Positional Deprivation and Support for Redistribution and Social Insurance in Europe

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Abstract

We argue that support for redistribution increases when one experiences "positional deprivation," where one's own income increases slower or decreases faster compared to that of others in one's country. This specific combination of economic suffering *over-time* and *relative* to others, we explain, has effects beyond well-studied measures of suffering that are static and/or absolute in nature, such as the level and growth of household income. The article empirically explores this hypothesis by using objective measures of positional deprivation derived from the Luxembourg Income Studies and the European Social Survey, and by using subjective measures of positional deprivation derived from an original survey in 13 European countries. We find that those whose recent income growth is outpaced by the average and/or richest members of their country are significantly more likely to support redistribution. Furthermore, we find that these effects of positional deprivation hold above-and-beyond static and/or absolute measures of economic experience.

1. Introduction

We know from centuries of study of political economy that individuals' economic misfortune or vulnerability can be fundamental to political support for policies regulating economic distribution and social security. In considering such economic positions, existing scholarship has tended to emphasize a person's misfortune in terms that are static (at a given moment in time) and absolute (relative to one's own position, not that of others). Occasionally, such studies might also investigate either dynamic (over-time) or relative (between-group) misfortune. However, virtually all scholarship neglects the specific combination of dynamic and relative misfortunes. This silence is a problem for our understanding of the politics of social policymaking, because the combination of over-time and relative (between-group) misfortune can be expected to play a distinct role in fostering economic insecurities and demands for policies to redress inequalities.

In this article, we focus on precisely this combination of over-time and relative misfortune, by exploring how attitudes towards welfare state redistribution might be influenced by "positional deprivation," where an individual's growth in income is outpaced by the income growth of others in one's own country. Such positional deprivation more directly captures the combination of dynamic and relative misfortune than its individual components. Accordingly, we expect that this particular combination cannot be reduced to its individual components and affects opinion formation about welfare redistribution in its own way.

The article develops and tests three hypotheses of the implications of such a combination. First, positional deprivation, net of commonly studied static or absolute measures of economic position, can be expected to awaken insecurities and concerns about economic fortune that strongly spur support for government redistribution.

2

Second, the impact of positional deprivation depends on whether it is relative to the wealthiest or the poorest ends of one's country's income distribution: individuals experiencing what we call "upper-register positional deprivation," where one's income growth is outpaced by that of the wealthiest in one's country, should be more supportive of redistribution than those experiencing "lower-register positional deprivation," where one's income growth is outpaced by that of the poorest households. Third, positional deprivation generally can be expected to more strongly spur support for redistribution than for less-explicitly redistributive welfare state services and risk insurance like unemployment and healthcare assistance.

We empirically test these three hypotheses by combining two studies of individual-level survey data. The first and most extensive analysis focuses on real material, or "objective" measures of positional deprivation applied to European Social Survey (ESS) data on individual-level support for redistribution and social policy in 20 European countries between 2002 and 2014. The ESS individual-level income data is matched to measures of real disposable household income from the Luxembourg Income Study (LIS) across household deciles in the same countries for the period between 1997 and 2014. The resulting dataset yields individual-level measures of positional deprivation based on 5-year real, disposable income growth of a respondent's own decile's household, subtracted from the growth experienced by other deciles in the respondent's country-year. Results show that respondents in a given country-year facing higher average positional deprivation more strongly support government redistribution than do those experiencing lower positional deprivation. The LIS-ESS data also suggest that *upper-register* positional deprivation (i.e., relative to the richest) makes respondents more likely to support government redistribution than does *lower-register* positional deprivation (i.e., relative to the poorest).

Furthermore, LIS-ESS data provides modest evidence that positional deprivation spurs support for redistribution more strongly than support for unemployment protection, health services, childcare services. These patterns corroborate our hypotheses and do so above-and-beyond traditionally studied economic conditions, such as individual income or education levels or aggregate inequality levels.

The second empirical analysis focuses on a survey, in thirteen EU countries, that allows us to focus on respondents' *perceptions* of their positional deprivation. The survey includes a measure of whether a respondent feels that his or her own household income has declined more rapidly or increased less rapidly than the growth experienced by the average household in his or her country. Such "subjective positional deprivation" strongly positively correlates with support for government redistribution, and less strongly with support for unemployment assistance.

Taken together, the findings provide substantial evidence that both objective and subjective measures of positional deprivation, capturing the combination of over-time and between-group economic suffering, increase support for government redistribution in Europe – above-and-beyond more commonly-studied measures of economic experience.

2. Dynamic and Relative Economic Experience: *Positional Deprivation*
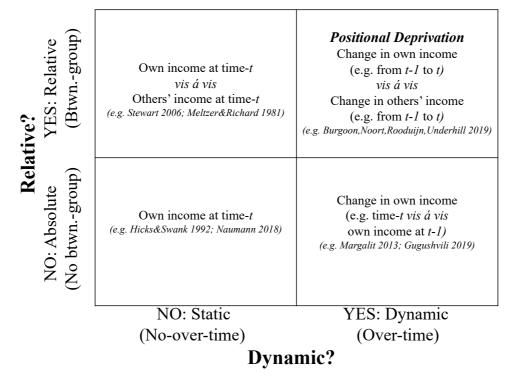
Individual economic conditions are staples in the study of political economy generally, and of support for government redistribution and welfare states in particular. Previous research focuses on individual economic circumstances, including education, skill, occupation, socio-economic class, and individual or household wealth or income – all seen as fundamental drivers of the degree to which individuals support redistribution and welfare state policies (Alber, 1984; Esping-Andersen,

1990; Schumaker et al., 1996; Svallfors, 1997; Gingrich & Hausermann 2015).

Debates abound as to which individual economic conditions matter, which sources of risk and suffering are most important, whether egocentric or socio-tropic conditions matter, and the extent to which such economic interests matter relative to broader, more altruistic standards or values (Häusermann, 2018; Steele & Breznau, 2019).

In studies of welfare states and redistribution, most theoretical and particularly empirical work has focused on either *absolute* (as opposed to *relative or between-group*) and/or *static* (as opposed to *dynamic or over-time*) features of economic position. Focusing on the static-dynamic and the absolute-relative dimensions on which to conceptualize economic position, we distinguish four categories of economic position that are relevant to social policy contestation. Figure 1 summarizes these distinct types of economic wellbeing/misfortune, including the largely overlooked combination of dynamic and relative misfortune that we call "positional deprivation."

Figure 1:
The Relative and Dynamic Dimensions of Income/wellbeing

	NO: Static (No-over-time)	YES: Dynamic (Over-time)
YES: Relative (Btwn.-group)	Own income at time-*t* *vis á vis* Others' income at time-*t* *(e.g. Stewart 2006; Meltzer&Richard 1981)*	***Positional Deprivation*** Change in own income (e.g. from *t-1* to *t*) *vis á vis* Change in others' income (e.g. from *t-1* to *t*) *(e.g. Burgoon,Noort,Rooduijn,Underhill 2019)*
NO: Absolute (No btwn.-group)	Own income at time-*t* *(e.g. Hicks&Swank 1992; Naumann 2018)*	Change in own income (e.g. time-*t vis á vis* own income at *t-1*) *(e.g. Margalit 2013; Gugushvili 2019)*

Relative?

Dynamic?

First, plenty of scholarship has explored the wellsprings of support for redistribution as a function of individual or aggregate income, understood in terms that are both *static and absolute* (see the lower-left quadrant of Figure 1). The idea, here, is that poor or deprived people in a country can be expected to suffer in their achievement of human wants and social rights, making them more inclined to prefer public policies and government interventions that can remedy their own suffering (Beramendi & Rehm, 2016; Corneo & Gruner 2002; Hariri et al., 2020; Häusermann, et al., 2019; Hicks 1999; Hicks & Swank 1992; Jaeger, 2009; Linos & West, 2003; Naumann, 2018; Waglé, 2008). The relevant suffering or wellbeing is contained to one's own experience, not that of others, and the suffering or wellbeing is defined in terms of the level of economic well-being at a particular moment in time rather than relative to the past. Consistent with such conceptions are studies emphasizing some basis generating risk of income loss or insecurity, such as skill-biased technical developments, trade or other globalization shocks, migration etc., for particular segments of a population (Cusack et al. 2008; Rehm 2009, 2011; Walter 2010). A stable finding in these studies is of stronger support for redistribution among lower income groups or groups in precarious positions, whose support reflects higher likelihood of becoming a beneficiary of welfare provisions and progressive taxation.

