The Consequences of Moral Reasoning:

Why Some Care More about Free Riding than Others

and Why It Matters

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Abstract

Against common expectations in political economy, income is a poor predictor of support for cuts in taxes and social spending. To explain this mismatch between theory and data, this paper emphasizes the role, alongside material self-interest, of an other-regarding motive that ties social policy preferences to beliefs about the ubiquity of free riding. Self-interest and perceptions of free riding often conflict as large portions of the poor (rich) believe free riding to be ubiquitous (rare). I argue that material self-interest overruns beliefs about free riding when the share of income affected by social transfers is high. One implication is that the weak income gradient is partly attributable to heterogeneous preferences among the rich. This heterogeneity is best explained by differences in perceptions of the extent of welfare-related free riding. I test this argument using European survey data and flesh out its implications for the politics of social policy reform in mature welfare states.

THIS IS A VERY ROUGH DRAFT, PLEASE DO NOT CIRCULATE, NEW VERSION SOON!

[Currently, this paper draws from 2 book chapters worth of theory and empirics. As you can imagine, turning this into a stand alone paper has proved difficult (for reasons that will become obvious to the reader). I am interested in hearing reactions to the argument and to the empirical evidence. I am also open to suggestions that this might only be publishable as a book, not as a paper.]

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1 Introduction

To capture the redistributive effect of social policies, political economists model the welfare state as a combination of a flat rate tax and a lump sum transfer: under the assumption that income is unequally distributed in the population, the system is redistributive (Meltzer and Richard 1981).[1] A key prediction is that individuals preferred level of taxation and social spending decreases with income, or to put it differently, support for cuts in taxes and social spending increases with income (Alesina and Giuliano 2009).

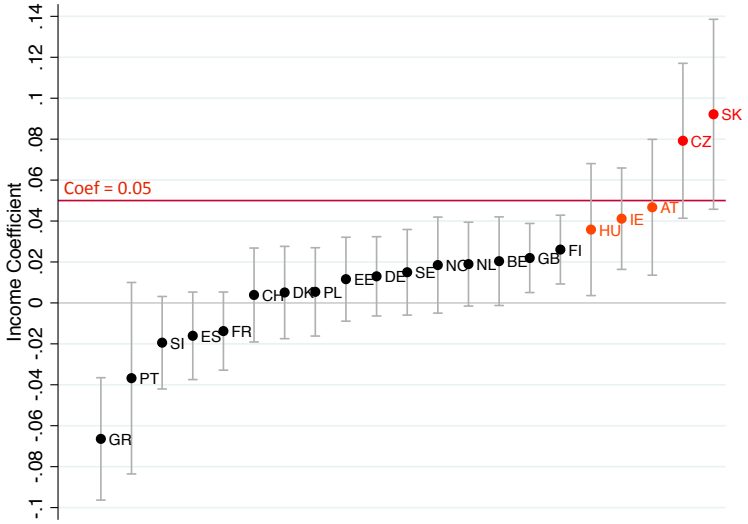
Anyone familiar with European survey data knows that, in most countries, the relationship between income and attitudes toward taxation and social spending is surprisingly flat. Figure 1 plots coefficients from a linear regression predicting support for cuts in taxes and social spending as a function of household income. Support for cuts is measured using a scale from 0 to 10, with 10 (0) being full agreement with the claim that "Governments should decreases (increases) taxes a lot and spend much less (more) on social benefits and services." The income measure assigns respondents a number from 1 to 10 depending on their household's position in the national income distribution.[2] In 9 out of 21 countries, there are no differences in support for cuts between individuals in the top and individuals in the bottom deciles. In Belgium and Great Britain, top decile respondents are more in favor of cuts than bottom decile respondents, but the difference is substantively small (0.25 standard deviation). The difference is meaningful in only 5 out of 21 countries: it is equal to 1 SD of the outcome variable in the Czech Republic and Slovakia. In contrast, in Greece and Portugal, the relationship is reversed: top decile respondents are more opposed to cuts in taxes and social spending than bottom decile respondents.

This paper offers a new explanation for this mismatch between theoretical expectations and empirical observations. I argue that the weak income gradient is, in part, due to the existence of a significant proportion of *high-income* voters who oppose cuts in taxes and social spending. Differences in policy preferences among the rich stem from differences in *perceptions of free riding*: high-income voters who support cuts are also those who perceive free riding to be ubiquitous and in need of punishment (by cutting transfers to free riders and rewarding the hardworking with tax cuts). Others who do not share these beliefs are much

[1] High-income individuals generate the bulk of the revenue collected through the flat tax rate, but only receive a share of transfers equal to their share of the population.

[2] Individual in the bottom decile are coded as 1 and individual in the top decile coded as 10.

Figure 1: Does support for cuts in taxes and social spending increase with income?



Data: ESS, 2008. Pooled data. Outcome variable standardized. Income variable (categorical, 1st-10th decile) interacted with country dummies, no controls. Regression coefficients with 95 % CI. Interpretation: In CZ, the predicted difference in support for cuts in taxes and social spending between the first and the 10th decile is equal to $0.08 * 10 = 0.8$ SD.

more likely to oppose cuts in taxes and social transfers. Their opposition stems from both high levels of support for a system they consider as fair and from their desire to protect deserving recipients from the consequences of retrenchment. Because high-income voters are *not* more likely to perceive free riding as a problem (Cavaille and Trump 2015), the size of this latter group can be substantial, explaining the low correlation between income and support for welfare retrenchment.

Mirroring the large group of high-income voters who are not concerned about free riding is a similarly large group of *low-income* voters who *are* concerned. However, relative to high-income voters, perceptions of free riding are less likely to affect low-income voters' social policy preferences. The intuition is straightforward and has to do with differences in the personal cost of relying on perceptions of free riding to form one's policy preferences. While low-income individuals weight the benefits of punishing undeserving free riders against the costs of concentrated transfer cuts on their own income (a credible *loss*); high income individuals weight the costs of unfair punishment of deserving recipients against the diffuse benefits of tax cuts on their own income (a less credible *gain*). Simple assumptions regarding the declining marginal utility of income and loss aversion (Tversky and Kahneman 1991) imply that the personal costs of supporting cuts for a low-income individual who believes free riding to be ubiquitous will be much higher than the personal costs of opposing cuts for a high-income individual who does not believe that most recipients are

free riding.[3]

This simple framework goes a long way towards explaining the small income gradients documented in Figure 1. I show that the lack of correlation between income and support for cuts in taxes and social spending is mainly due to heterogeneous preferences among the rich, not among the poor. Using a unique set of items asked in the 2008 wave of the ESS, I also show that this heterogeneity is best explained by differences in perceptions of free riding. However, in at least a third of the countries in the ESS sample, I find little evidence that the the size of the income gradient is best explained by heterogeneous concerns about free riding among high-income recipients. The argument presented here offers one possible explanation: in these countries, high-income voters would also be adversely affected by cuts in social spending. In other words, because of the structure of social spending in these countries (shaped by both policy design, demographics and labor market conditions), self-interest trumps moral reasoning even among high-income respondents who are concerned about free riding. Using contextual measures of the distribution of social transfers in the population, I find evidence to support this claim. As benefits and taxes become more evenly spread across income groups, the relevance of free riding considerations among high income voters decreases.

This paper advances our understanding of social policy preferences in several ways. It brings into comparative political economy insights from research in behavioral economics and social psychology on the nature and consequences of moral reasoning, defined as the shared norms that regulate free riding (Petersen 2012; Bowles and Gintis 2011; Graham, Haidt and Nosek 2009; Charness and Rabin 2002; Fischbacher, Gächter and Fehr 2001; Ostrom 1998). In situations of interdependence, such as the one created by universal and generous welfare states, perceptions of free riding are a powerful predictor of social policy preferences.[4] Nevertheless, economic self-interest plays an important role in that it explains *who* is more likely to deviate from the preferences dictated by moral reasoning and *where* this is most likely to be the case.

By applying this framework to one of the major puzzles in political science, I demonstrate its potentials for understanding the structure of mass social policy preferences. In addition, this framework offers a new perspective on recent policy trends that stand out for their strong moral undertone, namely the shift from

[3] See Dimick, Rueda and Stegmueller (2017) for a similar reasoning applied to mass support for redistribution in a context of growing inequality.

[4] See Levi (1991) for a similar argument applied specifically to citizen's consent to taxation and conscription.

welfare to workfare. Finally, my findings have implications for our understanding of the coalitions behind welfare state retrenchment. In many European countries, budgetary constraints in an "era of permanent austerity" (Pierson 2001) and high levels of public debt following the Great Recession have rekindled the debate over the size of the welfare state. The arguments and empirics presented here call attention to the key role of a subset of high income voter whose role have often been overlooked by most of the existing research.

2 The Argument

What explains the weaker-than-expected income gradient documented in Figure 1? Existing answers to this question come in three different flavors. One line of research points out that, even if taxes are collected and benefits paid in a redistributive manner, many aspects of the welfare state are not about redistribution *per se*. For instance, Moene and Wallerstein (2001) emphasize that publicly funded insurance against temporary or permanent income loss represents a large share of spending. In addition, states provide in-kind public services that markets fail to make accessible to all, most importantly health care and primary education (Currie and Gahvari 2008). As a result, income is a poor predictor of attitudes toward social spending because the rich[5] also need insurance and access to education and health services.

