24.4	47.6	6.1	12.0	17.3	23.7	41.0	3.9	2.5	1.0	-0.7	-6.6
MEAN	1.7	10.2	17.9	25.5	44.8	8.8	13.9	18.0	22.9	36.5	7.1	3.7	0.1	-2.6	-8.3

Figure 1. Mean Pre- and Post-government Quintile Shares by LIS Wave
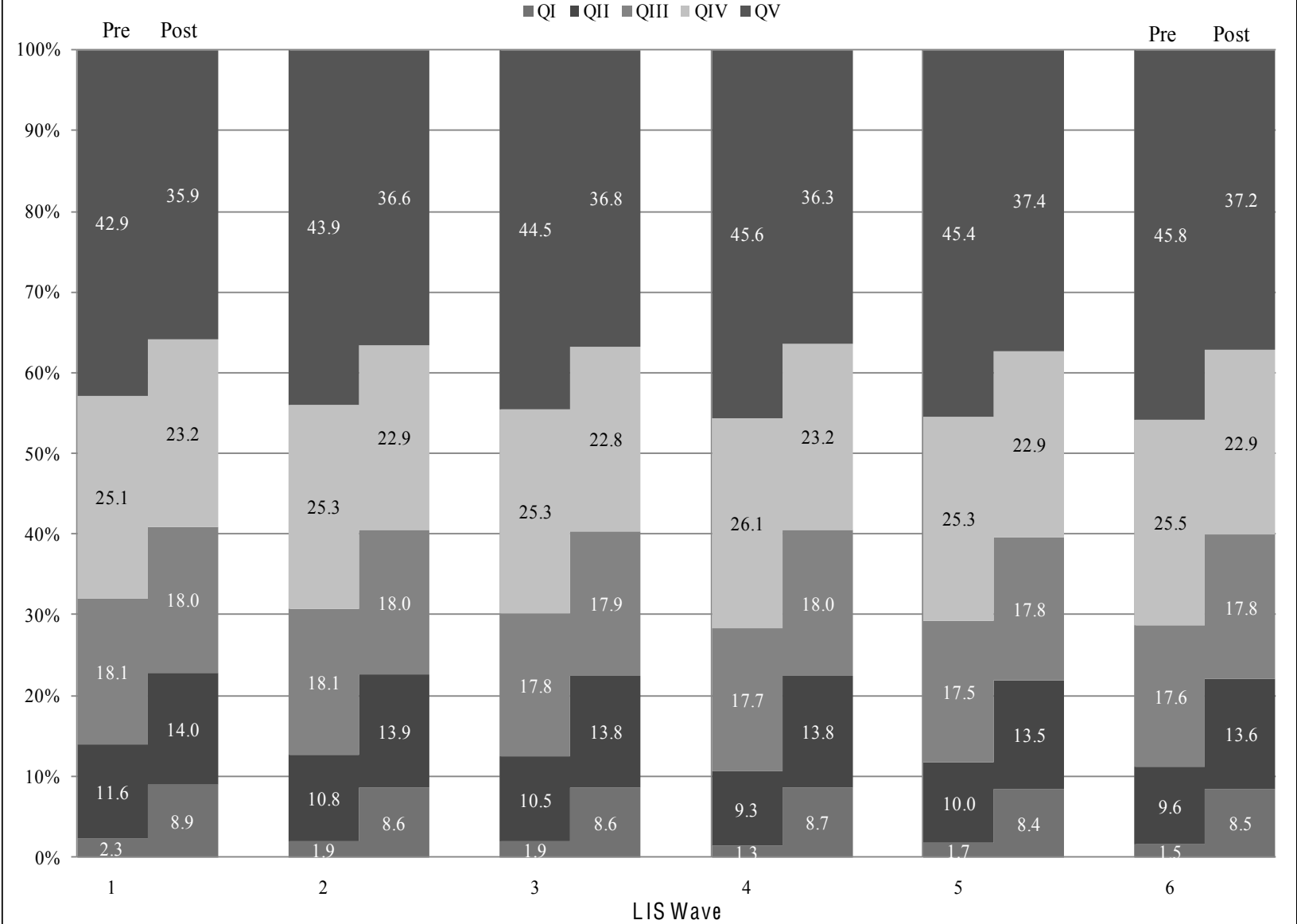
Table 2. Mean Pre-government Income Plus Pensions: Quintiles and Pensionless Redistribution