Second, substantial scholarship on economic (mis)fortune and support for redistribution and welfare states focuses on experiences that are *relative* – focused on between-group characteristics, but static (focused on a particular moment in time). This conception is captured in the upper-left quadrant in Figure 1. Such a focus has deep roots in socio-economic research (e.g. Veblen 1909). This includes sociological and psychological literature on "relative deprivation," focused on the lack of resources to sustain the lifestyle that is widely encouraged or approved in the group to which

one counts oneself (Crosby, 1976; Runciman, 1966; Walker and Pettigrew, 1984). While this focus sometimes highlights absolute or dynamic conceptions of relative deprivation, more often the focus is on economic suffering relative to others (Stewart 2006). A quite stable empirical finding in the literature on deprivation and wellbeing is that general happiness and perceptions of wellbeing are as or more strongly influenced by one's position *relative to* one's peers as by absolute material-economic position (Clark & Oswald 1996; Smith et al. 2012.). With respect to explicit study of support for redistribution, the focus on relative position is also central to the seminal work of Meltzer and Richard (1981), which focuses on a voter's income level (say the median voter) relative to a country's mean income level (cf. Iverson and Soskice 2006; Finseraas 2009; Beramendi and Rehm 2016).

Third, scholarship on the individual-level changes underlying support for welfare states and redistribution focuses on *dynamic* economic experience (i.e., over-time experience) but in a way that involves changes in *one's own* past position and is thus absolute instead of relative in nature. In Figure 1 this theoretical focus falls within the lower-right quadrant. In this quadrant, we can find important work, including some again about "relative deprivation", but where researchers find that a lack of resources to *sustain* or improve one's lifestyle to which one is accustomed to, strongly affects one's emotional well-being (even at relatively high levels of material prosperity) (Walker & Pettigrew, 1984). Other general political economy literature on dynamic (if absolute) experiences, include recent contributions on the causes and effects of intergenerational mobility (e.g., Chetty et al., 2014, 2017; Jerrim & Macmillan, 2015.). Dynamic but absolute mechanisms have also been invoked in the literature on redistribution. These include studies of how support for social policy is affected by changes in personal income position and unemployment (Fernández-

Albertos & Kuo, 2016; Iversen & Cusack, 2000; Jaeger, 2006; Margalit, 2013), by perceptions of income mobility (Guillaud, 2013) and of intergenerational mobility (Gugushvili, 2019). Conceptions of *future* income windfalls and shortfalls might also be relevant to such policy positioning, where poorer citizens expecting future gains can be less supportive of welfare redistribution, and wealthier citizens expecting shortfalls more supportive (Alesina et al., 2018; Alesina & La Ferrara, 2005; Garcia-Muniesa, 2019; Hirschman and Rothschild,1973; Rainer & Siedler, 2008; Ravallion & Lokshin, 2000; Shariff et al., 2016.).

In sum, these three manifestations of economic experience have been found to have important (and often quite distinct) implications for welfare and redistribution. Regardless of how important these conditions may be, none addresses the *combination* of dynamic and relative position. Indeed, we know little about that combination and its measurement, or about how that combination might have distinct and important implications for political support for government redistribution and social insurance.

3. *Positional Deprivation* and Support for Government Redistribution and Social Insurance

One conception that does capture simultaneous dynamic and relative economic misfortune and that can be applied to the politics of welfare redistribution involves what recently has been called "positional deprivation": the extent to which a person has seen his/her income increase less (or decrease more) than the increase (decrease) experienced by others in his/her country.[1] It can for instance capture how

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[1] This label emphasizes the positional part of the concept, even though the dynamic (over time) aspect is just as important. We stick with the shorter (and simpler) locution rather than the label "Dynamic and Positional Deprivation."

someone in a given decile has experienced income growth that is outpaced by the growth of other deciles in society.[2]

Citizens experiencing more positional deprivation – that is, whose own fortunes have regressed or been outpaced in relation to the changes experienced by others – can be expected to feel economically deprived and/or be attuned to feelings of economic unfairness. Absolute over-time deprivation also matters to wellbeing: How much real household income has gone up, in the aggregate or for a given decile of the distribution, likely fosters perceived economic wellbeing, above-and-beyond one's income level (e.g. Veenhoven 1991). Likewise, doing poorly relative to others at a given point in time matters aplenty. However, the combination captured by positional deprivation – progressing less rapidly *relative* to how others in one's country's income spectrum have progressed – can be expected to foster a distinct and strong sense of *relative and dynamic* deprivation.

Applied to the politics of social policies, this distinct, combined dynamic and relative misfortune captured by positional deprivation should spur support for government redistribution. Positional deprivation can be expected to awaken resentments that can go in many different directions, including scapegoating of particular groups associated with nativism or demonizing of elites associated with populism. However, it can also, perhaps particularly, be expected to awaken concern about and distaste for economic inequalities, and demands that something be done to redress economic unfairness – most obviously translating into demands for government intervention to equalize income differences through regulation, taxation, and spending.

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[2] Burgoon et.al. (2019) partly introduces this concept, applied to radical-right and -left populist voting. Other work focused on such voting and party patterns conceptualize and consider the role of status-loss, where the combination of dynamic and positional/relative developments loom large (Bornschier and Kriesi 2015; Gidron and Hall 2017; Gest et al. 2018; Kurer 2020).

Our expectation is that such demands in the wake of a person's own positional deprivation can involve both egocentric and sociotropic reasoning – that is, be focused on redressing one's own economic misfortune but also redressing unfairness that befalls others in one's country (e.g., Cavaille 2014; Mutz & Mondak 1997;). Hence, we expect that positional deprivation breeds pro-redistribution attitudes regardless of where a person sits in the economic spectrum with respect to static-versus-absolute or dynamic-versus-relative distributions. Positional deprivation should – net of absolute or static measures of economic (mis)fortune like income, education and unemployment – spur support for government redistribution.

Hence, the first and main hypothesis:

H1: Individuals experiencing higher positional deprivation (whose income growth is outpaced by the income growth of the average individual in their country) will tend to more strongly support government redistribution than those experiencing lower positional deprivation.

While our principal focus is on how positional deprivation should spur support for government redistribution regardless of one's own particular static or dynamic income position (i.e., the top-right quadrant in Figure 1), corollaries and extensions to this basic hypothesis are possible. For instance, positional deprivation might spur support for government redistribution more or less strongly, depending on one's own absolute level of income or one's own recent income change. We explore some of these contingencies in Supplementary Appendix material (discussed below), but our main claim is that positional deprivation should spur support for redistribution regardless of and beyond one's static income or dynamic income.

We do develop, however, two extensions of our main hypothesis that are particularly relevant to understanding different kinds of positional deprivation and to understanding different policy interventions for which positional deprivation is most

likely to increase support. First, one can feel different levels of economic misfortune depending on the reference group or benchmark to which one compares one's own situation (e.g., Stewart 2006).[3] Positional deprivation may thus have different implications for attitudes towards redistribution depending on whether one sees one's own income outgrown by different *types* of groups in society.

Whereas these different reference groups can be defined along many different dimensions (e.g., class, race, gender), we focus on two groups in the income spectrum particularly relevant for structuring preferences about redistribution, namely the rich and the poor. We expect that "upper-register positional deprivation" – where one's own income growth is outpaced by the income growth of the richest in society – is likely to more strongly awaken support for redistribution. On the other hand, "lower-register positional deprivation" – where one's own income growth is outpaced by that among the poorest in society – should do less to spur demands for redistribution.

The logic behind our differential-group expectation is rooted in the extent to which experiences of upper- versus lower-register positional deprivation are likely to evoke feelings of distributive injustice *and* whether government redistribution is likely to be an effective solution to alleviate feelings of distributive injustice. When the income of the rich is growing significantly faster than an individual's own income, this likely triggers strong feelings of unfairness about the distribution of resources in society, because it are precisely those that already have the most that are pulling even further ahead. Government redistribution, which entails transfers from the rich to the poor, is then likely to be seen as an effective tool to counter diverging income growth rates and to redress economic unfairness. When instead an individual's income growth is outpaced by that of the poor, this phenomenon is more

likely to be seen as a catch-up process that reduces (absolute) income gaps and ameliorates suffering of society's most disadvantaged members, and is therefore less likely to trigger strong feelings of injustice. Furthermore, even if lower-register positional deprivation is triggering strong feeling of economic unfairness greater income redistribution by the government, which typically disproportionally favors the poor, can hardly be seen as an effective solution to bring differences in income growth rates into greater balance.[4]

Given these distinctions between upper-register and lower-register positional deprivation, we extend our main expectation with a second hypothesis:

H2: Individuals experiencing higher upper-register positional deprivation (those whose income growth is outpaced by the growth among the richest) strongly support greater redistribution while those experiencing lower-register positional deprivation (those whose income growth is outpaced by that of the poorest) do not.