A second line of work revisits the behavioral assumptions that underlie workhorse models of redistributive politics by relaxing the assumption that individuals are self-regarding maximizers of material goods. One version argues that individuals experience dis-utility from poverty and inequality and are willing to pay more in taxes to address these issues (Rueda and Stegmueller 2015; Dimick, Rueda and Stegmueller 2017). The most famous line of argument starts from the assumption that humans are parochial altruists: their default mode is to support social transfers that benefit the worse off but they make this support conditional on recipients being from their own social group (e.g. ethnic group) (Alesina and Glaeser 2006).[6] The over-representation of immigrants and their children among the pool of beneficiaries undermines the altruistic drive to oppose cuts in taxes and social spending. The weak income gradient documented in Figure 1 emerges because of higher than expected support for cuts among *low-income* respondents who oppose transfers that benefit outsiders.

Finally, a third line of work takes issue not only with the assumption that individuals are self-interested and materialist but also with the assumption that they are endowed with perfect rationality, i.e. with the capacity to collect information on all policy alternatives, think them through and choose the alternative that yields the highest utility to themselves or to their next-of-kin. Instead, according to behavioral research in American Politics, individuals engage in politics by relying on heuristic thinking, e.g. value-based reasoning

[5] Especially the rich, in the case of social insurance, as they have "more to lose."

[6] See Cavaille and Trump (2015) for a review.

or socio-tropic thinking, that are orthogonal to self-interest (Sears et al. 1980; Sears and Funk 1990; Achen and Bartels 2006; Berinsky 2011). Indeed, a robust set of findings repeatedly shows that "respondents in mass opinion surveys" consistently "seem to care less about their own personal (and material) stakes in policies than about whether those policies promote national welfare or serve longstanding values" such as political ideology, party identification and racial attitudes (Chong, Citrin and Conley 2001). In the words of Sears and Funk: "the personal and the political exist independently of each other in two very different cognitive worlds."

The argument presented in this section builds on these prior contributions and adds several important insights. For clarity of exposure, lets start with the empirical pattern previously mentioned where values are found to trump self-interest. A good theoretical framework aimed at explaining this pattern requires at least two components. One component should explain the nature of values and socio-tropic thinking, identifying some recurrent features with implications beyond the specific country under consideration (usually the United States). Absent the latter, reliance on concepts such as values and socio-tropic thinking risks being somewhat tautological as subjective policy preferences end up being best explained by subjective values. A second component of the theory, should explain not only why values and socio-tropic thinking dominate preference formation but also predict whether this will always be the case and if not, state the conditions under which values will matter more and the conditions under which they will matter less (See Chong, Citrin and Conley (2001) for a rare example). In the current state of affairs, very few theories combine both.

The argument presented in this section tackles each component in turn. First, I argue that the shift away from a focus on the redistributive *consequences* of taxation and social spending in favor of the non-redistributive components of the welfare state not only implies relaxing the assumption that individuals are mainly self-regarding, it implies doing so in a very specific way. I draw from behavioral economics and evolutionary psychology to argue that the extensive resource pooling that underlies insurance and public goods provision activates a family of other-regarding considerations that ties social policy preferences to beliefs about other recipients' propensity to free ride (see Rothstein (1998) for an important first version of this argument). Perceptions of free riding and beliefs of what should be done about it belong to the realm of morality (Graham, Haidt and Nosek 2009) and are shaped by moral worldviews that are separate from, and often orthogonal, to "objective" socio-economic conditions.

Second, I take stock of the well documented disjuncture between policy preferences and self-regarding

material considerations. However, I conceive of this disjuncture as a continuum in need of theorizing. In continuation with behavioral research in American Politics, I argue that questions about social spending first trigger a response shaped by "symbolic" considerations, more specifically moral considerations about free riding and deservingness, themselves shaped by the moral worldviews common to a given social group (Kitschelt 1994; Chan and Goldthorpe 2007) and partisan identity (Boutyline and Vaisey 2017; Jost, Federico and Napier 2009). However, social spending, because it affects respondents' income differently, represents higher stakes for some respondents than for others. If moral reasoning and self-interest conflict, the likelihood of self-interest prevailing increases as the share of income affected by social spending increases. In other words, the existence of a large disjuncture between policy preferences and self-regarding material considerations is the norm, but this disjuncture will be smaller for some social groups than for others. To the extent that institutional contexts and policy design affect individual-level stakes, this disjuncture will not only vary systematically across socio-economic groups but also across countries.

Jointly considered, these two claims shed a new light on the mismatch between expectations derived from workhorse models in political economy on the one hand, and the determinants of mass social policy preferences on the other.

2.1 Moral Reasoning and the Monitoring of free riding

Faced with markets' failure to offer affordable insurance against unemployment, disability and old age (Akerlof 1970), governments have stepped in, compelling - to various extents - their citizens to participate in public risk-pooling programs that provide income to those unable to work (Korpi 2006; Moene and Wallerstein 2001; Iversen and Soskice 2001). For similar reasons (Barr 1998) (though not only, see Weber (1976)), states have concomitantly become the main providers of basic education and health care. As a result, citizens are not only net contributors to, or net beneficiaries of, redistributive transfers, they are also stakeholders in risk and resource-pooling programs of a historically unprecedented scope.

In such situations of interdependence, research shows, traditional models in economic theory have limited predictive power. While everyone benefits from the existence of social insurance against unemployment or of public health care, each as a separate individual, has an incentives to extract more resources than he or she contributes, be it through tax avoidance, shirking or by claiming benefits one is not entitled to (Rothstein

1998; Mau 2004).[7] Models based on the assumption that individuals are self-regarding rational maximizers of material goods consequently predict high levels of free riding. However, such expectations are not borne out in the observational data: in countries with large welfare states, tax compliance is surprisingly high (Levi 1991) and benefit fraud limited (Rothstein 1998). Researchers have consequently expanded their tool box to add, alongside the pursuit of self-interest, behavioral modules that can help explain how, given the incentive to free ride, such a cooperative sharing of resources can emerge and how it is sustained.

Findings across the social sciences all point to the central role of moral reasoning, namely the *collective reliance on shared norms of fairness enforced through the principle of reciprocity* (Petersen 2012; Bowles and Gintis 2011; Graham, Haidt and Nosek 2009; Charness and Rabin 2002; Fischbacher, Gächter and Fehr 2001; Ostrom 1998). Indeed, in situations of interdependence, individuals' behavior is accurately described by assuming that they feel some obligation to follow the prescriptions of third-party judge regarding what "good" and "bad" behavior is. Each individuals appears to conform, to some extent, to these prescriptions and punish those who do not. In a context of resource sharing, bad behavior is best described as free riding, namely the decision to minimize one's contribution to the collective effort while still benefiting from it. Good behavior is understood as participating in the collective endeavor without taking advantage of the situation. In other words, individuals appear to behave morally, assessing others' behavior by relying on culturally specific definitions of what is fair and if need be, punishing the undeserving shirkers. They expect others to reciprocate by treating them in a similar fashion based on shared understandings of what it means to free ride in a given context. These interlocking sets of norms and practices provide a "common (and intuitive) normative framework against which people can and do judge the actions of others, *even when those actions have no direct implications for the self* " (emphasis added) (Graham et al. 2013: 37). They "work together to suppress or regulate selfishness and (ultimately) make social life possible" (Graham, Haidt and Nosek 2009: 70).

It is not the place to review this abundant literature and I will only mention two lines of research that provide evidence for these claims. One, mainly in behavioral economics, inductively documents the ubiquity of moral reasoning in situations of interdependence, focusing on the role of reciprocity, namely the propensity to share resources with others similarly disposed, but a willingness to punish those who free ride, even when

[7] This is especially true when identifying cheats and shirkers is very costly.

punishment is personally costly (Bowles and Gintis 2011; Charness and Rabin 2002; Fischbacher, Gächter and Fehr 2001; Ostrom 1998).[8] Researchers have systematically investigated the nature of the cues individuals focus on when evaluating each others' behavior. For most respondents, other individuals' need, ability and effort matter. For respondents socialized in western democracies (Barrett et al. 2016) good or bad behavior appears to be particularly sensitive to what is known about an individual's choice-set (constrained or not), agency (is one's behavior a conscious decision or not) and intentions (Fehr and Schmidt 2006; Meier 2006; Akbaş, Ariely and Yuksel 2014). Moral outrage and punishment is especially likely against individuals who have the option to not free ride but explicitly choose to shirk (Oorschot 2000). A second line of work examines the proximate psychological mechanisms that make moral reasoning possible. Among these mechanisms are the capacity to grasp interdependence and act as a collective "we" (Ostrom 1998; Tomasello and Vaish 2013); a sense of duty when it comes to personally abiding by the norms of fairness, be it for reputational concerns or to bolster one's own self-esteem (Bénabou and Tirole 2006*b*); and emotional outrage in the face of free riding or when seeing the deserving get wrongly punished (Delton et al. 2012). [9]

Political scientists have mostly overlooked the implications of this growing body of work for our understanding of redistributive politics (though for expections see Scheve and Stasavage (2016); Ostrom and Walker (2003); Fong, Bowles and Gintis (2006); Petersen (2012); Rothstein (1998)). One key insight from this research, is that models based on the assumption that individuals are self-regarding income maximizers are bound to fail given that the welfare state is as much about the redistribution of income as it is about the pooling of resources to meet collective needs for insurance, health care and education. A second insight is that the moral reasoning in reaction to perceived free riding cannot be subsumed under a concept such as altruism. Whereas altruism is unconditionally aimed at making the other better-off, reciprocity and fair-

[8] Cooperation over shared resources is sustained because there is a sufficient share of individuals who behave in a reciprocal fashion (as both willing cooperators and potential punishers) and believe that others will do the same. Without punishment, cooperation decays " because frustrated conditional cooperators" reduce their contributions after having adjusted their beliefs to the observed behavior of others. The introduction of punishment limits the share of individuals who decide to free ride (both *a priori* and after having been punished) and increases the share of individuals who believe that others will cooperate (both *a priori* and after having observed other people's behavior).