	Pre-government plus pension shares					Redistribution by share				
Country	QI	QII	QIII	QIV	QV	QI	QII	QIII	QIV	QV
Australia	3.2	10.7	17.3	25.1	43.7	4.6	2.2	0.4	-1.2	-6.1
Belgium	4.8	12.0	18.0	24.9	40.3	5.1	2.7	0.7	-1.6	-7.0
Canada	4.5	11.6	17.5	24.4	41.9	3.3	1.8	0.4	-0.9	-4.6
Denmark	4.2	12.3	19.0	25.2	39.3	5.6	2.7	0.1	-2.0	-6.4
Finland	5.5	12.5	18.1	24.3	39.6	4.8	2.6	0.7	-1.5	-6.6
France	5.3	11.8	17.1	23.5	42.3	2.1	0.3	-1.5	-3.2	2.3
Germany	6.4	12.8	17.5	23.5	39.8	3.0	1.5	0.5	-0.8	-4.0
Netherlands	4.0	12.8	17.8	24.5	40.9	5.6	1.6	0.2	-1.4	-6.0
Norway	5.9	13.2	18.3	23.8	38.7	3.9	1.9	0.4	-1.2	-5.0
Sweden	5.2	13.0	18.5	24.3	39.1	4.9	2.5	0.5	-1.4	-6.4
Switzerland	7.6	13.3	17.4	22.8	38.9	1.0	0.5	0.2	-0.2	-1.5
UK	2.4	9.9	17.0	25.1	45.7	5.1	2.4	0.1	-1.9	-5.6
US	3.8	10.4	16.3	23.8	45.8	2.3	1.6	1.0	-0.1	-4.8
MEAN	4.8	12.0	17.7	24.2	41.2	4.0	1.9	0.3	-1.4	-4.7

Table 3. Mean Quintile Transition Matrix for Conventional and Pensionless Redistribution

Country	No move	Low to Middle	High to Middle	Middle to Low	Middle to High	In Middle: Down	In Middle: Up	Net Middle	Net* move upward
Australia	78.3	5.2	1.4	3.9	1.2	5.2	3.9	1.4	0.5
Belgium	50.8	12.6	4.4	7.5	3.9	13.2	7.0	5.6	-1.0
Canada	68.4	7.3	2.0	5.0	2.0	7.5	7.7	2.2	2.5
Denmark	60.3	7.2	3.5	6.7	2.7	12.0	7.1	1.3	-4.9
Finland	62.6	5.3	3.4	6.6	3.7	10.9	7.4	-1.5	-4.4
France	51.9	11.3	4.2	8.5	2.9	15.0	4.6	4.1	-7.2
Germany	51.6	9.8	4.4	8.8	3.6	15.4	5.8	1.8	-8.9
Netherlands	57.9	10.1	3.3	6.1	3.5	11.0	7.7	3.8	1.2
Norway	61.5	5.8	3.5	5.7	3.6	11.3	8.5	0.1	-2.6
Sweden	48.3	8.4	4.7	11.9	4.4	13.0	8.9	-3.2	-8.1
Switzerland	61.2	10.2	2.8	6.8	2.6	10.6	5.0	3.6	-1.7
UK	64.0	8.6	2.5	5.9	2.3	8.5	8.1	3.0	2.1
US	70.8	6.8	1.9	4.5	2.1	7.5	6.2	2.1	1.2
MEAN	60.6	8.4	3.2	6.8	3.0	10.9	6.8	1.9	-2.4
Pensionless Redistribution									
Australia	79.3	4.5	1.3	5.8	1.2	4.3	3.6	-1.2	-2.2
Belgium	70.8	4.2	3.1	5.2	2.7	8.3	5.8	-0.7	-3.9
Canada	80.7	2.9	1.6	3.5	1.5	5.1	4.7	-0.4	-1.0
Denmark	58.5	7.3	3.5	9.1	2.5	12.9	5.7	-0.7	-9.4
Finland	68.3	4.0	3.0	5.3	3.0	9.9	6.5	-1.4	-4.7
France	73.5	3.3	2.0	6.4	1.3	9.3	4.3	-2.4	-8.8
Germany	67.2	3.8	3.6	3.8	3.2	10.4	7.9	0.4	-2.9
Netherlands	69.9	6.1	2.8	5.4	2.6	8.1	4.7	0.8	-2.6
Norway	70.2	3.8	3.0	4.6	2.9	9.1	6.3	-0.7	-3.7
Sweden	57.4	5.6	3.8	9.6	3.0	13.3	7.1	-3.3	-11.0
Switzerland	79.4	3.2	2.0	2.7	2.0	5.3	5.2	0.6	0.3
UK	68.7	6.9	2.3	7.7	1.8	7.4	5.1	-0.4	-3.6
US	84.7	1.9	1.4	2.0	1.6	4.3	4.1	-0.2	-0.1
MEAN	71.4	4.4	2.6	5.5	2.2	8.3	5.5	-0.7	-4.1

*Includes net movement from lowest to highest quintile, not shown in the table.