A second extension of our main hypothesis focuses on how positional deprivation (average, upper-register, or lower-register) might have more fine-grained implications for social policy, in particular for welfare insurance as opposed to government redistribution. Government policies with an explicit redistribution purpose – such as social-policy transfers, or taxation policy that raises the corporate tax rate – clearly address income position and likely benefit those who have experienced more economic misfortune relative to others. Many welfare state policies, however, might be less relevant to, less alleviating of, positional deprivation. Welfare state provisions tend to have as much or more a risk-mitigation, risk-indemnification insurance role as they do a compensatory or redistributive role (Rehm

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[4] One might even expect that lower-register positional deprivation could *negatively* affect support for redistribution, if greater income growth among the poor is seen as reflecting excessive redistribution from the rest of society. Both scenarios are consistent with our expectation that upper-register positional deprivation ought to spur redistribution more than does lower-register positional deprivation. Whether lower-register positional deprivation is null or negative is for us an empirical question.

2009). To be sure, many welfare state interventions, including ostensibly universalist

programs like universal healthcare or unemployment insurance, can have

redistributive effects (Besley & Coate 1991; Bradley et al., 2003).[5] Nevertheless,

particular welfare interventions have important differences in their redistributive

impact, with some policies more than others directly and explicitly focused on

between-group redistribution (Boadway & Marchand, 1995; Moene & Wallerstein,

2001; Rueda, 2008). We therefore expect that positional deprivation is likely to have

more modest implications for support for welfare services and social insurance than

for government redistribution *per sé*.

Hence, our third and last hypothesis:

H3: Positional deprivation will more strongly spur support for government
redistribution than it does support for welfare-state services and insurance.

Our three hypotheses expand conventional understanding of how economic

experiences translate into political positioning. The hypotheses are important,

however, mainly to the extent that they hold above-and-beyond static or absolute

manifestations of economic experience – that is, distinct from the other quadrants of

our Figure 1 above. All three hypotheses, hence, need to be explored by capturing the

combination of over-time and relative economic misfortune (or wellbeing), and by

considering how this combination affects support for social policy and redistribution –

even after controlling-for static and absolute measures of economic experience.

An obvious objection to the above arguments is that positional deprivation, as

defined here, may not be consciously understood or perceived by citizens. After all,

who can know what particularly is happening to their own household income relative

to what is happening elsewhere, let alone what is happening at higher-or lower-

registers of the income distribution? We suspect that citizens may not understand their position in detail. But their experience with respect to dynamic and relative misfortune should be roughly felt and matter to their policy attitudes. Citizens may act on objective material experiences, whatever their understanding of their position (a pure materialist expectation). Citizens can also be expected to compare their own family's developing income with that of their neighbors and others in society (the houses, vacations, cars the others seem to be able to afford now compared to the past…or not) – captured in the common-sense idea of "keeping up with the Joneses" (or not). Still, a person's very imperfect knowledge of objective position makes it important to consider whether the hypothesized patterns of positional deprivation show up when focusing on citizens' subjective economic experience. Therefore, our empirical strategy examines the implications of both objective and subjective measures of positional deprivation.

4. Empirics: Analyzing "Objective" and "Subjective" Positional Deprivation

To explore how attitudes towards redistribution and welfare states are influenced by both "objective" and "subjective" measures of positional deprivation, we analyze two different public opinion datasets. First, we focus on objective measures of positional deprivation by matching data on household income from the Luxembourg Income Study (LIS) to data from the European Social Survey (ESS) on individual-level support for government redistribution and welfare assistance in 20 European countries from 2002 to 2014. This allows exploration of how a person's "objective" levels of mean, upper-register, or lower-register positional deprivation relate to attitudes towards government redistribution welfare-state services. Second, we focus on subjective measures, by analyzing how an individual's perceived level of

positional deprivation might influence his or her attitudes towards government

redistribution and welfare-state services. To this end, we analyze data from a distinct

dataset, the European Unemployment Risk-Sharing (EURS) survey, that includes a

question gauging respondents' subjective positional deprivation.

4.1. ESS-LIS Analysis of Objective Measures of Positional Deprivation

To test whether support for government redistribution is shaped by actual, objective,

positional deprivation we would ideally have individual-level panel data on real

disposable income, attitudes towards government redistribution, and attitudes towards

other welfare state policies. Unfortunately, no individual-level panel dataset includes,

to the best of our knowledge, data on preferences towards redistribution.[6]

To test our hypotheses with regard to objective positional deprivation we

therefore rely on cross-sectional time-series public opinion data from the European

Social Survey (ESS).[7] The ESS provides nationally representative data on preferences

towards redistribution and allows rigorous testing of hypotheses in a large set of

countries and over a substantial period of time. The disadvantage of using the ESS

data is that it exclusively measures respondents' current (as opposed to past) income

and only measures income on the decile (rather than interval/ratio) level.[8]

To construct measures of objective positional deprivation that can be linked to

the ESS data, we generate income growth variables on the country-year-decile level

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[6] Some individual-level panel datasets (e.g., British or Swiss Household Panels) include questions on welfare-state policies. However, none (to our knowledge) includes beliefs about whether government should reduce income differences via redistribution.

[7] This section introducing the creation of the LIS-ESS dataset on "objective-based" positional deprivation draws heavily on the discussion in Author (2019).

[8] This issue also arises with all major cross-sectional public opinion surveys (e.g., the American National Election Survey, the International Social Survey Program).

using data from the Luxembourg Income Study (LIS). Merging this data with the ESS provides us with individual-level data on preferences towards government distribution and positional deprivation for 20 European countries[9] over the 2002 to 2014 period.[10]

4.1.1. Measuring Objective Positional Deprivation

By relying on LIS data matched to the ESS public opinion data, we focus on "anonymous" measures of income change for a given country-year-decile to capture individuals' income change in a given period. Hence, we substitute a (hypothetical) measure of a respondents' income change in the past several years with how much the income has changed within the decile that this individual respondent belonged to at the end of the preceding period (for a given ESS wave).

LIS provides data from many representative (cross-sectional) household income surveys in many countries since the 1970s. These data have gaps between particular years but can be used to calculate annual or longer-term change in income (in PPP terms) for a given country-decile-year. To compare varying timespans, we interpolate linearly the missing values between the roughly three-year intervals of country-specific LIS values.

Using the repeated cross-sectional LIS data is in important respects preferable to true panel data for generating measures of change in income on the *country-year-decile* level (which is required to match the income measures to the ESS). With true panel data one would follow the same individual *i* over a time period *t*. In each year

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[9] The 20 countries included in our sample are: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Norway, Poland, Slovenia, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.
[10] We analyze data though 2014 because at the time of writing LIS only provided complete data until 2014 (LIS provides data for the year 2016 only for several of our 20 sample countries).

one would establish in which decile of the country-year income distribution i is by dividing the panel in 10 groups of 10% of the country-year observations. Based on the average year-to-year change of people in a particular decile at t-1, one would estimate the yearly average decile change in household income per country-year. But it is not obvious what to do with people who moved deciles (upwards or downwards) between t-0 and t: are they representative for the decile from which they came or the decile to which they moved? Measuring decile-country-year income growth with repeated cross-section data, as we do, provides the same estimates while avoiding this latter problem.[11] In this approach we take two representative (cross-sectional) samples at t and t-1 divide these into 10 deciles and calculate the percentage change for each decile between the two time points.

To illustrate the data behind this study's objective measures of positional deprivation, Figure 2 summarizes a crude "growth incidence curve" for Europe generally, and for two sample countries (Germany and the United Kingdom). The upper panel depicts the (un-weighted) average growth in decile-level income pooled across the 20 European countries included in our sample over the 1995 to 2005 period. Averaged across the sample, the richest ten percent experienced the largest real household-income growth, 35 percent, while the poorest ten percent also experienced substantial (the second-highest) gain of almost 26 percent. The fourth decile – representing as it were the lower-middle class – fared the worst, with more modest 21 percent growth.

Positional deprivation involves a given decile's income change *relative to* the change experienced by other deciles. This may entail different time spans to gauge
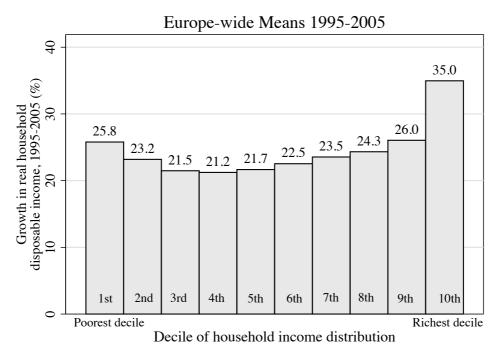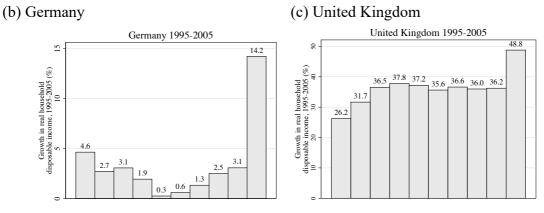
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[11] Furthermore, LIS (cross-sectional) household surveys have much larger sample sizes than do panel datasets, and are derived from fully-random samples at each time-point. LIS income data is therefore more reliable than true panel datasets and less sensitive to non-random sample attrition.

changes, and also different comparisons to one or another decile. Positional

deprivation for a particular decile can be observed in any given growth incidence

curve, including the one reported in Figure 2. By Figure 2's standard of averages, the

fourth decile experienced the most positional deprivation, and the highest decile the

least positional deprivation, relative to any other growth benchmark.