[9] A third line of work identifies the conditions under which fairness norms and the cognitive mechanisms that support it have evolved. One recurrent implication of this work is that there is a "probably universal (...) deep structure of fairness" that is responsive to parameters such as need, ability or effort (and to a varying extent intentionality) (Binmore 1998). The organization of power within a social group builds on this deep structure. This argument echoes work in political science: Scott (1977), for instance, has similarly documented the importance of moral reasoning, showing how the timing and violence of peasant revolts cannot be predicted by hardship alone: revolts start when the powerful violate norms of fairness.

ness are "a kind of cooperativization of competition" in which individuals seek to strike a balance between individuals taking into account their needs, effort and intentions (Tomasello, 2013:XX). The pro-social behaviors that emerge from this balancing act are highly contingent on beliefs about what others are doing, meaning that the same person can appear altruistic in one context and selfish in another, something the concept of altruism cannot capture.

In addition, unlike altruism, which can only be inferred *a posteriori* once deviations from what rational self-interest prescribes are observed, a focus on moral reasoning suggests specific ways to identify *a priori* who will be more or less inclined to support high levels of social spending for moral reasons. Indeed, (culture-specific) questions on beliefs about the ubiquity of free riding should be highly correlated with differences in social policy preferences. Luckily, as I will show below, students of social policy preferences have not waited for breakthroughs in research on moral reasoning to identify such items. However, their findings, mostly inductive, have failed to coalesce into a much needed revision of behavioral assumptions in political economy. The remained of the paper is a first step in that direction.

2.2 Perceptions of free riding and Social Policy preferences

Survey data on social policy preferences reveals patterns of beliefs and attitudes that echo the experimental findings on the role of moral reasoning and reciprocity in generating cooperative resource sharing. Most of the literature focuses on a specific facet of fairness, namely deservingness as it applies to the support for income transfers to the poor. Many studies have documented how support for social policies that mainly benefit the poor is contingent on whether the modal recipient is perceived as deserving or not, i.e. whether or not she is responsible for her plight (Kluegel and Smith 1986; Alesina, Glaeser and Sacerdote 2001; Fong 2001; Gilens 1999; Petersen 2012; Skitka and Tetlock 1993; Oorschot 2000; Fong 2007). Perceptions of responsibility vary with perceptions of the opportunity structure (e.g. changes in the unemployment rate, see Gilens (1999)), beliefs about a recipient's capacities to act (e.g. age and health, see Oorschot (2000)), and evidence of effort that the recipient is trying to ameliorate one's situation (i.e. intentions, see Petersen (2012)). According to Alesina and Glaeser (2006), deservingness considerations can help explain the United States' position as a welfare state laggard compared to other Western democracies: Americans are comparatively much more likely to believe that the poor are personally responsible for their plight and thus

undeserving of help.[10] In line with this argument, Petersen (2012) shows that American and Danish subject behave in similar ways once they share the same beliefs about the deservingness of recipients. Differences across countries in the willingness to help the poor is consequently best explained in different *priors* about the behavior of the poor, not in cultural differences in the propensity to *apply moral reasoning* by helping the deserving and punishing the undeserving poor.

However, concerns about fairness and deservingness, as they relate to social policy, are not limited to passive recipients of charity-like redistributive transfers such as the poor. Perceptions of free riding can apply to many social groups. Scheve and Stasavage (2016) examine how issues of fairness help explain when and where progressive taxation was implemented: it is countries where capital owners were successfully portrayed as war profiteers, financially benefiting when others were contributing to the war effort with their lives, that marginal tax rates were increased. In the United States, Cramer (2016) describes how experiences of downward mobility and hardship, when contrasted with the job security and social benefits of public employees, have generated a fertile ground for Governor Walker's anti-government rhetoric and policies. Fiscal conservatism, she shows, has been re-crafted as the necessary punishment of free-loading public servants. In Western Europe, where the welfare state is mostly (and increasingly) funded through the taxation of labor income (Zemmour N.d.), work avoidance is the key issue around which fairness concerns crystallize. Perception of free riding include not only beliefs regarding the existence of professional welfare kings and queens (Larsen and Dejgaard 2013), but also beliefs regarding how many people take sick leave without being really sick, how many people temporarily live off generous unemployment benefit instead of looking for work, or the share of people who "work the system" to maximize their pensions and minimize their retirement age. Beliefs about the extent to which social policies incentivize individuals to free ride (e.g. by being too generous), something economists call "moral hazard," are also central to perceptions of work avoidance and beliefs about the ubiquity of free riding.

Unfortunately, international surveys rarely ask questions about perceptions of free riding. One exception

[10] Group bias and racial stereotyping play a key role: Americans tend to believe that most welfare recipients are black and that black people lack sufficient commitment to a moral ethic of hard work and diligence (Gilens 1999). Fong and Luttmer (2009) examine the role of the worthiness of Katrina victims on people's willingness to help them. Worthiness here was defined as having helped other victims or having taken precautions to minimize the consequences to oneself of the Hurricane. Unlike previous experiments, they found little impact of worthiness manipulated in such a fashion. This is most likely due to the fact that being a victim of Katrina has little to do with individual responsibility. Such event is random and the assets destroyed impossible to move. Intentions become irrelevant in the face of such contextual constraints.

Table 1: Perceptions of Free-Riding: Factor Loadings

Item wording	**Factor 1** **(retained)**	Factor 2 (for information)	Uniqueness score
Cluster 1: Respondents' beliefs about the ubiquity of shirking			
1) Most unemployed people do not really try to find a job	**0.55**	0.28	0.61
2) Many manage to obtain benefits/services not entitled to	**0.44**	0.38	0.70
3) Employees often pretend they are sick to stay at home	**0.49**	0.40	0.63
Cluster 2: Respondents' beliefs about the impact of social benefits on the likelihood to shirk			
4) Social benefits/services make people lazy	**0.76**	-0.04	0.41
5) Social benefits/services make people less willing to care for one another	**0.82**	-0.33	0.30
6) Social benefits/services make people less willing look after themselves/family	**0.79**	-0.28	0.31
Eigenvalue	**2.62**	0.54	

Note: Factor loadings are obtained following an exploratory factor analysis on the pooled data using a polychoric correlation matrix adapted to ordinal variables. The main factor is extracted using a iterated principal factor method. The results are robust to using other extraction methods. I retain one factor that explains most of the shared variance. When performing this analysis separately by country, I obtain similar factor loadings. On average, a respondent's answers on 5 of the 6 items predict his or her answer on the 6th item correctly about 3/4 of the time.
Data: The European Social Survey Wave 4 (2008)

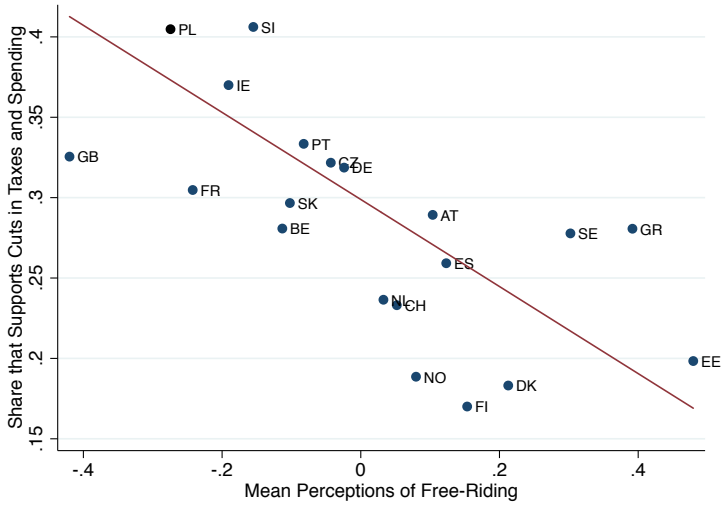
is the 4th wave of the European Social Survey already introduced in Figure 1. Table 1 lists the items available in this survey that tap into perceptions of free riding has described above. The columns to the right of these items reproduce results from a factor analysis examining whether or not these items all load on the same latent dimension. Given the large Eigenvalue, I use these items to compute individuals scores that rank respondents according to how ubiquitous (and concerning) they believe free riding to be: the higher the score, the lower the level of concern.[11]

Figure 2 plots average support for cuts in taxes and social spending within a country against the country's average free riding score. Countries where beliefs about the ubiquity of free riding are shared more widely among the population are also countries where respondents are, on average, more likely to support cuts in taxes and social spending. This pattern echoes findings by Alesina and Glaeser (2006) and Petersen (2012) on the relationship between perceptions of the causes of poverty (personal failure versus external factors) and support for redistribution to the poor. It also provides much needed evidence for Rothstein's claim that perceptions of free riding are central to explaining mass support for the welfare state and mass resistance to

[11] I use factor scores derived from factor loadings obtained after separate country-by-country factor analyses. Constraining factor loadings to be the same across all countries returns similar results.

retrenchment (Rothstein 1998).