Table 4. PCTS Regression Results, Conventional and Pensionless Redistribution

| VARIABLES	Conventional Redistribution					Pensionless Redistribution				
	(1) QI	(2) QII	(3) QIII	(4) QIV	(5) QV	(1) QI	(2) QII	(3) QIII	(4) QIV	(5) QV
Turnout	0.0643***	0.0186**	-0.0116*	-0.0294***	-0.0568**	0.0876***	0.0171	-0.0131	0.0134	-0.105*
	(0.0166)	(0.00709)	(0.00560)	(0.00557)	(0.0195)	(0.0260)	(0.0227)	(0.0151)	(0.0253)	(0.0531)
Left cabinet seats	-0.00585*	-0.00312	-0.000826	0.000230	0.00812	-0.0136*	-0.00805	-0.000379	0.00183	0.0194
	(0.00328)	(0.00244)	(0.00136)	(0.00215)	(0.00638)	(0.00684)	(0.00614)	(0.00567)	(0.00586)	(0.0181)
Globalization	0.0384**	0.0168*	-0.00125	-0.0141**	-0.0409**	0.0869***	0.0333	-0.00392	0.00592	-0.127*
	(0.0170)	(0.00790)	(0.00430)	(0.00551)	(0.0168)	(0.0199)	(0.0232)	(0.0239)	(0.0173)	(0.0689)
% population elderly	0.311***	0.204***	-0.0593**	-0.302***	-0.369**	-0.254*	-0.0642	0.0651	0.0205	0.264
	(0.0931)	(0.0535)	(0.0271)	(0.0397)	(0.133)	(0.134)	(0.171)	(0.128)	(0.106)	(0.333)
Unemployment rate	0.0121	0.0495	0.0197	-0.0825**	-0.155**	-0.224*	0.0671	0.0938**	0.0638	-0.0763
	(0.0377)	(0.0341)	(0.0178)	(0.0349)	(0.0637)	(0.113)	(0.111)	(0.0385)	(0.0482)	(0.199)
Union density	0.0113	0.0281***	0.0123**	-0.00271	-0.0332**	0.0275	0.0122	-0.0202	-0.0374***	0.0277
	(0.00835)	(0.00586)	(0.00403)	(0.00374)	(0.0136)	(0.0238)	(0.0201)	(0.0152)	(0.00704)	(0.0544)
QI share (pre-government)	-0.364***					-0.889***				
	(0.0861)					(0.218)				
QII share (pre-government)		-0.541***					-0.814***			
		(0.0687)					(0.132)			
QIII share (pre-government)			-0.270**					-0.238		
			(0.118)					(0.341)		
QIV share (pre-government)				-0.0546					-1.009**	
				(0.154)					(0.428)	
QV share (pre-government)					-0.172					-0.488***
					(0.110)					(0.122)
Constant	-4.964**	2.110	6.115**	7.131**	14.41***	1.109	7.838**	4.006	21.72**	28.23***
	(1.707)	(1.392)	(2.357)	(3.235)	(4.476)	(3.564)	(3.081)	(6.531)	(9.079)	(6.899)
R-squared	0.811	0.896	0.489	0.829	0.705	0.571	0.403	0.318	0.489	0.289

Robust standard errors in parentheses; *** $p<0.01$, ** $p<0.05$, * $p<0.1$, two-tailed test;   n=71

Table 5. PCTS Regression Results, Conventional and Pensionless Mobility from Redistribution

VARIABLES	Conventional Redistribution				Pensionless Redistribution			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
	No Movement	Low to Middle	Net Middle	Net move Upward	No Movement	Low to Middle	Net Middle	Net move Upward
Turnout	-0.0990	0.0166	0.00744	-0.0899	-0.191**	0.0523**	0.00166	-0.0514
	(0.123)	(0.0311)	(0.0288)	(0.0506)	(0.0752)	(0.0207)	(0.0173)	(0.0370)
Left cabinet seats	0.0259	-0.00164	0.00574	0.0121	0.0143	-0.00454	-0.00840	-0.00194
	(0.0328)	(0.00952)	(0.0113)	(0.0202)	(0.0224)	(0.00522)	(0.00487)	(0.0128)
Globalization	0.0555	0.0354	0.0721*	0.196**	0.00509	0.0472**	0.0215	0.0590
	(0.133)	(0.0250)	(0.0361)	(0.0653)	(0.0953)	(0.0209)	(0.0228)	(0.0580)
% population elderly	-4.227***	0.830***	0.0873	-1.607***	-2.360***	0.124	-0.0294	-0.656*
	(0.707)	(0.117)	(0.124)	(0.380)	(0.507)	(0.112)	(0.142)	(0.348)
Unemployment rate	-1.071*	0.358**	0.386	0.104	-0.377	-0.0505	0.0373	-0.0417
	(0.595)	(0.138)	(0.224)	(0.424)	(0.270)	(0.0741)	(0.0970)	(0.238)
Union density	0.0851	-0.0768***	-0.0936***	-0.00251	-0.129**	0.0156	-0.0246	-0.0676
	(0.0692)	(0.0180)	(0.0210)	(0.0368)	(0.0482)	(0.0147)	(0.0161)	(0.0410)
Gini (pre-government)	40.66	-6.294	-16.72*	20.52	-13.00	20.32	-12.97*	-19.34
	(39.25)	(9.209)	(8.319)	(27.10)	(26.55)	(11.65)	(6.074)	(17.73)
Constant	110.4***	-4.071	2.848	3.068	132.7***	-13.78**	4.694	16.53**
	(20.19)	(4.972)	(4.214)	(12.33)	(12.25)	(4.664)	(3.255)	(7.395)
R-squared	0.612	0.529	0.472	0.415	0.742	0.476	0.287	0.480