Figure 2:
Growth in Disposable Income by Decile, for Europe (pooled national means),
Germany, and the UK, 1995-2005.

(a) European average

(b) Germany

(c) United Kingdom

From such growth incidence curves, one can distil systematic measures of *positional deprivation*. These measures focus on the growth of the average, the highest, or the lowest decile *minus* the growth of an individual's own decile. Here, higher values constitute relatively less gain or greater loss for oneself as compared to others in the same society – *positional deprivation,* hence. In principle, positional deprivation can be measured by comparing the income growth of any individual decile with any other (group of) income decile(s).

To explore our Hypotheses, however, three specifications of positional deprivation are most important. The most general measure is *mean-based positional deprivation*, defined as the average country-year growth across the entire income distribution minus the growth of a respondent's "own" decile. We use this most encompassing measure of positional deprivation to test Hypothesis 1. To test Hypothesis 2 we focus on positional deprivation relative to particular points in the income distribution. *Upper-register positional deprivation* is calculated as the growth in real household income in the 10th-decile minus a respondent's own decile growth. Lastly, *Lower-register positional deprivation* focuses on the 1st-decile's growth minus a respondent's own decile growth.

By any of these three measures, Figure 2's distribution shows Europe-wide positional deprivation for the 1995-2005 period to be, indeed, highest for the fourth decile and lowest for the highest decile. But for voters in that fourth decile, *lower-register positional deprivation* is less than the *upper-register positional deprivation*.

For the analysis below, our measures of *mean-based*, *upper-register*, and *lower-register positional deprivation* are calculated for five-year periods between 1997 and 2014 (to match the ESS data from 2002-2014). This is close to the average election cycle across our sample countries and is long enough to be felt in a

meaningful way by people. In the 20-country ESS sample, these measures of *positional deprivation* are highly dispersed (e.g. *mean positional deprivation* ranges from -35.5 to 15.6, with a mean of 0.41, and standard deviation of 4.4).[12]

4.1.2. Measuring Support for Redistribution and Welfare State Provision

The ESS includes a repeated question in all waves that helps measure support for redistribution, and the 2008 wave includes additional questions that help gauge attitudes towards other welfare-state provisions. The most important measure for the present analysis is *Support Government Redistribution,* based on whether a respondent agreed or disagreed with the following statement: "Government should reduce differences in income." We recoded the answers to create measures of support for redistribution, with the baseline specification being an ordinal measure *Support Redistribution (ordinal)* ranging from 1 to 5 (1=strongly disagree; 2=somewhat disagree; 3=neither agree nor disagree; 4=somewhat agree; 5=strongly agree). For completion we also consider *Support Redistribution (binary),* where 1=somewhat agree or strongly agree that government should reduce differences in incomes; 0=neither agree nor disagree, somewhat disagree, or strongly disagree.

The 2008 wave of the ESS includes additional welfare attitudes particularly relevant to testing our Hypothesis 3. Most important are several questions about support for particular aspects of welfare state interventions by government that may not entail, or less directly entail, redistribution of incomes, and focus more on protecting the living standards of particular groups of citizens. We include these variables on their original 1-10 scale but also transform them to binary variables (where 1-5= do not support; and 6-10=support) for a better comparison with the

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[12] See Appendix Table A1 for Summary Statistics of all our positional deprivation and other variables.

(binary) support for redistribution variable outlined above. The variables that we include from the 2008 ESS wave are whether the respondent beliefs that it should be the responsibility of the government to provide healthcare for the sick, childcare for working parents, paid leave to care for sick family members, and a good standard of living for the unemployed and elderly. These measures allow us to roughly gauge whether positional deprivation tends to more strongly spur support for explicit government redistribution than it does for more risk-indemnifying social insurance.

4.1.3. Empirical strategy of ESS analysis

The baseline models consider either ordinal or binary specifications of *Support Government Redistribution.* We focus on ordinal or binary logistic regression models with country and time (i.e., ESS wave) fixed effects.[13] In particular we estimate the following generic equation:

$$(1) \qquad ln\left(\frac{p_{it}}{1-p_{it}}\right) = \beta_0 + \beta_1 X_{it} + \beta_2 \delta_{it} + \beta_3 C_{it} + \beta_4 T_i + \epsilon_{it}$$

Here $ln\left(\frac{p_{it}}{1-p_{it}}\right)$ captures the odds that respondent *i* supports government redistribution in ESS-wave *t*. *X* is one of our measures of *positional deprivation* for respondent *i* in ESS wave *t*. δ_i represents individual-level control variables. These include (static and absolute) measures of economic (mis)fortune. Our baseline income control is *subjective income*: how one feels about one's household income, from "finding it very difficult on present income" (=1) to "living comfortably on present income" (=4). This subjective measure correlates highly with and is preferable to ESS's objective income measure (Pearson's r=.501), country-year-decile position that is also the basis

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[13] All models include ESS's design and population weights. The LIS data is also generated using the provided (country-year) survey weights.

for (and hence highly correlated with) our measures of positional deprivation.[14] Other socio-economic controls include a respondent's highest level of completed *education* (1-5, with 1= less than lower secondary education and 5=tertiary education) and *unemployed* status (1 = unemployed). And beyond socio-economic metrics we control for *sex* (1 = female); *age;* self-reported *religiosity* (11-point scale: 0 = not at all religious, 10 = very religious); *foreign-born* status (0=native born self and parents; 1=foreign born self or parent); *urban* living status (rural = 0, urban = 1); and *left-right* self-identification (left=0; right=1).[15] C in equation (1) are country fixed effects, T are timewise (i.e., ESS wave) fixed effects, and ϵ_{ij} is the model's overall error-term. To account for unit- and time-wise correlation, we cluster the standard errors on the country-decile-year level (and for single-wave analyses, by country-decile).

We report our results as log odds, where for Hypothesis 1 we expect β_1 to be substantially- and statistically-significantly positive, suggesting that individuals who have seen their own household income increase less rapidly (or decrease more steeply) than other deciles in their own society are more likely to support government redistribution. For Hypothesis 2 we expect β_1 for *upper-register positional deprivation* (relative to the 10th decile) to be significantly positive and the β_1 for *lower-register positional deprivation* (relative to the 1st decile) to be insignificant. And finally, for Hypothesis 3 we expect β_1 for mean *positional deprivation* to be more significantly positive for *Support government redistribution* than for the measures of support for welfare insurance.

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[14] The results, however, are robust to including this objective measure of income, as well as to including measures of over-time change in income, both discussed below.
[15] In robustness tests (discussed below), we consider alternative constellations of controls.

4.1.4. ESS-LIS Results

We present our results in the order of our three Hypotheses. The main tests of Hypotheses 1 and 2 are summarized in the six models of Table 1 – considering both the full ordinal measure of *Support Government Redistribution* (M1-M3) and the binary measure of the same (M4-M6).

Table 1:
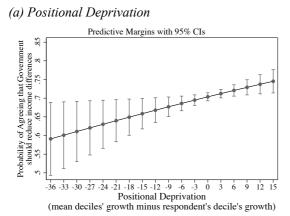Objective Positional Deprivation and Support for Redistribution, ESS-LIS.

	M1	M2	M3	M4	M5	M6
Positional Deprivation (mean-based)	.017*** (.004)			.015** (.005)		
Upper-register Positional Deprivation		.007*** (.002)			.007** (.002)	
Lower-register Positional Deprivation			.005 (.003)			.006 (.004)
Subjective income	-.377*** (.013)	-.379*** (.013)	-.379*** (.013)	-.361*** (.016)	-.364*** (.016)	-.363*** (.016)
Education	-.133*** (.008)	-.133*** (.008)	-.133*** (.008)	-.17*** (.009)	-.17*** (.009)	-.171*** (.009)
Unemployed	.178*** (.039)	.175*** (.039)	.182*** (.039)	.156** (.054)	.155** (.054)	.159** (.054)
Age	.006*** (.001)	.006*** (.001)	.006*** (.001)	.006*** (.001)	.006*** (.001)	.006*** (.001)
Female	.195*** (.016)	.196*** (.016)	.196*** (.016)	.233*** (.02)	.234*** (.02)	.233*** (.02)
Foreign born	-.006 (.022)	-.005 (.022)	-.005 (.022)	-.005 (.026)	-.005 (.026)	-.004 (.026)
Religious	-.013*** (.003)	-.014*** (.003)	-.014*** (.003)	-.004 (.004)	-.005 (.004)	-.004 (.004)
Urban	-.046** (.016)	-.045** (.016)	-.047** (.016)	-.074*** (.02)	-.074*** (.02)	-.076*** (.02)
Right party	-.598*** (.022)	-.598*** (.022)	-.597*** (.022)	-.643*** (.027)	-.642*** (.027)	-.642*** (.027)
Constant				2.713*** (.1)	2.695*** (.099)	2.695*** (.101)
Cut1: Cons	-5.623*** (.087)	-5.599*** (.085)	-5.6*** (.087)			
Cut2: Cons	-3.598*** (.083)	-3.575*** (.081)	-3.576*** (.082)			
Cut3: Cons	-2.701*** (.083)	-2.678*** (.081)	-2.679*** (.082)			
Cut4: Cons	-.598*** (.083)	-.576*** (.082)	-.577*** (.082)			
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Survey-wave dummies	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.056	0.056	0.056	0.085	0.085	0.085
Obs.	152731	152731	152731	152731	152731	152731