Figure 2: Free ridings Perceptions Correlate with Social Policy Preferences

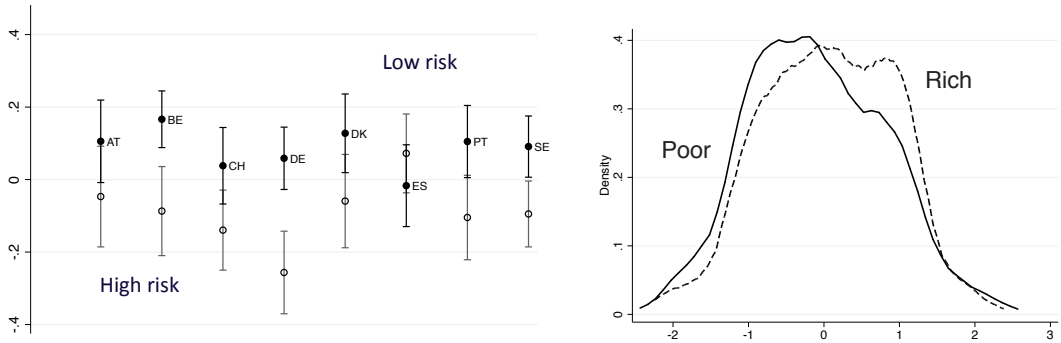


Data: ESS 2008. For ease of interpretation, I have recoded the tax and social spending variable (on the Y-axis) into a binary variable equal to 1 when respondents chose a response category that indicate more support for cuts then for the status quo. With regards to the variable that measures perceptions of free riding (X-axis): the higher the score, the lower the level of concern

The relationship presented in Figure 2 is plotted at the country-level but, as we will see, the same applies at the individual level: individuals who support cuts in taxes and social spending are also more likely to be concerned about free riding. In small groups, the decision to withdraw from a cooperative endeavor to punish free riders is shaped by objective information on how others are behaving. In large groups such as nation-states, perceptions are less likely to be rooted in objective information about the realities of free riding. One possibility is that perceptions of free riding on the one hand, and support for cuts in taxes and social spending on the other, are jointly determined by a third factor such as one's probability of relying on social benefits. Another important third factor factor is partisan ideology: socialization into big political families shape both social policy preferences and perceptions of free riding. If this is indeed, the case, then moral reasoning is a medium for the expression of self-interest or partisan identity, it does not play an independent role as a separate motive alongside self-interest or as a separate heuristic alongside partisan identity.

I will consider these issues in more detail in the empirical section of this paper, but Figure 3 provides a first illustration of the separate role of moral reasoning as crystallized in perceptions of free riding. The left panel uses measures of occupational unemployment to distinguish individuals working in professions where

Figure 3: Determinants of Perceptions of Free Riding (the higher the value, the lower the level of concern about free riding)



(a) Occupational Unemployment (average) (b) Household Income (density plot)

Data: ESS, 2008 pooled, ELFS 2006-2008. Occupational unemployment rate is measured using the European Labour Force Survey for the years 2006-2008. Occupations are measured using 2008 ISCO codes at the 4 digit level. Income is measured using country-specific measures of the P80 and the P20 computed using the LIS database. The "rich" ("poor") are respondents whose income put them in the top (bottom) 20 % of the income distribution.

unemployment is high (more than 20%) from individuals working in professions where unemployment is low (less than 3%) (Rehm 2008). The former, who are more exposed to income shocks, do not appear to be less likely to express concerns about free riding. The same is true when comparing individuals in the top quintile of the income distribution with individuals in the bottom quintile.

With regards to partisan ideology, evidence shows that controlling for subjective measures of left-righ ideological placement as well as for support for redistribution or government intervention in the economy does not weaken the covariance between perceptions of deservingness and support for cuts in taxes and social spending (see Table 2 in section 3). Additional evidence using data from Great Britain can be found in Cavaille and Trump (2015). Using longitudinal data, they show that traditional left-wing ideology is orthogonal to perceptions of free riding: knowing whether someone supports redistribution, believes income inequality is too high, or perceives an inherent conflict between workers and capital owners says little about this person's perceptions that the unemployed are lazy and benefit fraud ubiquitous. Not only is this true when looking at a cross-section of the British population, it is also true over time: while traditional left-wing economic ideology is stable over the 1983-2012 period, the share of individuals who are concerned about free riding has increased. While there was a small correlation between the two sets of beliefs in the late 1980s, after the early 2000s, the correlation is indistinguishable from zero.

These results regarding the limited role of economic conditions and ideology echo similar findings by

Fong (2001) and Gilens (1999). Using data collected in the United States, they show that the strong relationship between beliefs about the causes of poverty (lazyness versus structural forces) and support for transfers to the poor cannot be explained away by these same confounders (for an overview see Fong, Bowles and Gintis (2006)). Fong concludes that self-interest and moral reasoning[12] are two non-overlapping motives shaping support for transfers to the poor.[13]

A common assumption in the study of redistributive politics is that voters are self-regarding maximizers of material goods, choosing their preferred level of social spending accordingly. In contrast, I have corralled evidence across the social sciences emphasizing the key role of a distinct, other-regarding motive, that makes support for redistributive social policies contingent on perceptions of free riding. While perceptions of free riding have been mainly used to explain differences in attitudes toward the poor, contrasting the United States to other advanced capitalist countries (Gilens 1999; Kitschelt 1997; Alesina and Glaeser 2006). I show that this framework goes some way toward explaining cross-country differences *within* Europe in support for cuts in taxes and social spending. I also document that self-interest and free riding concerns often conflict as large portions of the poor believe free riding to be ubiquitous, while a large portion of the rich do not (see Figure 3). How do these two motives combine to shape individual social policy preferences? How can the emphasis on moral reasoning and perceptions of free riding, in turn, shed a new light on the weak income gradient documented in Figure 1. The next two sections examine these issues.

2.3 Explaining Deviations from Moral Reasoning

To understand how moral reasoning and self-interest combine, I conceive preference formation as a two-step process. First, individuals rely on moral reasoning, second, they adjust their preferences in line with their economic interest. I start by providing theoretical support to the claim that moral reasoning acts as the primary attitudinal anchor. I then turn to the process of self-serving adjustment and how it might vary across

[12] In her case, the rewarding (punishing) of recipients perceived to be deserving (undeserving).

[13] In a regression where beliefs about the causes of wealth and poverty (individual responsibility vs luck) and a large number of objective and subjective measures of and proxies for self-interest are included alongside each other, the effects of being in the least economically privileged category[14] as opposed to the most privileged are similar in size to the effects of believing that luck alone causes wealth and poverty as opposed to believing that effort alone causes wealth and poverty.

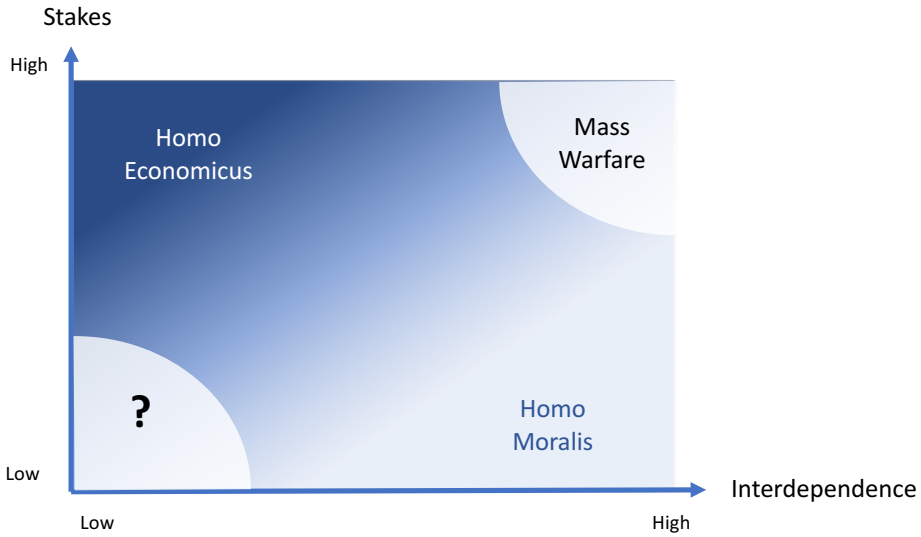
income groups (and countries).

To understand why in the formation of social policy preferences self-interest only takes a supporting role, we need to better understand the conditions under which self-interest is center stage. Assumptions that individuals are self-interested, driven by material gain and rational, have substantial predictive power when applied to a "highly structured and competitive environment such as an open market" (Ostrom and Walker 2003: 25). In such a context, individuals have not other choice than to behave according to these assumptions: entrepreneurs who fail to do so are quickly eliminated through market competition. In addition, markets generate a range of "sufficient statistics" that market actors can collect and analyze before making decisions. This model of human behavior does not perform well when used to analyze decisions in contexts where, in contrast to markets, individual stakes are much lower and information unavailable or too costly to gather. Most importantly, and as already mentioned, this model of human behavior performs especially poorly when applied to situation of interdependence where cooperation is needed to enhance one's welfare: if individuals were selfish and rational, cooperative resource pooling should be the exception, not the rule.