Robust standard errors in parentheses; *** $p<0.01$, ** $p<0.05$, * $p<0.1$, two-tailed test; n=71

Figure 2. Electoral Turnout, Percent Voting by Quintile
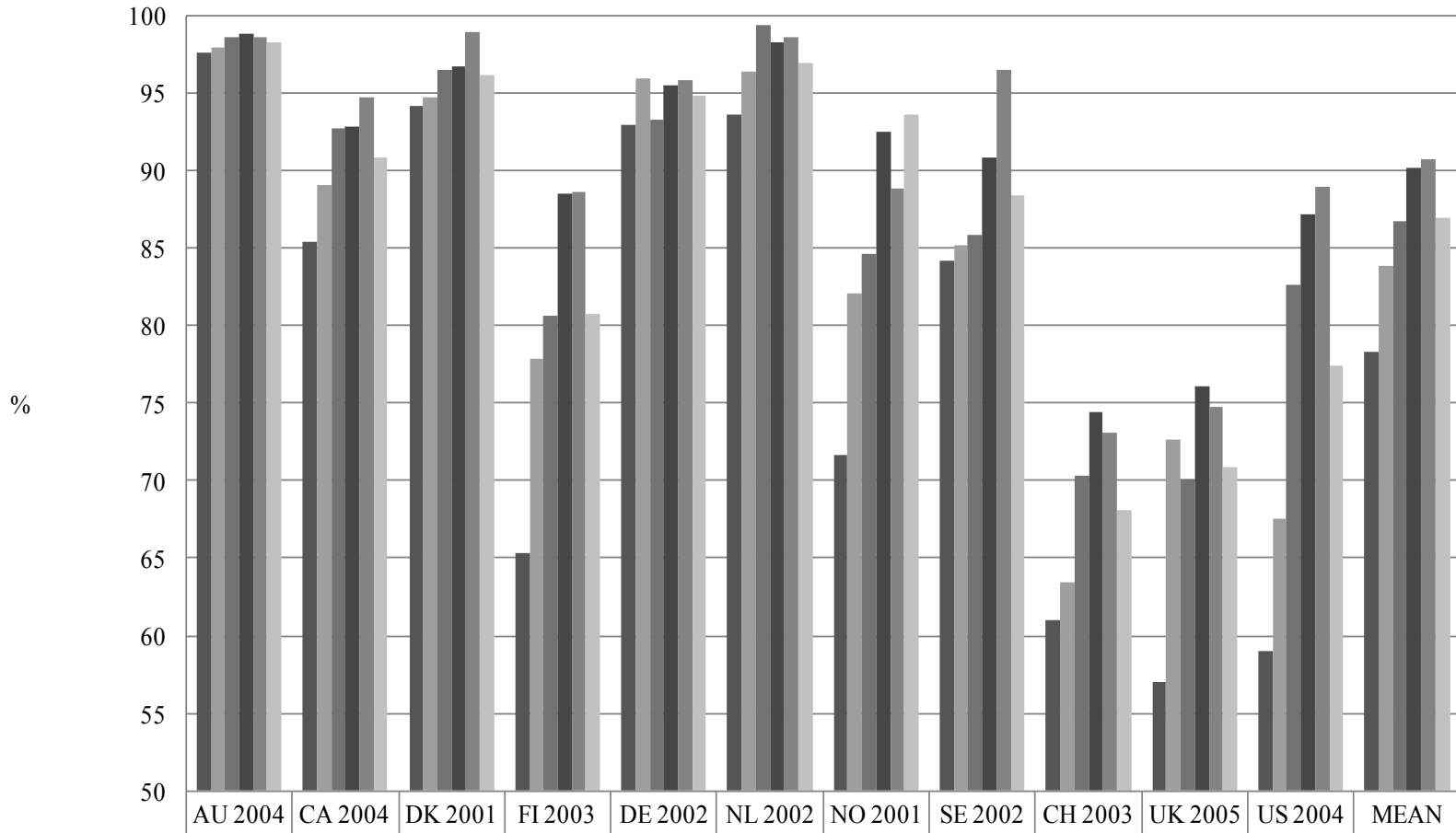
	AU 2004	CA 2004	DK 2001	FI 2003	DE 2002	NL 2002	NO 2001	SE 2002	CH 2003	UK 2005	US 2004	MEAN
Quintile I	97.6	85.4	94.2	65.3	93.0	93.6	71.7	84.2	61.0	57.0	59.0	78.4
Quintile II	98.0	89.1	94.7	77.9	96.0	96.4	82.1	85.2	63.4	72.7	67.5	83.9
Quintile III	98.6	92.7	96.5	80.6	93.3	99.4	84.6	85.9	70.3	70.1	82.6	86.8
Quintile IV	98.8	92.8	96.7	88.5	95.5	98.3	92.5	90.8	74.4	76.1	87.2	90.1
Quintile V	98.6	94.7	98.9	88.6	95.8	98.6	88.9	96.5	73.1	74.8	89.0	90.7
Quintile Mean	98.3	90.9	96.2	80.7	94.8	97.0	93.6	88.4	68.1	70.9	77.4	86.9