M1-M3: DV=*Support Government Redistribution (ordinal, 1-5)*. Ordered logistic estimates with fixed effects for countries and survey rounds (not shown), and with robust-cluster standard errors (in parentheses).
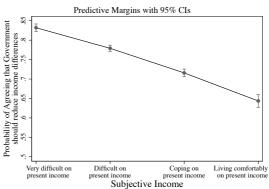M4-M6: DV=*Support Government Redistribution (binary, 0-1)*. Logistic regression with fixed effects for countries and survey rounds (not shown), and with robust-cluster standard errors (in parentheses).
* p<0.05, ** p<0.01, *** p<0.001

M1 and M4 present a direct test of Hypothesis 1. We see that a respondent's

Positional Deprivation (mean-based) is positive and statistically significantly

correlated with *Support Government Redistribution.* This pattern, importantly, shows

up after controlling for the effects of static income position – in this baseline

operationalized as subjective household income[16] – and also other measures of

economic well-being, such as education/skill-level and unemployment. Such patterns
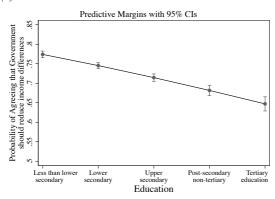
support Hypothesis 1.[17]

Figure 3:
Positional Deprivation versus Income/Education and Support for Government
Redistribution.

(a) Positional Deprivation

(b) Subjective Income

(c) Education

Note: Bars represent 95% confidence intervals.

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[16] The results are similar with controls for (objective) household income in ESS for static income, for measures of over-time dynamic income, or for distance of respondent's income from country-year's mean (addressing relative income á la Meltzer-Richard 1981). See robustness discussion below.
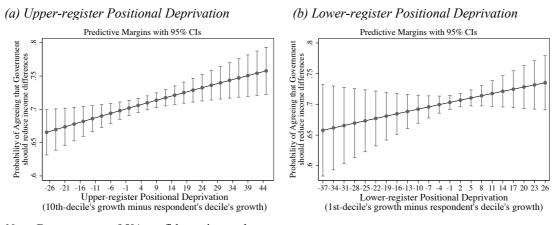[17] This pooled pattern for the 20 countries is stable across the seven ESS waves in our sample, though the effect does vary in size and significance (highest in 2010, lowest in 2014). And the effect is not significantly positive in all countries, for instance not consistently in Italy, Ireland, and Spain.

To clarify the substantive meaning or size of the effect of general positional deprivation, Figure 3 above shows the predicted probability of support for government redistribution (based on M1) across the full distribution of *Positional Deprivation (mean-based)*. We find that positional deprivation can predict a range of variation in *Support Government Redistribution* that is as substantial as subjective income or education. Such a pattern also applies should one look at how respondents agree or disagree with the statement, "For a fair society, differences in standard of living should be small" (asked in ESS 2008). This gauges attitudes towards inequality, distinct from attitudes about policy interventions to reduce inequality. Here we also see *Positional Deprivation (mean-based)* explaining a swath of variation that is as great or greater than subjective income, objective income, education, or unemployment (see Appendix Figure A1). Such patterns suggest that positional deprivation appears to spur concern about inequality and support for government redistribution above-and-beyond other, familiar socio-economic experiences (or risk profiles) long understood as fundamental to redistributive politics.

Comparing the results from M2 and M3 (and their binary counterparts M5 and M6, respectively), we also test Hypothesis 2, that upper-register positional deprivation spurs support for redistribution while lower-register positional deprivation does not. We here find, in line with Hypothesis 2, that the effect of upper-register positional deprivation – measured as a respondent's household income growth being outpaced by growth for the 10th-decile household – is positive and highly statistically significant. Further in line with Hypothesis 2 we find that the effect of lower-register positional deprivation – measured as a respondent's household income growth being outpaced by growth for the 1st-decile household – does not reach the conventional level of statistical significance of 5%.

To clarify the substantive size of these effects, Figure 4 shows the predicted support for government redistribution (of somewhat or strongly agreeing that government should reduce income differences) due to *Upper-register Positional Deprivation* (left-hand panel, based on M2) and *Lower-register Positional Deprivation* (right-hand panel, based on M3). We can see, here, that the *Upper-register Positional Deprivation* has a positive and significant pattern comparable to that of *Positional Deprivation (mean-based),* with modestly less explanatory power in the amount of "explained" variation in probability of supporting government redistribution. Furthermore, the slopes of the confidence intervals suggest that *Lower-register Positional Deprivation* does not reach standard statistical significance, and that the mean predicted change is more modest than for *Upper-register Positional Deprivation*. Such patterns corroborate Hypothesis 2.

Figure 4:
Upper-register versus Lower-register Positional Deprivation, and Support for Government Redistribution.

(a) Upper-register Positional Deprivation   *(b) Lower-register Positional Deprivation*

Note: Bars represent 95% confidence intervals.

To test Hypothesis 3, finally, Table 2 summarizes results from the ESS 2008 wave that allows comparison of how positional deprivation relates not only to *Support Government Redistribution* but also to support for more insurance-based or service-based features of welfare-state assistance. Given the scaling of the respective

variables, the comparison is highly imperfect. We expect nonetheless that the baseline, general measure of positional deprivation, *Positional Deprivation (mean-based),* ought to more strongly positively correlate with explicit *Support Government Redistribution* (in M7, the same dependent variable as in Table 1, M1-M3 baselines, but here only for one wave of ESS), than it does for the more insurance-based features of welfare state protection. The results are only partly in line with this expectation, since *Positional Deprivation* reaches positive and statistical significance for Old-age assistance (M11).

Table 2:
Objective Positional Deprivation and Support for Government Redistribution versus Other Types of Welfare Assistance, ESS 2008.

	M7	M8	M9	M10	M11	M12
	Support Redistrib.	Support Unem.Ass.	Support Health. Ass.	Support Chid.Assist.	Support Old Ass.	Support Fam. Sicklve
Positional Deprivation (mean based)	0.029*	0.011	0.003	0.002	0.017**	0.009
	(0.013)	(0.007)	(0.004)	(0.004)	(0.007)	(0.005)
Subjective income	-0.431***	-0.179***	-0.168***	-0.185***	-0.261***	-0.234***
	(0.032)	(0.027)	(0.021)	(0.024)	(0.022)	(0.023)
Education	-0.153***	-0.040*	-0.012	-0.033*	-0.116***	-0.074***
	(0.017)	(0.017)	(0.015)	(0.016)	(0.018)	(0.015)
Unemployed	0.178	0.524***	0.108	0.189+	0.140	0.187*
	(0.139)	(0.133)	(0.131)	(0.101)	(0.129)	(0.091)
Age	0.004**	0.004**	0.003*	-0.004**	0.005***	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Female	0.165***	0.071+	0.085*	0.194***	0.137***	0.129**
	(0.036)	(0.039)	(0.040)	(0.039)	(0.040)	(0.040)
Foreign born	-0.002	-0.061	-0.089	0.160***	-0.016	-0.016
	(0.065)	(0.050)	(0.054)	(0.048)	(0.056)	(0.049)
Religiosity	-0.008	0.018*	-0.020**	-0.019*	-0.012+	0.020**
	(0.008)	(0.008)	(0.007)	(0.009)	(0.007)	(0.007)
Urban	-0.011	-0.022	-0.029	0.006	-0.103*	-0.109*
	(0.041)	(0.041)	(0.044)	(0.036)	(0.045)	(0.045)
Right self-identified	-0.646***	-0.440***	-0.293***	-0.285***	-0.198***	-0.272***
	(0.059)	(0.045)	(0.046)	(0.040)	(0.040)	(0.038)
Constant	-6.586***	-5.869***	-7.036***	-6.980***	-7.403***	-6.464***
	(0.181)	(0.186)	(0.189)	(0.197)	(0.242)	(0.231)
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo-R-square	0.057	0.055	0.055	0.054	0.057	0.056
N	22470	22524	22626	22431	22613	22401

DVs: M7 is *Support Government Redistribution (ordinal, 1-5)*; M8 is *Support Unemployment Assistance (ordinal, 1-10);* M9 is *Support Health Assistance (ordinal, 1-10);* M10 is *Support Childcare Assistance (ordinal, 1-10);* M11 is *Support Old-age Assistance (ordinal, 1-10);* M12 is *Support Sick-family Leave (ordinal, 0-10).*
All models (M7-M12) ordered logistic regressions with fixed effects for countries (not shown), and with robust standard errors (in parentheses). See text for detail.
* p<0.05, ** p<0.01, *** p<0.001

To clarify the substantive results for Hypothesis 3, Figure 5 shows coefficient plots for alternative specifications of the models from Table 2, where one transforms all the dependent variables into binary variables: for *Support Redistribution (binary),* this means 1=somewhat or strongly support government redistribution, and 0=neutral or somewhat or strongly oppose government redistribution; and for the remaining *Support Unemployment, Health, Childcare, Old-age Assistance and Sick-family leave,* we take 1=scores from 1-5 and 0=scores from 6-10. Figure 5 highlights the modest support for Hypothesis 3, in that positional deprivation more strongly predicts support for government redistribution than it does for all other parameters, except *Support Old-age Assistance (binary).*

Figure 5:
Positional Deprivation and Support for Government Redistribution versus Support for Other Types of Welfare Assistance.