In other words, we can *a priori* expect workhorse assumptions in economic theory to not perform very in the realm of electoral politics. In this context information, while often available, is complex and contradictory. From the point of view of the individual voter, elections are low stakes: the probability that one vote will alter the outcome of the election is extremely small. Finally, interdependence is high as one can decide to abstain with no consequences if and only if others do not. Elections are consequently better thought of as a collective action problem (Olson 1965) that is routinely overcome by mechanisms such as a sense of duty, itself buttressed by social pressures to conform to shared civic norms (Gerber et al. 2016; DellaVigna et al. 2017). In the words of Herbert Gintis, "electoral politics is a vast morality play (...) Politically active and informed citizens appear to operate on the principle that voting is both a duty and prerogative of citizenship, an altruistic act that is justified by the categorical imperative: act in conformance with the morally correct behavior (...) without regard to personal costs and benefits" (Gintis et al. 2015). One implication is that elections, and democratic politics in general, are best tackled from the vantage point of moral reasoning, not material self-interest and rationality. When explaining political behavior, it is safest to assumed that individuals behave as if third-party judge in a situation of interdependence where the right thing to do is too cooperate if others do the same. Figure 4 visually sums up these remarks: the higher the individual stakes and the lower the interdependence, the more workhorse assumption in economics are predictive of observed

outcomes. As interdependence increases and individual stakes decrease, free riding increasingly becomes a concern. To understand individual behavior, researchers need to turn to moral reasoning. Politics, is very often situated in the bottom right corner. Sometimes, it escalates to high stakes collective action dilemmas such as mass warfare. When both stakes and interdependence are low, individuals' decision-making process are highly responsive to quasi-random contextual cues, something marketing directors for candy bar brands are very well aware of.

Figure 4: The Explanatory Power of Different Behavioral Models Varies with Context



This does not mean that assumptions that individuals are rational and self-interested have no role to play. I argue that such assumptions explain *deviations* from what moral reasoning predicts. For instance, assuming that individuals rationally respond to changes in the cost structure can help explain why turnout decreases when the cost of voting increases (e.g. when it rains). Turnout also increases in elections that are perceived to be a close call, as individuals' votes become (comparatively) more likely to push the balance one way or the other (REF). More generally, individuals who face higher returns from behaving selfishly will be more likely to deviate from what is morally prescribed (DeScioli et al. 2014).

Let's now turn to the realm of social policy preferences. The welfare state, as we have already argued, is a resource-pooling endeavor where norms of fairness and deservingness shape decisions to support the *status quo* (oppose cuts) or oppose it (support cuts). In addition, the expression of social policy attitudes, especially when answering an anonymous survey is a low stake act. Individuals answering surveys items about the welfare state are in the bottom right corner of Figure 4. The empirical pattern documented in Figure 2 is

thus one empirical manifestation of the ascendancy of moral reasoning: attitudes toward the welfare state are strongly shaped by concerns about free riding, concerns which are themselves orthogonal to the likelihood of having to rely on social transfers. As previously argued in the case of turnout, assumptions of self-interest and rationality help predict deviations from moral reasoning. In the case of support for cuts in taxes and social spending, while moral reasoning explain differences in individuals' preference anchor (either high or low level of support for cuts), self-interest helps predict who will express levels of opposition to cuts that are either too high or too low relative to what their perceptions of free riding predict.

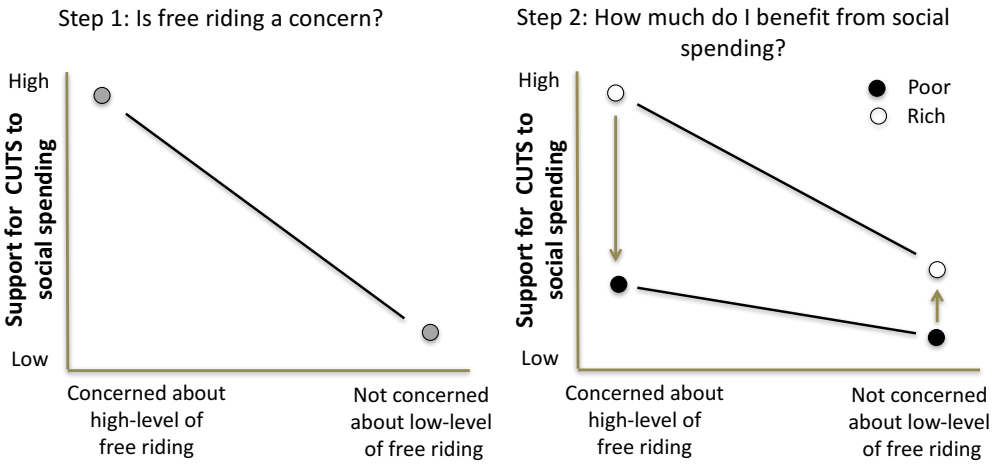
I consequently conceive of preference formation as a two-step process. First, individuals rely on moral reasoning to anchor their preferences following the "if deserving-fair/undeserving-unfair then support/opposition" rationale. They then adjust their preferences upwards or downwards in line with their economic interest. The empirical implications of are most obvious for cross-pressured individuals whose moral reasoning conflict with their self-interest. Individuals who believe the system to be ridden by free riding will start from a high level of support for cuts. If they are net beneficiaries of redistributive social policies, they will then adjust their level of support downwards in line with their material interest. Individuals who do not believe the system to be overrun by free riders will start from a low level of support for cuts. If they are net contributors to redistributive social policies, they will then adjust their support upwards.

I expect the size of this adjustment to vary with the share of income impacted by redistributive social programs. In other words, the higher the material stakes, the more extensive self-interested adjustment is. Indeed, the progressive design of the welfare state and the unequal distribution of economic risk and wealth mean that the cost of following moral reasoning is, on average, comparatively higher for the poor than for the rich. Low-income individuals who believe free riding to be ubiquitous weight the punishment of undeserving free riders against the effects of concentrated benefits cuts on their own income. In contrast, high income individuals who do not believe free riding to be ubiquitous, weigh the unfair punishment of deserving recipients against the diffuse effects of tax cuts on their own income. Assuming individuals weight losses more than gains (Tversky and Kahneman 1991), and assuming a decreasing return to consumption, "the relative importance of receiving benefits is greater for the poor than the relative importance of paying taxes is for the rich" (Rueda and Stegmueller 2015: 3). As a result, self-serving adjustment will be larger for the poor than for the rich. Figure 5 presents the argument visually. As shown in the second panel of Figure 5, perceptions of free riding are a better predictor for support for cuts among the rich than they are among

the poor. Empirically, I expect the following to be true:

Prediction 1: The correlation between perceptions of free riding and support for cuts in taxes and social spending is higher among individuals with high-income than it is among individuals with low-income.

Figure 5: Support for a Transfer Program and Free Riding Perceptions



What are the implications for the puzzle laid out at the beginning of this paper? If the reasoning laid out in Figure 5 is correct, then the overall income gradient is the sum of a large income gradient among those who are concerned about free riding (left-hand side of the second panel in Figure 5) and a small income gradient among those who are not concerned about free riding (right-hand side of the second panel). In other words, a steep income gradient is contingent on a large enough group of high income individuals driven by the desire to punish free riding. I consequently expect the following to be true:

Prediction 2: Income predicts support for cuts in taxes and social spending most substantially among those who are concerned about free riding.

Predictions 1 and 2 are contingent on cuts in taxes and social spending having larger consequences for low-income voters than for high-income voters. While this is true on average, countries vary in the extent to which they tax income in a progressive fashion and in the extent to which they target transfers to the worse-off versus spread them more evenly across income-groups (Korpi and Palme 1998; Esping-Andersen 1990). If taxes are too progressive then the benefits of a tax cuts for the rich are comparatively higher and a larger share of high-income individuals who would oppose cuts for moral reasons support cuts. If benefits are more evenly spread across the income distribution, even high-income individuals who are concerned about

free riding will adjust their preferences self-servingly and oppose cuts. Unfortunately, for both conceptual reasons[15] and reasons of data availability,[16] I can only focus on the behavior of the second group, namely high-income individuals who are concerned about free riding.

Why does benefit concentration varies across countries? One reason has to do with differences in labor market conditions: the more unemployment risks are concentrated on the poor, the less high-income workers expect to rely on social transfers aimed at protecting against income shocks (Rehm, Hacker and Schlesinger 2012). Policy design matters in two ways. First, it can exclude middle and high-income groups *a priori*: by definition, means-tested, public transfers are limited to the worse-off (Korpi and Palme 1998). Second, policy design affects middle and high-income individuals' expectations of one day relying on social benefits, especially benefits targeted to those facing temporary job loss. A key factor is replacement rates, defined as the percentage of previous income social transfers replace on average. If replacement rates are low, social transfers have income-smoothing properties only for the poor. Middle and high-income individuals who want to insure against the risk of catastrophic income loss (Moene and Wallerstein 2001) will more likely self-insure through the private market or private savings. In contrast, in countries with high replacement rates, high-income individuals will positively value the income smoothing properties of public unemployment insurance and social programs.[17]

In other words, because of differences in labor market conditions and policy design, in some countries, the probability of relying on publicly-funded transfers is disproportionately higher for the poor because of the concentration of unemployment risk among this group, because of conditionality in access to benefits or because of low replacement rates that decrease take up rates among other income groups. In other countries, the probability of becoming a recipient is more evenly distributed among income groups because of more homogeneous risk profiles, universal benefits or higher take up rates in response to generous transfers.

[15] The progressivity of taxation varies with the share of resources collected through a value-added taxes. It is unclear whether individuals are aware of this form of taxation.

[16] Data on taxation is available for only 15 of my 21 countries, while data on benefit concentration is available for 20 out of 21 countries.

[17] In addition, overall benefit generosity – which includes benefit duration in addition to replacement rates – directly affect the likelihood of *becoming* a recipient. A long line of research documents the impact of more generous unemployment transfers on employment patterns: individuals are more likely to become unemployed and experience longer unemployment spells (Chetty 2005; Fredriksson and Holmlund 2006; Borghans, Gielen and Luttmer 2014). If benefits are generous, especially if replacement rates are high, moral hazard is no longer limited to the poor.