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Table 6. Three Alternative Modes of Political Participation, by Quintile

Contacting Elected Officials or Representatives						
Country/Election	Quintile I	Quintile II	Quintile III	Quintile IV	Quintile V	Quintile Average
Australia 2004	23.7	31.2	25.6	31.7	34.8	29.3
Canada 2004	27.9	36.0	36.9	41.3	38.8	36.0
Denmark 2001	16.8	18.4	20.9	22.3	26.8	21.0
Finland 2003	10.5	11.8	10.8	15.2	27.5	14.4
Germany 2002	8.4	9.9	8.9	13.1	20.4	12.5
Netherlands 2002	8.0	13.9	15.4	16.9	19.3	14.4
Norway 2001	8.9	15.7	13.3	14.0	20.5	14.5
Sweden 2002	9.3	11.8	11.6	16.0	18.8	13.5
Switzerland 2003	8.0	8.5	13.4	13.1	18.2	12.2
UK 2005	13.5	23.2	15.6	19.1	25.9	20.0
US 2004	12.7	20.9	32.9	28.9	48.6	28.8
MEAN	13.4	18.3	18.7	21.1	27.2	19.7
Participation in Protests and Demonstrations						
Australia 2004	11.0	10.5	13.2	17.0	19.0	13.9
Canada 2004	10.6	15.0	15.7	18.4	14.5	14.6
Denmark 2001	10.5	10.6	8.2	11.4	16.4	11.4
Finland 2003	9.7	4.5	4.9	5.2	8.4	6.0
Germany 2002	10.4	9.1	10.4	17.1	13.1	12.1
Netherlands 2002	9.6	8.5	9.7	9.9	11.3	9.7
Norway 2001	13.0	9.7	8.7	14.1	13.7	11.6
Sweden 2002	14.7	8.9	8.5	14.0	9.4	10.9
Switzerland 2003	9.7	12.5	17.7	21.6	14.7	14.9
UK 2005	8.3	5.5	7.5	3.9	9.6	6.9
US 2004	6.3	4.7	5.8	7.1	7.1	6.2
MEAN	10.3	9.0	10.0	12.7	12.5	10.7
Working with like-minded people						
Australia 2004	20.1	18.2	25.3	23.5	27.7	22.8
Canada 2004	28.8	30.9	33.1	37.9	36.8	33.3
Denmark 2001	26.5	36.5	38.5	33.5	41.0	35.2
Finland 2003	15.6	15.9	18.2	16.9	29.5	18.7
Germany 2002	24.6	21.2	25.2	25.3	28.9	25.2
Netherlands 2002	6.4	4.3	7.4	9.9	7.5	7.3
Norway 2001	30.1	33.2	40.0	41.0	39.9	36.8
Sweden 2002	13.4	14.2	12.3	15.3	20.1	14.7
Switzerland 2003	17.5	21.1	26.8	31.8	29.5	25.0
UK 2005	11.9	14.5	13.0	11.0	18.5	13.9
US 2004	23.7	31.6	34.1	40.1	43.4	34.8
MEAN	19.9	22.0	24.9	26.0	29.3	24.3

Source: Authors' calculations from the Comparative Study of Electoral Systems.