It is the governments' responsibility to...

● ...reduce income differences.   ◆ ...provide standard of living for unemployed.
■ ...provide healthcare for the sick.   ▲ ...provide standard of living for the old.
□ ...provide childcare for working parents. ○ ...provide paid leave to care for sick family.

Note: Bars represent 95% confidence intervals.

The ESS-LIS data provide, in short, substantial evidence for our Hypotheses, with positional deprivation having important implications for support for welfare

redistribution across a significant period of time and space. Crucially, positional

deprivation's effects that combine dynamic and relative experience are discernible

after controlling-for more narrowly static economic position in the baseline models –

and also in supplemental analyses controlling for various measures of static and/*or*

dynamic measures of income (more in robustness discussion below). Also, among

both those with high- and those with low-income, and both those in declines

experiencing significant growth and those seeing no growth in income, facing higher

positional deprivation is associated with more support for redistribution.[18] For high-

income respondents, such results suggest that the effect of positional deprivation at

least partly reflects socio-tropic response whereby seeing one's recent income growth

fall behind that of others' awakens concerns about economic injustice and

inequalities. Whatever the mechanisms, general and upper-register positional

deprivation appears in our ESS-LIS tests to be associated with support for

government redistribution more consistently than with support for social insurance.

4.2. Analysis of Subjective Measures of Positional Deprivation

The evidence so far is based on objective economic measures of positional

deprivation. Whatever the level of specific consciousness and self-understanding

respondents may have about such objective economic position, our arguments about

how positional deprivation can influence attitudes towards redistribution and welfare

assistance should also be measurable by looking at *subjective positional deprivation*:

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[18] Supplemental tests show that material position on the income distribution does not statistically significantly moderate the effect of positional deprivation on *Support Redistribution* or other welfare assistance. And the effects of a respondent's decile's growth (*dynamic income*) on *Support Redistribution* and controlling for such growth or considering its interaction with positional deprivation do not alter the basic pattern of positional deprivation spurring *Support Redistribution.* See below.

what citizens believe to be the change in their own household income compared to the change of the average household in society. To the best of our knowledge, however, neither the ESS nor any other major cross-national public opinion surveys include such a subjective measure.

For this reason, we make use of original data from the European Unemployment Risk Sharing (EURS) survey (Vandenbroucke et al., 2018). This survey provides substantial leverage to gauge how subjective positional deprivation influences support for redistribution and welfare-assistance. The EURS survey was fielded in late 2018 among 19,500 respondents in 13 EU member states[19], varying with respect to welfare-state models, economic performance, and political-economic history. The survey includes questions about socio-economic position, including subjective and objective household income, employment status and experience.

It also includes a question gauging *subjective positional deprivation.* Respondents were asked: "Which of the following descriptions comes closest to how your own household income has *changed* in the last five years, compared to how the average household income has *changed* in [respondent's Country]?" (emphasis added) Answers were recoded to create *Subjective Positional Deprivation,* which ranges from 1 to 3, with 1 being the belief that one's own income has grown faster than that of the average household with 2 being the belief that one's own income has grown equally fast, and 3 being the belief that one's income has grown less fast. This focus on how one's income has *changed* relative to the *change* in the average household (or among other groups in society) is distinct from subjective income (which we also measure), and also distinct from the seminal Richard and Meltzer

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[19] These countries are Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, the Netherlands, Poland and Spain.

(1981) model which explains redistribution preferences based on an individual'

absolute income difference relative to the mean.

An important issue is how *Subjective Positional Deprivation* relates to LIS-

based *objective* measures of positional deprivation. This is hard to study fully, since

at this time of writing the LIS-based data (available through 2014) do not allow direct

matching to the more recent EURS 2018 sample. Still, it is noteworthy that *Subjective*

Positional Deprivation in the EURS survey correlates positively and statistically

significantly with the (earlier) measures of *Objective Positional Deprivation* from

LIS, such as mean growth across all deciles minus a respondent's decile's growth

between 2002 and 2014. The objective LIS-based measure can be matched to EURS

respondents' income aggregated to deciles. Regression models with (and without)

substantive controls and country fixed effects suggest that objective measures

substantively and statistically significantly predict (subsequent) subjective positional

deprivation.[20] Further research may fruitfully contribute by studying the relationship

between objective and subjective positional deprivation in more detail.

Our main interest, here, however, is in how *Subjective Positional Deprivation*

relates to attitudes towards government redistribution and welfare assistance. This is

possible to explore since the EURS survey also includes measures of such attitudes.

Most importantly, the survey includes a measure of *Support Government*

Redistribution using the same wording and coding as the ESS. Here it asks if

respondents strongly disagree, somewhat disagree, are neutral, somewhat agree or

strongly agree that "government should take measures to reduce income differences in

[respondent's Country]." We again consider both ordinal and binary coding of this

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[20] See Appendix Table A3 for model summaries of these relationships, and Appendix Figure A2
capturing quantities of interest.

variable. The EURS survey also includes a question about *Support Unemployment Assistance,* gauging the extent to which respondents believe government should be responsible for the standard of living of the unemployed.[21] We consider both the ordinal and binary operationalizations. The unemployment assistance variables measure support for welfare assistance that is as or more related to risk and insurance as it is to redistribution, which we can therefore exploit to test Hypothesis 3.

The controls overlap substantially with those used on the ESS-LIS data, including hence subjective income, gender, age, unemployed, etc. To isolate the influence of *Subjective Positional Deprivation* we try to control-away the influence of objective income or non-positional subjective income (subjective household income and equivalized household income), as well as past unemployment. Given the complexity of the question, finally, we control for the attention check of respondents.[22] And all baseline models also include country fixed effects.

The analysis is summarized in six models (M13-M18) in Table 3. The models test Hypothesis 1 and Hypothesis 3 (Hypothesis 2 cannot be tested since we have no subjective measures of upper-register or lower-register positional deprivation). M13 and M14 focus on the ordinal measures of support for redistribution and unemployment assistance. M15 and M16 focus on the binary specifications of these two same measures, an important specification so as to more directly compare how subjective positional deprivation plays out for redistribution and more insurance-focused assistance. And M17b and M17b are the results of a seemingly-unrelated bivariate probit regression to assess the possibility that subjective positional deprivation has implications for *support government redistribution* that are

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[21] "On a score of 0-10, how much responsibility do you think governments should have to ensure a reasonable standard of living for the unemployed? 0 means it should not be governments' responsibility at all and 10 means it should be entirely governments' responsibility."

[22] See Appendix Table A2 for all summary statistics of the analyzed variables.

interdependent with (i.e., affect and are affected by) how positional deprivation also

plays-out for *support unemployment assistance*.[23]

Table 3:
Subjective Positional Deprivation and Support for Government Redistribution versus Unemployment Assistance, EURS 2018.