I expect the size of the income gradient within individuals who are concerned about free riding (P2) will vary with benefit concentration. Where access to a benefit is more evenly distributed across income groups, I expect the share of individuals who support a social program out of self-interest to be higher and the income gradient to be smaller. When benefits are concentrated, the size of this latter group increases and the income gradient increases. I consequently expect the following to be true:

Prediction 3: The size of the income gradient among those concerned about free riding will decrease (increase) as benefit concentration decreases (increases).

In this section, I have argue that moral reasoning is the default mode of reasoning when it comes to such low-stake behavior as expressing social policy preferences. Moral worldviews are shaped by personal experiences and long-term social processes that are often orthogonal to economic conditions. However, self-interest plays an important role in that it explains *who* is more likely to deviate from moral reasoning (prediction 1 and 3). To understand the weakness of the income gradient documented in Figure 1, we need to account for the existence of a larger share of high-income individuals who "pull" the income slope downward (prediction 2).[18]

[18] The individual-level predictions (P1 and P2) can be interpreted as causal statements. I expect individuals to adapt their preferences according to the two-steps process previously described. In contrast, the country-level prediction (P3) should be understood as observable macro-level implications of my framework with regards to the *structure* of policy preferences in advanced capitalist countries (Alesina and Angeletos 2005; Benabou and Tirole 2006*a*).

3 Empirics

I test prediction 1 through 3 using the survey data introduced in Figure 1, namely wave 4 of the European Social Survey collected in 2008. To measure perceptions of free riding I use the same items listed in Table 1. I use factor scores derived from factor loadings obtained after separate country-by-country factor analyses. The higher a respondent's the score, the less likely she is to be concerned about free riding. In this part of the analysis, the factor scores are centered around the country mean score and divided by two times the country-specific standard deviation (Gelman 2008). In other words, two individuals from two different countries with the same factor score of -1 (1) have in common to have a free riding score that is one standard deviation below (above) their country's mean score.

I use the free riding scores to predict answers to support for cuts in taxes and social spending previously introduced.[19] This variable is also standardized using country-specific means and standard deviations. Unlike the free riding scores, the unit is not two standard deviations but one. The coefficient on free riding perceptions can consequently be interpreted as the change in support for cuts in taxes and social spending (in units of SD) comparing free riding scores at a low value (-1 SD or ubiquity of free riding) to scores at a high value ($+1$ SD or absence of free riding). What qualifies as high and low in "absolute" terms varies across countries. However, the substantive meaning of the regression coefficient is the same across all countries: the higher the regression coefficient, the more relative differences in free riding perceptions overlap with relative differences in tax-spend preferences. To measure income level, I rely on a categorical measure that distinguishes between individuals in the top quintile of their country's income distribution and individuals in the bottom quintile. The results are similar if I run the analysis using the full 1 to 10 income decile scale but, in the regressions, I only present the top-bottom quintile results for ease of interpretation.

[19] As a reminder: "Many social benefits and services are paid for by taxes. If the government had to choose between increasing (decreasing) taxes and spending more (less) on social benefits and services, which should they do?" Respondents answered using a 0 to 10, with higher values indicating higher support for decreasing taxes and spending.

3.1 Perceptions of free riding matter more for the rich than for the poor (P1): cross-sectional evidence

To test Prediction 1, I examine whether the coefficient on perceptions of free riding varies with the share of income impacted by social transfers, i.e with income level (under the assumption that social soending and taxes are redistributive). I expect a higher coefficient among top quinitile respondents than among bottom respondents. I first pool the data and run the analysis using a hierarchical linear model with individuals nested in countries.[20] Throughout this first section, I model the coefficients on behavioral variables as random variables (i.e. slopes are allowed to vary across the twenty countries).

Column 1 in Table 2 reproduces the pattern presented in Figure 1: on average the difference between the rich and the poor in support for cuts is substantively small, being equal here to a 10^{th} of a SD. Column 2 reproduces at the individual-level the pattern presented at the country-level in Figure 2. Individuals who disagree strongly in their perception of free riding also disagree in their support for cuts: the average difference is 0.45 SD.

Column 3 examines whether this relationship is not an artifact of self-interest or economic and partisan ideology (see earlier discussion for more details). I control for socio-economic factors that proxy for the likelihood of benefiting from social spending such as age, gender, whether the respondent has young children and most importantly, occupational unemployment rate measured using the technique developed by Rehm (2008) (see footnote in Figure 3 for more information). I rely on three proxies of ideology namely subjective left-right placement (1 to 7 scale), one item that asks about support for redistribution and an individual score measuring latent support for government involvement in the provision of public good and social insurance. The latter measure was computed using six different items on support for government intervention that all load on the same latent dimension. Table A.4 in the Appendix provides detailed information on how each variable was computed. The coefficient on free riding beliefs is barely affected by the introduction of these controls, confirming previous claims that free riding perceptions are orthogonal to material conditions and to the likelihood of being a recipient of benefit transfers (Fong 2007; Gilens 1999). Free riding perceptions are also orthogonal to economic and partisan ideology.

[20] With twenty countries, concern that standard errors might be severely biased downwards is mitigated (Green and Vavreck 2008; Stegmueller 2013).

Table 2: P1: The predicted difference between high and low free riding scores is higher among top quintile respondents than among bottom quintile respondents

	(1)	(2)	(3)	(4)	(5)
Top quintile [ref: Bottom]	0.12***	0.16***	0.03	0.16***	0.03
	(0.03)	(0.03)	(0.02)	(0.03)	(0.02)
Free Riding beliefs		-0.44***	-0.40***	-0.34***	-0.31***
		(0.04)	(0.03)	(0.05)	(0.04)
Free Riding beliefs * Top quintile				-0.25***	-0.19**
				(0.07)	(0.07)
Support for redistribution			0.18***		0.18***
			(0.04)		(0.04)
Government responsibility			-0.19***		-0.19***
			(0.05)		(0.05)
Socio-economic factors			YES		YES
N	30142	30055	27533	30055	27533
ll	-41991	-41035	-36885	-41014	-36874

Columns 4 and 5 test Prediction 1. The interaction between free riding perceptions and income indicates that the covariance between the former and support for cuts is more than $2/3$ higher among top quintile respondents than among bottom quintile respondents. Column 5 indicates that these results are robuts to the introduction of socio-economic and ideological controls.[21]

3.2 Addressing potential confounders

In the Appendix, I address two important confounders, namely cognitive capacity and partisanship identity. Indeed, the relationship presented in column 4 could well be the result of high income individuals being more ideologically "coherent" and more likely, for cognitive reasons, to associate the correct values to a given set of social policy preferences. Evidence of the latter is overwhelming in research on American political behavior. To address this issue, I look for systematic differences in patterns of answers to questions about free riding among the rich and among the poor. Lower inter-item correlation would indicate lower levels of "coherence" with implications for the results presented above. As documented in the Appendix, I find not evidence of systematic differences, be it in the pooled data or country-by-country. I run the same analysis looking at respondents with below average education level and respondents with above average

[21] However, given that the estimate of interest is the interaction term, controlling for compositional different between the top and bottom quintile is not particularly justified.

education level: the results are the same (TO BE ADDED).

As an additional test, I also examine whether the interaction terms between income and the two measures of economic ideology are significant. If they are, then this might indicate that the interaction term documented in column 4 is an artifact of a larger pattern where high income respondents are more prone to associate values to policy preferences. The interaction term appears to be positive when interacting support for redistribution with income (not support for government intervention). However, this relationship disappears once I control for left-wing subjective and interact it with income. In a European context where support for redistribution is a partisan issue , the interaction on support for redistribution is thus the result of high income individuals being more likely to align their partisan identity with their social policy preferences.

This bring us to our second concern: could results supportive of Prediction 1 be an artifact of higher levels of partisan reasoning among the rich than among the poor. I introduce the interaction between subjective left-right placement and income alongside the interaction between free riding beliefs and income. Unlike the previous interaction between support for redistribution and income (which disappears), the pattern documented in columns 4 and 5 is only marginally affected. In other words, evidence indicate that among the rich higher levels of partisan coherence coexist with the high reliance on moral reasoning but do not explain it.

More importantly, the framework presented in this paper makes predictions that these alternative arguments cannot account for. If we assume that low cognitive capacity and ideological constraint explain the lower covariance among the poor, then we should expect the mismatch between perceptions of free riding and tax-spend preferences to be evenly distributed among all poor, irrespective of free riding perceptions. The framework tested in this paper, in contrast, predicts that this mismatch will be limited to the poor who find are concerned about free riding. As we will see with Figure 7 below, this is indeed the case.