Figure 3. Union Membership, Percent by Quintile
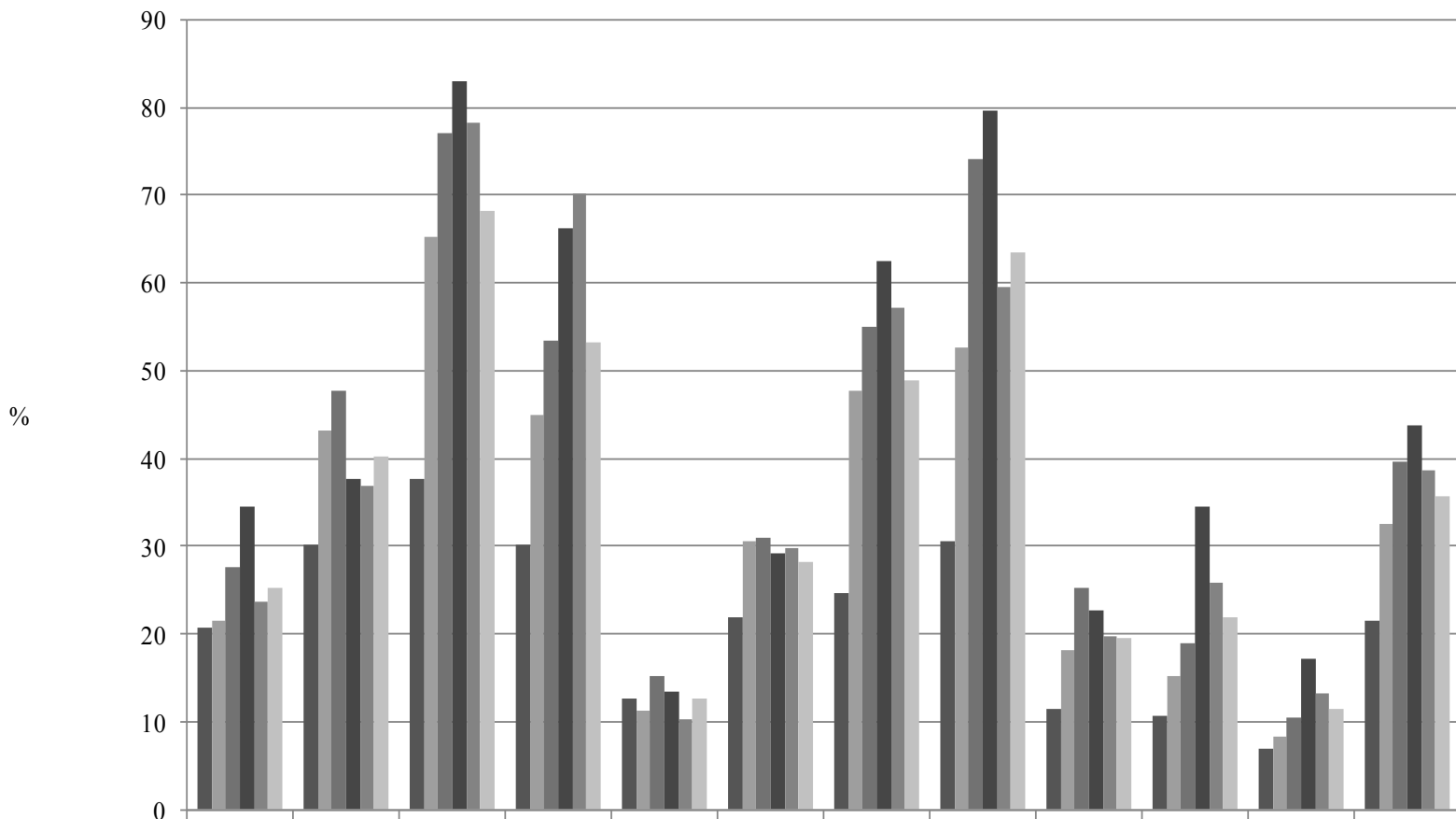
	AU 2004	CA 2004	DK 2001	FI 2003	DE 2002	NL 2002	NO 2001	SE 2002	CH 2003	UK 2005	US 2004	MEAN
■ Quintile I	20.8	30.1	37.6	30.1	12.7	22.0	24.6	30.5	11.4	10.7	6.9	21.6
■ Quintile II	21.5	43.2	65.2	45.0	11.2	30.6	47.7	52.7	18.1	15.3	8.3	32.6
■ Quintile III	27.6	47.7	77.1	53.5	15.2	30.9	55.1	74.1	25.2	18.9	10.5	39.6
■ Quintile IV	34.5	37.7	83.1	66.2	13.5	29.3	62.6	79.6	22.7	34.6	17.1	43.7
■ Quintile V	23.6	36.8	78.3	70.1	10.3	29.7	57.1	59.5	19.8	25.9	13.2	38.6
■ Quintile Mean	25.3	40.2	68.2	53.2	12.6	28.2	49.0	63.4	19.5	21.9	11.4	35.7

Table 7. Multilevel Null and Level 1 Models, Household Redistribution for 11 Countries