	(M13)	(M14)	(M15)	(M16)	(M17)	
					(a)	(b)
	Support Redist. (ordinal)	Support Unemp. Assist. (ordinal)	Support Redist. (binary)	Support Unemp. Assist. (binary)	Support Redist. (binary)	Support Unemp. (binary)
Subjective Positional Deprivation	0.247*** (0.034)	0.151* (0.065)	0.232*** (0.035)	0.123 (0.080)	0.139*** (0.023)	0.076 (0.048)
Education	-0.195*** (0.039)	-0.092** (0.034)	-0.176*** (0.046)	0.019 (0.031)	-0.115*** (0.028)	0.013 (0.018)
Subjective Income	-0.193*** (0.023)	-0.173*** (0.025)	-0.141*** (0.027)	-0.110*** (0.037)	-0.087*** (0.016)	-0.065** (0.021)
Objective Income	-0.000*** (0.000)	-0.000+ (0.000)	-0.000*** (0.000)	-0.000 (0.000)	-0.000*** (0.000)	-0.000 (0.000)
Unemployed	0.048 (0.062)	0.246*** (0.055)	0.087 (0.099)	0.425** (0.136)	0.059 (0.051)	0.218** (0.073)
Female	0.198*** (0.060)	-0.012 (0.045)	0.272*** (0.065)	-0.036 (0.042)	0.170*** (0.040)	-0.018 (0.026)
Age	0.211*** (0.050)	0.125*** (0.022)	0.242*** (0.066)	0.053 (0.038)	0.147*** (0.038)	0.036 (0.023)
Household size	-0.071*** (0.021)	-0.013 (0.023)	-0.072** (0.025)	-0.016 (0.030)	-0.040** (0.015)	-0.009 (0.018)
Attention check	0.331*** (0.062)	-0.072 (0.058)	0.467*** (0.062)	-0.008 (0.052)	0.266*** (0.043)	0.007 (0.030)
Voted	0.186*** (0.054)	-0.101* (0.046)	0.302*** (0.068)	-0.168* (0.076)	0.168*** (0.039)	-0.093* (0.043)
Unemployed (past 5 yrs.)	0.126*** (0.030)	0.322*** (0.054)	0.171*** (0.029)	0.338*** (0.058)	0.093*** (0.020)	0.198*** (0.020)
Constant			0.409+ (0.227)	0.991*** (0.246)	0.297* (0.132)	0.551*** (0.148)
Rho:						0`.281*** (0.027)
Chi-square Rho=0						95.81
Prob.>Chi-sq.						0.0001
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R-square	0.050	0.027	0.071	0.066		
Log pseudo-likelihood	-19227	-28613	-8307	-7510		-15275
N	15082	14741	15082	14741		14632

DVs: M13 is *Support Government Redistribution (ordinal, 1-5)*; M14 is *Support Unemployment Assistance (ordinal, 1-10);* M15 is *Support Government Redistribution (binary);* M16 is *Support Unemployment Assistance (binary);* M17 (a and b) is *Support Government Redistribution (binary)* (M17a) *AND Support Unemployment Assistance (binary)* (M17b).
M13 and M14 are ordered logistic regressions with fixed effects for countries (not shown), and with robust standard errors (in parentheses). M15 and M16 are logit regressions with otherwise same specification as M13 and M14. M17 (a and b) is seemingly unrelated bivariate probit with robust standard errors (in parentheses). See text for detail.
* p<0.05, ** p<0.01, *** p<0.001

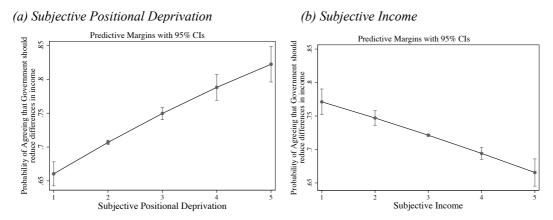[23] See discussion in Maddala 1983, ch.5, 7.

The test results for Hypothesis 1 are clear in models M13, M15 and M17a: *Subjective Positional Deprivation* has a strong positive and statistically significant effect on *Support Government Redistribution.* This is true for both specifications: the full Likert-scale measure of gradations of support and the binary distinction between opposition/neutrality versus support. And it is also true if one models the apparent statistical dependence of estimates of support for redistribution and for unemployment assistance (note that the rho measuring such dependence is highly statistically significant, meaning that we can reject the null hypothesis that the two equations are independent). Like our results regarding objective positional deprivation the effect of subjective positional deprivation holds net of the various objective measures of static economic position, including equivalized household income, and also subjective income. Indeed, based on M15's results in Table 2, Figure 6 shows that *Subjective Positional Deprivation* predicts at the margin a larger swath of variation in *Support Government Redistribution* than does the more static-focused *Subjective Income.*[24]

Comparing these patterns to their partner results for *Support Unemployment Assistance* (M14, M16, M17b) provide new tests of Hypothesis 3, here based on subjective positional deprivation. The expectation, recall, is that (subjective) positional deprivation should matter less to such unemployment assistance than it does for redistribution, since the latter (more than the former) captures as much risk insurance as it does actual redress for felt positional deprivation. The results broadly support this expectation. M14 shows that *Subjective Positional Deprivation* does tend to positively and statistically significantly spur *Support Unemployment Assistance*

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[24] Also based on M15 of Table 3, *Subjective Positional Deprivation* also has substantively stronger effects than do Education (in categories) and unemployment status, but somewhat smaller than the effects of objective income (equivalized household income).

(ordinal). Note that the different scales of the ordinal specifications obviously

complicate side-by-side comparison of these results.

Figure 6:
Subjective Positional Deprivation versus Subjective Income and Support for
Government Redistribution.

(a) Subjective Positional Deprivation   *(b) Subjective Income*

Note: All results based on Table 3 (M15). Bars represent 95% confidence intervals.

More important is M16 (compared to M15), where we focus on the binary

specifications that are thereby rendered comparable: M16 shows that *Subjective*

Positional Deprivation tends not to statistically significantly influence or correlate

with *Support Unemployment Assistance* (binary). And the bivariate probit results use

a seemingly unrelated approach to model how *Subjective Positional Deprivation* (and

other covariates) shapes both *Support Government Redistribution* and *Support*

Unemployment Assistance, treating the processes as statistically interdependent.

Together with having the same scale for the respective dependent variable, the results

in M17a and M17b show that the (dependent-upon-each-other) effects for

redistribution and unemployment assistance are very different: for the former, highly

positive and significant (comparable to the logit results), while statistically and

substantively insignificant for the latter (unemployment assistance). These results

provide separate and deeper corroboration for Hypotheses 1 and 3, above-and-beyond

the baseline results of tables 1 and 2.

Supplemental analyses suggest how these results for subjective positional deprivation reasonably overlap and appear to be downstream from the effects of objective positional deprivation.[25] The 2018 survey's respondents' support for redistribution and for unemployment assistance correlate as expected with the LIS-based measures of objective positional deprivation discussed above: mean growth in household income in the earlier period 2002-2014 *minus* the (subsequent) 2018 respondent's decile's growth. But including both the subjective and the objective measures of positional deprivation significantly diminishes the positive effects of the objective measure while retaining highly-significant positive effects for the subjective measure. This suggests that our measure of subjective positional deprivation is likely capturing downstream implications of objective positional deprivation, and likely mediates the effect of positional deprivation on redistribution preferences.

4.3. Robustness checks

All the baseline results – both those focused on subjective and objective positional deprivation – are insensitive and robust to a wide range of alternative specifications. First, the results also hold for other measures and coding of support for welfare redistribution, such as "strongly support" redistribution (as opposed to combining somewhat and strongly support), or a respondent's preference for parties whose manifestos are more pro-welfare/redistribution.[26] Second, the baseline results hold with no, fewer or different combinations of controls – e.g., removing any given socioeconomic control, or considering different measures of socio-economic status.

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[25] See Supplemental Material 1.
[26] See Supplemental Material 2.

Most important among the latter are objective static-and-absolute income position (instead of or in addition to subjective income); relative-relative economic position, such as objective income relative to a respondent's country-year mean; and dynamic-absolute positions, such as over-time change in income.[27] The baseline results also hold to the addition of other substantive controls, such as attitudes towards migration, migrants, and migrant access to social policy that could be unleashed by positional economic resentments.[28] Thirdly, the results hold to different estimators: multinomial logit models; simple probit models; multi-level random intercept or random coefficient models with varying embedding structures; and varying methods for calculating standard errors (e.g., bootstrapped or jackknifed standard errors).[29]

5. Conclusion

This article makes the case that the combination of relative and dynamic economic misfortune manifested in "positional deprivation" – where a person's income growth is outpaced by that income growth of others in society – has distinct and important implications for attitudes towards income redistribution. We have argued that positional deprivation activates a mindset that demands assistance and retribution through government redistribution, above-and-beyond the well-studied experience of static and/or absolute economic misfortune – i.e., beyond an individual' own level and recent growth in income.

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[27] See Supplemental Material 3 (and see discussion above).
[28] See Supplemental Material 4 captures the modest influence of positional deprivation on anti-immigrant, anti-migration, and low welfare access for migrants. It shows how such anti-migrant, migration, and migrant-welfare-access do not significantly alter the tendency of positional deprivation to spur support for redistribution. Lastly, it shows that positional deprivation is positively associated with support for redistribution even if modelled as dependent on positional deprivation's implications for anti-migrant, migration, and migrant-welfare-dependence.
[29] See Supplemental Material 5.