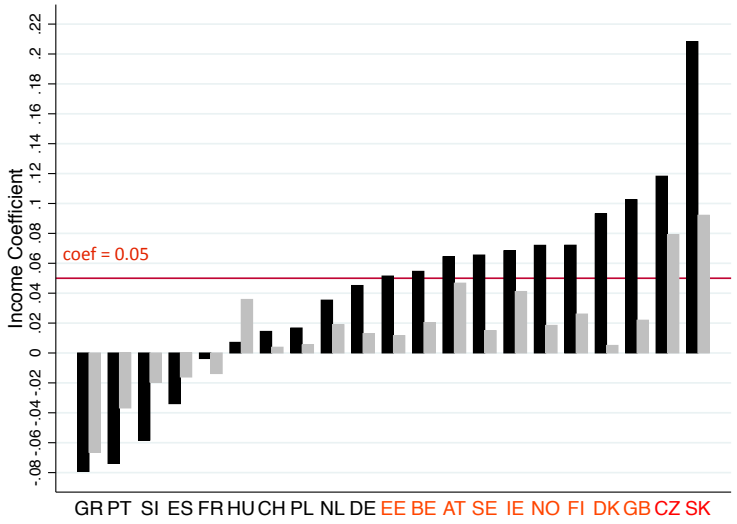
3.3 Income can be a good predictor of support for cuts if you know where to look (P2)

Table 2 documents patterns in the data that support prediction 2. While the difference between top and bottom quintile respondents is equal to one 10^{th} of a SD on average, the predicted difference in support for cuts jumps to an average of 0.41 SD $(0.16-(1*0.25))$ among individuals who are the most concerned about free riding, representing a fourfold increase. To further test Prediction 2, I re-run the analysis that underlies

Figure 1, which plots country-by-country income gradients, but limits the sample to individuals who are at least 1/2 a SD below the country mean with regards to free riding perceptions. I plot the new coefficients in Figure 6. For reference, I also plotted the original income coefficients computed using the full sample.

The results indicate that the framework advocated in this paper does a good job of explaining the weakness of the income gradient in at least 9 countries (DE EE BE SE IE NO FI DK GB). In 2 countries where the income gradient was already very high CZ SK, it appears to be even higher among this specific subset of individuals.

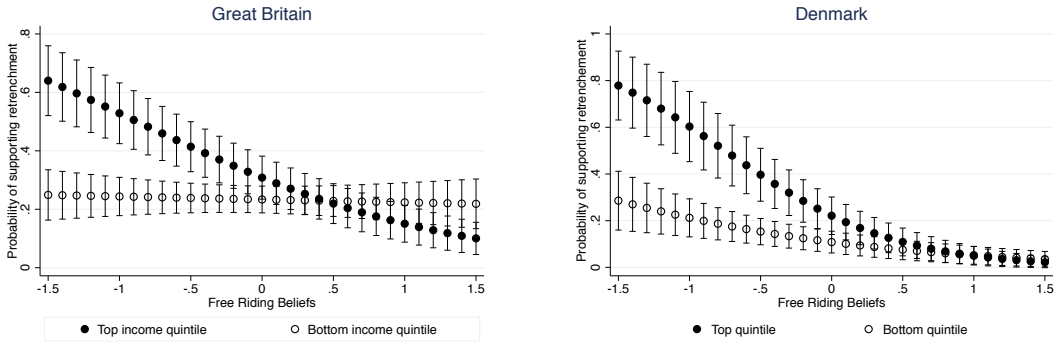
Figure 6: P2: The income gradient among respondents with are concerned about free riding



Gray bars reproduce the income coefficients plotted in Figure 1. The dark bars represent the same coefficients but limiting the sample to individuals who are at least 1/2 a SD below the country mean with regards to free riding perceptions.

Figure 7 examines the substantive implications of free riding perceptions among the rich and the poor focusing on two ideal cases, namely Great Britain and Denmark. For simplicity, I switch to a dichotomous measure of policy preferences that distinguishes individuals who support retrenchment (6/10 answers on the 0/10 scale) from others. Great Britain, in particular, has attracted much attention from pundits puzzling over low-income individuals' hostility to welfare recipients and sharp social policy retrenchment since the Tories victory in 2010. As made clear by Figure 7 , low-income individuals might hold negative priors but this does not translate into opposition to spending on social transfers they stand to benefit from. In line with Prediction 2, the income gradient is larger only among individuals concerned about free riding. More generally, and in line with Prediction 1, the higher correlation among the rich between free riding perceptions and support for cuts is the result of higher than expected – from a self-interest perspective – opposition to retrenchment on

Figure 7: Predicted Support for a Decrease in Spending and Taxes: Top versus Bottom Income Quintiles



Predicted probability of chose a response category superior or equal to 6 on the 1/10 scare.

the part of high-income individuals who find the system fair, moral hazard limited and recipients deserving.

3.4 Explaining scope conditions: the role of benefit concentration (P3)

As documented in Figure 6, for a little over a third of the countries in the sample, the framework tested here does not seem to apply very well. Prediction 3 offers one potential reason. Because of differences in labor market conditions and policy design, social transfers reach higher up the income ladder in some countries than others. According to Prediction 3, in countries to the left of figure 6 income is a poor predictor because even high-income individuals who are concerned about free riding benefit from social spending and adjust their preferences self-servingly.

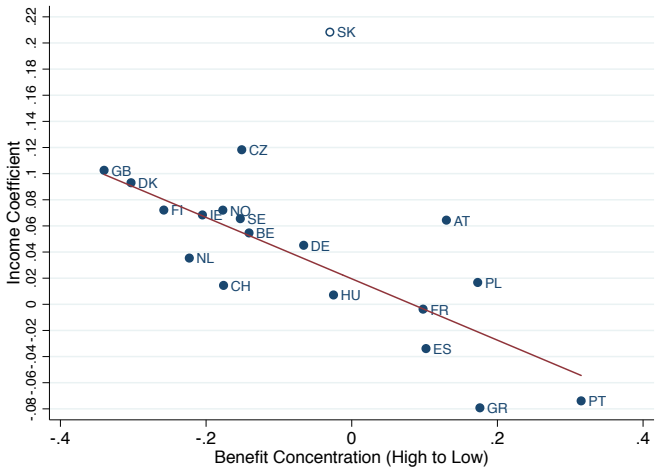
To measure differences in benefit concentration, I rely on data provided by the OECD (OECD 2008). It is similar to a Gini coefficient, capturing the differences between a group's share of the population and its share of all the cash transfers that are targeted to individuals of working age distributed in a given year. A value of zero indicates that all income groups (ranked according to their disposable income) receive an equal share of all cash transfers. A negative coefficient indicates that lower income groups receive a higher share of transfers than their share of disposable income. In the Appendix (A.1), I detail a set of checks I ran to assess the quality of this measure of cross-national differences in benefit concentration.

Table A.XX in the Appendix presents the results of a hierarchical lineal model interacting the income coefficient with a level-two variable, namely benefit concentration (TO BE ADDED). The analysis is limited to individuals with free riding preferences who are at least 1/2 a SD below their country's average free riding

score. To check that the results are not driven by a few outliers, I also present the results graphically plotting the coefficients presented in Figure 6 against measures of benefit concentration. This bi-variate relationship is plotted in Figure 8.

As predicted, the cross-level interaction between income and benefit concentration is substantive and significant [TO BE ADDED]. As benefit concentration decreases so does the income gradient. There is however one notable outlier: Slovakia is in a league of its own, once heterogenous moral reasoning among high income respondents is accounted for, the estimate more than doubles, predicting differences equal to 2 SD.

Figure 8: P3: The Size of the Income Gradient Increases with Benefit Concentration



Data: ESS 2008, OECD(2008). Analysis ran limiting the sample to individuals who are at least 1/2 a SD below the country mean with regards to free riding perceptions.

This paper was set up to explain the mismatch between expectations from workhorse models in political economy on the one hand, and the observed structure of public opinion on the other. The argument and findings point to two related reasons behind the unexpected weak income gradient. First, the conditional effect of moral reasoning implies that expectations of a large income gradient only apply to a subset of individuals, namely those who believe that social transfers benefit undeserving recipients and that existing social programs encourage free riding (prediction 2). In other words, the weak income gradient documented at the beginning of this paper can be mostly traced back to the existence of a large group of high income earners whose trust in the fairness of the welfare state make them opponents of welfare retrenchment. As a result, high-income individuals are sharply divided when it comes to welfare retrenchment. The best

predictor of where individuals fall on each side of this divide is whether or not a given individual believes that social transfers benefits undeserving recipients and that existing social programs encourage free riding (prediction 1). The explanatory power of this framework decreases as benefit concentration decreases or, to put it differently, the more benefits are evenly spread across the income distribution, the less income is predictive of support for cuts in taxes and social spending (prediction 3).[22]

[22] See Beramendi and Rehm (2016) for a similar finding but applied to support for redistribution.

4 Conclusion

Comparative studies of redistributive politics have largely overlooked the consequences of moral reasoning, defined as the shared norms that regulate free riding. I have shown that the omission of free riding concerns comes at a cost for our understanding of redistributive politics in post-industrial democracies. This paper is consequently in agreement with Fong, Bowles and Gintis (2006) who write: "Understanding egalitarian politics today requires a reconsideration of *Homo Economicus*, the unremittingly self-regarding actor of economic theory (...). (W)e believe that conditional cooperation and punishment better explains the motivations behind support for the welfare state" (page 6). This paper provides one of the first systematic cross-national extension of the mainly US-centric research that provides the empirical bases for this claim.

In line with previous findings by Fong (2001, 2007); Gilens (1999) for the US, and Cavaille and Trump (2015) for Great Britain, I argue and show that perceptions of free riding are not simply a posteriori justifications of one's reliance on social transfer or ideological construct specific to one's partisan identification.[23] However, while Fong, Bowles and Gintis (2006) argue that moral reasoning to limit free riding is a better predictor of social policy preferences than self-interest, I argue that the two matter jointly. Without close attention to moral reasoning around free riding, key components of mass social policy preferences are unaccounted for. Without self-interest, researchers cannot explain why the predictive power of perceptions of free riding varies across socio-economic groups and countries.