	Null					Null with Level 1 Variables				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
NULL	QI	QII	QIII	QIV	QV	QI	QII	QIII	QIV	QV
Intercept	73.533	15.042	-11.146	-20.489	-27.483	51.902	7.008	-14.938	-22.376	-28.197
	3.354	3.094	1.266	1.081	1.143	2.251	2.808	1.250	1.011	1.119
Number	-	-	-	-	-	3.223	13.448	14.417	11.704	7.177
Elderly	-	-	-	-	-	0.483	0.153	0.135	0.119	0.135
No earners	-	-	-	-	-	27.060	10.595	6.818	7.390	9.665
	-	-	-	-	-	0.786	0.253	0.264	0.260	0.319
Child	-	-	-	-	-	3.576	1.838	2.819	1.884	†0.031
	-	-	-	-	-	0.975	0.190	0.114	0.081	0.097
Intercept	121.85	105.390	17.581	12.835	14.374	48.779	86.773	17.135	11.239	13.761
Variance	11.04	10.266	4.193	3.583	3.791	6.984	9.315	4.139	3.353	3.710
Residual	7571.17	491.070	199.928	98.777	107.878	7426.512	356.902	144.238	74.501	96.374
Variance	87.012	22.160	14.140	9.939	10.386	86.177	18.892	12.010	8.631	9.817
ICC	0.016	0.177	0.081	0.115	0.118	-	-	-	-	-
Observations	72683	55468	51645	51621	52610	72683	55468	51645	51621	52610

†Not significant. All other estimates significant at p < 0.01. Top number is the estimate; bottom number is the s.e./s.d. (variances).

Table 8. Multilevel Full Models (selected results by quintile), Household Redistribution for 11 Countries

VARIABLES	QI			QII	QIII	QIV	QV		
Constant	*** 51.915	*** 52.900	*** 52.647	*** 7.695	*** -14.162	*** -21.823	*** -28.488	*** -28.480	*** -27.236
	2.089	2.257	2.194	2.542	1.182	0.984	0.952	1.047	1.177
Number Elderly	*** 3.231	*** 3.224	*** 3.230	*** 13.448	*** 14.418	*** 11.704	*** 7.177	*** 7.177	*** 7.176
	0.483	0.483	0.483	0.153	0.135	0.119	0.135	0.135	0.135
No earners	*** 27.036	*** 27.081	*** 27.052	*** 10.594	*** 6.818	*** 7.390	*** 9.666	*** 9.664	*** 9.665
	0.786	0.786	0.786	0.253	0.264	0.260	0.319	0.319	0.319
Child	*** 3.580	*** 3.580	*** 3.556	*** 1.838	*** 2.819	*** 1.884	0.031	0.031	0.031
	0.975	0.975	0.975	0.190	0.114	0.081	0.097	0.097	0.097
Turnout	*0.184						**-0.230		
	0.132						0.108		
Union density								*-0.065	
								0.045	
Contact			*0.410			*0.161			*0.172
			0.313			0.105			0.108
Work Together		*0.363							
		0.280							
Protest				**-1.349	**-0.514				
				0.812	0.289				
Intercept Variance (Level 2)	***41.126	***42.596	***42.512	***69.092	***13.229	***9.2215	***9.7418	***11.608	***11.185
	6.413	6.527	6.520	8.312	3.637	3.037	3.121	3.407	3.344
Residual Variance (level 1)	7426.519	7426.503	7426.501	356.902	144.238	74.501	96.374	96.374	96.374
	86.177	86.177	86.177	18.892	12.010	8.631	9.817	9.817	9.817
Between (Level 2)	0.157	0.127	0.128	0.204	0.228	0.180	0.292	0.156	0.187
Within (Level 1)	0.019	0.019	0.019	0.273	0.279	0.246	0.107	0.107	0.107

*** $p<0.01$, ** $p<0.05$, * $p<0.10$, one-tailed test. Top number is the estimate; bottom number is the s.e./s.d. (variances).

TECHNICAL APPENDIX ON MULTILEVEL ANALYSIS

The null model (with no level-1 or level-2 predictors) for the household i in country j and in quintile q is expressed as:

$$Y_{ijq} = \beta_{0jq} + \varepsilon_{ijq}, \tag{1}$$

where β_{0jq} is the intercept and ε_{ijq} is a variation in estimating net household redistribution within countries. The variation in intercepts (between countries) is expressed as:

$$\beta_{0jq} = \gamma_{00q} + u_{0jq}, \tag{2}$$

where γ_{00} is the intercept at level-1 and u_{0j} is the level-2 (between-country) variation in intercepts. Therefore, our null model can be rewritten as a single equation from (1) and (2), which becomes

$$Y_{ijq} = \gamma_{00q} + u_{0jq} + \varepsilon_{ijq}. \tag{3}$$

This model is presented in Table 7 for each quintile sample. Also in the same table, we present the individual-level (level-1) random intercept models for each quintile, which adds the within countries fixed slope to equation (3) for each individual level independent variable. The equation for this model is expressed as:

$$Y_{ijq} = \gamma_{00q} + u_{0jq} + \beta_1(child)_{ijq} + \beta_2(elderly)_{ijq} + \beta_3(earners)_{ijq} + \varepsilon_{ijq}. \tag{4}$$