To test this argument, we have collected novel data on both "objective" and "subjective" (perceived) positional deprivation for a large number of European countries over the 2002 to 2014 period. Using this data we find that: (1) positional deprivation relative to the country mean (mean positional deprivation) and positional deprivation relative to the richest in society (upper-register positional deprivation) strongly increase support for government redistribution; (2) an individual' positional deprivation with respect to the poorest in society (lower-register positional deprivation) does not tend to affect attitudes towards redistribution; and (3) positional deprivation has stronger effects on support for government redistribution than on other, less redistributive, welfare state assistance (e.g., unemployment assistance). We show that these results are robust to country and time fixed effects, a large number of controls, and a wide range of modelling techniques. Most importantly, perhaps, both the objective and the subjective results hold net of, and are frequently substantively and significantly stronger than, the effects of more familiar static measures of income, subjective income, unemployment, education and other wellsprings of economic insecurity.

The study producing these results has limitations that certainly warrant further research. It is worth matching the existing objective positional deprivation measures based on Luxembourg Income Study (LIS) data to other datasets with alternative measures of welfare policy support. Furthermore, it is also important to compare the LIS-based anonymous measures of positional deprivation, such as those presented above, with non-anonymous measures based on real panel information in the (few, select) countries that might have long enough panels to allow such analysis. Further research should also further explore the mechanisms between objective positional deprivation and support for welfare assistance and redistribution policies. This

includes further exploration of links between objective and subjective positional deprivation and identifying what kinds of subjective insecurities and policy beliefs might be awoken by objective or subjective positional deprivation. Finally, further research should expand the measures and conceptions of economic position that combine the dynamic with the relative – for instance with respect to particular "others" beyond points in the income distribution (e.g., particular ethnicities, particular subnational regions, etc.). The present study is, in such light, a modest part of a broader research agenda into dynamic and relative experience in political economy.

This said, what our limited analysis offers is important to understanding the political economy of government redistribution and welfare states in industrialized democracies. It highlights how economic misfortune that simultaneously combines over-time and between-group income has potentially major implications for government redistribution and welfare states that cannot be reduced to more familiar static and, or absolute measures of misfortune.

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Appendix Table A1:
ESS Summary Statistics

	Obs	Mean	Std. Dev.	Min	Max
Support government redistribution	156,691	3.789	1.066	1	5
Positional Deprivation (mean-based)	158,767	0.404	4.337	-35.841	15.587
Upper-register Positional Deprivation	158,767	1.820	9.133	-27.314	45.801
Lower-register Positional Deprivation	158,767	0.782	7.288	-36.613	28.023
Subjective income	156,902	3.071	0.834	1	4
Education	158,136	3.191	1.309	1	5
Unemployed	158,403	0.046	0.210	0	1
Age	158,767	49.039	17.362	18	104
Female	158,690	0.518	0.500	0	1
Foreign born	158,657	0.142	0.349	0	1
Religiosity	157,915	4.625	3.005	0	10
Urban	158,496	0.628	0.483	0	1
Right self-identification	158,767	0.697	0.460	0	1
Income differences should be small	22,685	3.543	0.999	1	5
Support government redistribution (binary)	22,665	0.700	0.458	0	1
Support health assistance	22,826	8.613	1.604	0	10
Support old-age assistance	22,814	8.290	1.700	0	10
Support unemployment assistance	22,720	6.757	2.155	0	10
Support childcare assistance	22,625	7.619	2.092	0	10
Support family sick leave	22,595	7.520	2.115	0	10
Support unemp. assist. (binary)	22,880	0.705	0.456	0	1
Support old-age assist. (binary)	22,880	0.928	0.258	0	1
Support health assist. (binary)	22,880	0.948	0.222	0	1
Support childcare assist. (binary)	22,880	0.833	0.373	0	1
Support paid sick leave (binary)	22,880	0.826	0.379	0	1
Support Prof-Welfare Party	58,907	2.351	0.965	-0.837	4.077

Appendix Table A2:
EURS Summary Statistics

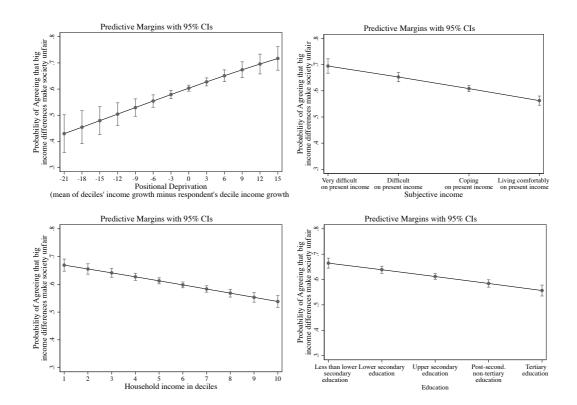| Variable	Obs	Mean	Std. Dev.	Min	Max
Support govt.redist.(ordinal)	19,211	3.921	1.091	1	5
Support unemp.assist.(ordinal)	18,466	7.240	2.284	0	10
Support govt.redist.(binary)	19,211	0.697	0.460	0	1
Support unemp.assist.(binary)	18,466	0.756	0.429	0	1
Subjective Positional Deprivation	17,879	2.312	0.655	1	3
Education	19,641	2.100	0.726	1	3
Subjective Income	19,058	3.008	1.210	1	5
Income	16,531	17719.430	12053.610	914	87040
Unemployed	19,354	0.068	0.252	0	1
Female	19,601	0.512	0.500	0	1
Age	19,641	2.124	0.792	1	3
Household Size	19,641	2.586	1.333	1	11
Attention	19,641	0.810	0.392	0	1
Voted	19,100	0.828	0.378	0	1
Past Unemployed	19,237	0.269	0.443	0	1

Appendix Table A3:
Subjective Positional Deprivation as a function of Objective Positional Deprivation
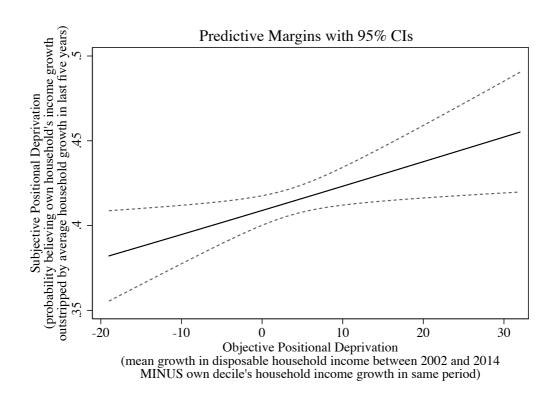
DV: *Subjective Positional Deprivation*

	(1)	(2)	(3)	(4)
Objective Positional	0.008**	0.008***	0.006*	0.006*
Deprivation	(0.003)	(0.003)	(0.003)	(0.003)
Education		-0.318**		-0.323**
		(0.024)		(0.026)
Unemployed		0.611**		0.612**
		(0.077)		(0.077)
Female		0.229**		0.200**
		(0.034)		(0.036)
Age		0.190**		0.173**
		(0.023)		(0.025)
Household size		-0.048**		-0.040**
		(0.014)		(0.015)
Past unemployed		0.594***		0.613***
		(0.043)		(0.044)
Attention		-0.067		-0.092*
		(0.045)		(0.048)
Voted Right		-0.015		0.009
		(0.048)		(0.051)
Constant			-0.454***	-0.280**
			(0.058)	(0.125)
Cut1: constant	-2.099***	-2.321***		
	(0.058)	(0.117)		
Cut2: constant	0.442***	0.309***		
	(0.054)	(0.115)		
Obs.	15134	14673	15134	14673
Pseudo R^2	0.025	0.052	0.030	0.065
Country dummies	Yes	Yes	Yes	Yes

Model 1-2: DV is *Subjective Positional Deprivation (Ordinal, 1-3)*, saying it has become less (1), neither less nor more (2), or more difficult (3) compared to the average household. Models are ordered logit regressions with country fixed effects and robust standard errors (in parenthesis).
Model 3-4: DV is *Subjective Positional Deprivation (Binary, 0-1)*, saying it has become more difficult compared to average household (1=more difficult; 0=less difficult or neither more nor less difficult). Models are logit regressions with country fixed effects and robust standard errors (in parenthesis).
*** *p<0.001, ** p<0.01, * p<0.05, + p<0.1*

Appendix Figure A1*:
Believe Inequality is Unfair, and the Role of Positional Deprivation versus Income and Education

Note: Based on data from ESS 2008 (wave 4), answers to question about propriety of inequality, regressed on Positional Deprivation (mean-based) and other covariates, following specification of M1 in Table One, but only for one wave. Bars represent 95% confidence intervals.

Predictive Margins with 95% CIs

Subjective Positional Deprivation
(probability believing own household's income growth outstripped by average household growth in last five years)

Objective Positional Deprivation
(mean growth in disposable household income between 2002 and 2014
MINUS own decile's household income growth in same period)

Appendix Figure A2:
Relationship between measures of Objective Positional Deprivation and Subjective Positional Deprivation