Since the within-country slopes are fixed ($\beta_{1j} = \gamma_{10}, \beta_{2j} = \gamma_{20}, \beta_{3j} = \gamma_{30}$) the above equation can be formalized as

$$Y_{ijq} = \gamma_{00q} + u_{0jq} + \gamma_{10}(child)_{ijq} + \gamma_{20}(elderly)_{ijq} + \gamma_{30}(earners)_{ijq} + \varepsilon_{ijq}. \tag{5}$$

where gamma slopes do not vary across countries. Table 8 presents the country-level (level-2) random intercept models, which add explanatory variables (turnout, union density, protest, work together, and contact) to the previous models. These are estimated for each quintile at the country level (level-2) to explain the variability in intercepts across countries. Therefore, we add to equation (2) level-2 predictor, one by one, for each quintile sample

$$\beta_{0jq} = \gamma_{00q} + u_{0jq} + \gamma_{01n}(Z_n)_{jq}, \tag{6}$$

where Z_n represents the explanatory variables on the country level and the subscript n=1,...,5 denotes our participation variables inserted into equation one at the time, thus creating 25 equations (5 quintiles x 5 predictors at the country level). Specifically, $Z_1 = turnout$, $Z_2 = union$, $Z_3 = protest$, $Z_4 = work$, and $Z_5 = contact$. The final model can be written as a complex regression equations by combining equation (5) and (6) in the following way:

$$Y_{ijq} = \gamma_{00q} + u_{0jq} + \gamma_{01n}(Z_n)_{jq} + \gamma_{10}(child)_{ijq} + \gamma_{20}(elderly)_{ijq} + \gamma_{30}(earners)_{ijq} + \varepsilon_{ijq}. \tag{7}$$

These multilevel models were then estimated with the maximum likelihood method using R software.

Endnotes

[1] One exception is Pressman (2007); see also Pressman (2010).

[2] Specifically, households are equivalized by the square root of the number of members and weighted by household size, and the standard LIS conventions for top and bottom coding are employed. Pre-government income includes income from market sources as well as private inter-household transfers, such as gifts, inheritances, alimony and child support. Households reporting zero pre-government income are included, but those reporting zero disposable income are dropped.

[3] Second order dynamics can affect any age group, but those associated with the elderly have tended to cause the most concern.

[4] A more detailed discussion of second order effects associated with pensions is offered in Jesuit and Mahler (forthcoming).

[5] This entails adding LIS variable v19 ("public sector pensions") to household private income. One minor exception is Norway, 1986, which includes sick and disability pay along with retirement benefits (in LIS variable v17 rather than v19).

[6] France is an unusual case in that, unlike in any other country, the top quintile is a net beneficiary of pensionless redistribution. On closer inspection, however, this finding is likely due to the fact that 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.

[7] For a discussion see Jenkins and Van Kerm (2006).

[8] Examples of recent work on the topic include Bradley et al. (2003); Pontusson (2005); Iversen (2005); and Kenworthy (2008).

[9]Figures for all countries but the U.S. are from the International Institute for Democracy and Electoral Assistance (IDEA) (2009). They measure the share of voters in the registered electorate except in France and the U.S., where registration is not automatic; in these countries, they reflect the share of voters in the voting aged population.

[10] Since our LIS surveys constitute an unbalanced pool (i.e., the years of LIS surveys vary slightly and not all countries are represented by surveys in all years) the analysis employs OLS regression with Huber White "sandwich" robust standard errors clustered by country. Similar studies which employ this method include Bradley et al. (2003); Kenworthy and Pontusson (2005); and Brooks and Manza (2007). Regressions were conducted using Stata 11.0.

[11] The bane of those conducting even the most authoritative national election studies is that turnout rates are almost always higher than those reported at the aggregate level, through some combination of selective memory on the part of respondents and under-sampling of difficult-to-reach groups. On the other hand, aggregate statistics also have problems, particularly in measuring the denominator of turnout rates. Registration lists or census figures may, for example, be out of date, including some persons who have recently died or moved, making turnout rates appear lower than they actually are. For a detailed discussion of measuring turnout see Franklin (2004).

[12] Rates are much higher in two other developed countries: France and Spain. France is not included in our 11-country survey because it is not represented in LIS Wave V or IV, which are closest in time to CSES surveys, and Spain is not included because it is a net income dataset.

[13] See the Technical Appendix for details.

[14] This variable is coded 0, 1 or 2 (for 2 or more).

[15] We center the participation variables on their grand means.

[16] Since we rank households into quintiles based on their private income, the high level of redistribution reported in the lowest quintile reflects the large number of public pension recipients in this group while the top quintile reflects the progressive income tax systems in our sample of countries.