Overall, this framework has at least two important implications for our understanding of redistributive politics in post-industrial countries. First, it sheds a new light on the coalitions behind social policy retrenchment in the "Age of Austerity" (Pierson 2001). In many European countries, budgetary constraints and high levels of public debt following the Great Recession have rekindled the debate over the size of the welfare state. Mainstream models predict that high-income groups will be more likely to turn against a bankrupt welfare state for fear of having to foot the bill. My framework predicts strong heterogeneity among the rich: high-income "bleeding heart" liberals, who believe the system to be fair and recipients deserving, are central to coalitions opposing retrenchment. While low-income voters, who vote against their interest to "punish" undeserving recipients, have attracted most of the attention, my findings indicate that bleeding

[23] For a discussion and examination of the determinants of free riding perceptions see Cavaille 2017).

heart liberals require as much, if not more, attention from researchers (see Rueda and Stegmueller (2015) for a similar claim). The centrality of bleeding heart liberals to anti-retrenchment coalitions increases with benefit targeting: when transfers are targeted to the least well-off, high-income individuals who are concerned about free riding are very likely to defect and support retrenchment, increasing the importance of bleeding heart liberals in limiting cuts in social spending. In such a context, beliefs regarding the ubiquity of free riding are more likely to permeate public debates on welfare state reform.

A comparison between the politics of health care reform in Great Britain and the United States provides a quick illustration of the benefits of the framework presented in this paper. Both countries are known for an extensive use of the deservingness and moral hazard rhetoric. Their populations hold, comparatively to other western countries, negative priors about the deservingness of the poor (Svallfors 2012). In Great Britain, the recent debates over the privatization of segments of the National Health Service (NHS), have made no references to deservingness or moral hazard. The universal design of the NHS results in a strong self-interested support for the status quo. In contrast, the coalition behind Obamacare is a mix of self-interested low-income voters hoping to get access to year-around health insurance and high-income individuals who perceive the lack of insurance among the poor as a form of injustice. Tea-party voters, on the other hand, are an illustration of the mobilizing power of a combination of self-interested opposition to a reform – they usually have an above average income – alongside the beliefs that future beneficiaries are among the undeserving lazy scroungers (Skocpol and Williamson 2011).

Second, the framework presented in this paper shed light on recent trends in the politics of social policy reform. One the one hand, my argument and findings support Pierson's claim that self-interest is a strong motive driving opposition to retrenchment, especially among those who benefit the most from social spending (Pierson 1996): cuts in social spending are unlikely policy outcomes. On the other hand, an emphasis on moral reasoning and free-free riding indicates that the action might have happened on a different facet of social policy preferences, affecting not *spending* preferences but preferences about *who* should access benefits. Individuals who oppose cuts for self-interested reasons cant still act on their desire to monitor free riding through their support for making access to benefits conditional on "good behavior."

This framework can thus better explain the welfare-to-workfare reforms of the 1990s. Out-of-work but able-bodied workers are the most vulnerable to moral debates about deservingness (Oorschot 2000). Indeed, it is harder, relative to the disabled, the sick or the old, to objectively assess whether or not they are unin-

tentionally unemployed for no fault of their own. Workfare policies are aimed at decreasing moral hazard by making access to benefit conditional on evidence of job search. In other words, these policies reforms seek to weed out free riders and publicly out the undeserving. These reforms, whose effect on overall levels of spending are ambiguous at best, make little theoretical sense in traditional models that do not emphasize moral reasoning. In addition, the lack of correlation between free riding perceptions and benefit recipiency can help understand why welfare-to-workfare reforms while first put forward by radical conservatives such as Thatcher or Reagan, have been subsequently embraced by center left parties trying to please their own constituencies.

While this paper examines the consequences of perceptions of free riding, it leaves aside one major area of enquiry: where do these perceptions come from? The only line of work that examines free riding perceptions, focusing on perceptions of the deservingness of the poor, stops short of answering this question. The emphasis on self-reliance in American culture (Benabou and Tirole 2006*a*) as well as the legacy of slavery most likely play an important role in explaining the United States' position as an outlier when it comes to the belief that the poor are lazy. However, perceptions of recipients as lazy free-riders are no longer limited to one side of the Atlantic, with similarly harsh attitudes in Britain (Svallfors 2012), Poland, and at least in 2008, France. Recently, populist movements have successfully tapped into perceptions of fairness (e.g. "immigrants get more than native") and into support for excluding those who do not contribute their fair share (e.g the "immigrant welfare shoppers"). Could group-bias and ethnic diversity shape concern about free riding? However intuitively satisfying, there is evidence that reality might only reluctantly fit this framework. In Great Britain, where a casual observer of British politics might assume anti-immigrant preferences to be a driver of negative perceptions of welfare recipients, "most of the poor and welfare recipients are perceived to be white." In Denmark and Sweden, with much lower levels of diversity, "the poor and welfare recipients increasingly have come to be perceived as non-white" (Larsen and Dejgaard 2013), without undermining the beliefs that the modal recipient is deserving. Future research, I believe, will greatly benefit from directly engaging with work in social psychology and behavioral economics on the cognitive apparatus, briefly documented in this paper, that underlie moral reasoning. A better understanding of the norms of fairness that underlie a given society or social class will require intensive (cross-cultural) ethnographic work, something that has unfortunately become a rarity in political science.

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APPENDIX [TO UPDATE]

4.1 P1 and P2: Full results [TO ADD]

Table A.1: Free Riding Perceptions and Support for Cuts in Taxes and Spending: Full Results

	(0)	(1)	(2)	(3)	(4)	(5)	(6)
Fixed Effects							
Free riding perceptions		**-0.51*****	**-0.46*****	**-0.50*****	**-0.46*****	**-0.57*****	**-0.52** ***
		(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)
Support for redistribution			0.23***		0.22***		0.24***
			(0.04)		(0.04)		(0.05)
Government responsibility			-0.25***		-0.27***		-0.24***
			(0.04)		(0.04)		(0.05)
Top quintile [ref: Bottom][a]				0.10**	0.04	0.10*	-0.03
				(0.03)	(0.03)	(0.04)	(0.04)
Unemployed				-0.03	0.00	-0.01	-0.01
				(0.04)	(0.04)	(0.05)	(0.05)
Outsider [ref : Insider]				-0.05	-0.02	-0.04	-0.02
				(0.03)	(0.04)	(0.04)	(0.04)
Not on the labour market				-0.07**	-0.07**		
				(0.03)	(0.03)		
Years of education				-0.02	-0.02	-0.02	-0.03
				(0.01)	(0.01)	(0.02)	(0.02)
Tertiary degree				0.00	-0.03	0.01	-0.02
				(0.02)	(0.02)	(0.02)	(0.02)
Gender [ref:male]				-0.03	-0.00	-0.05	-0.01
				(0.03)	(0.02)	(0.03)	(0.02)
Age				-0.01***	-0.00***	-0.01***	-0.01***
				(0.00)	(0.00)	(0.00)	(0.00)
Age^2				0.00***	0.00***	0.00***	0.00***
				(0.00)	(0.00)	(0.00)	(0.00)
Unemployment risk						0.05	0.04
						(0.04)	(0.04)
Random Effects (SD)							
Free riding perceptions		-0.08**	- 0.05***	-0.08***	-0.05***	-0.08***	-0.08***
		(0.08)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
Support for Redistribution			-0.14***		-0.15***		-0.15***
		(0.00)	(0.03)	(0.01)	(0.02)	(0.02)	(0.02)
Government responsibility			-0.15***		-0.14***		-0.15***
			(0.02)		(0.02)		(0.03)
Residuals SD	1.00***	0.97***	0.94***	0.95***	0.93***	0.94***	0.92***
	(0.00)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)
N	29308	29226	29167	22231	22231	11336	11336
ll	-41653	-40535	-39810	-29949	-29353	-15026	-14770

Significance levels: * $p<.05$, ** $p<.01$ *** $p<.001$.

Note: When unemployment risk is included, the sample is restricted to individuals on the job market only. Indeed this measure of risk exposure is meaningless for individuals who are not directly exposed to job loss.

Data: ESS 2008.

[a] The result is the same even if I use a measure of income which orders respondents by income deciles.

Table A.2: The Determinants of Free Riding Beliefs

	(1)	(2)	(3)	(4)
Fixed Effects				
Support for redistribution	-0.02		-0.03*	-0.04*
	(0.01)		(0.01)	(0.02)
Government responsibility	0.10***		0.10***	0.11***
	(0.02)		(0.02)	(0.02)
Top quintile [ref Bottom quintile][2]		0.03*	0.05**	0.04
		(0.01)	(0.01)	(0.02)
Unemployed		**0.15****	**0.14****	**0.14****
		(0.03)	(0.03)	(0.02)
Outsider[a]		0.00	0.00	**0.05***
		(0.00)	(0.00)	(0.02)
Years of schooling		**0.03****	**0.03****	**0.04****
		(0.01)	(0.01)	(0.01)
Tertiary degree		**0.12****	**0.12****	**0.13****
		(0.02)	(0.02)	(0.03)
Gender [ref: male]		0.02	0.01	-0.01
		(0.01)	(0.01)	(0.02)
Age		-0.00**	0.00	0.00
		(0.00)	(.)	(.)
Age[2]		0.00**	0.00**	-0.00
		(0.00)	(0.00)	(0.00)
Unemployment risk				**-0.03** *
				(0.32)
Random Effects				
Tertiary degree[b]		0.08***	0.08***	0.09***
		(0.02)	(0.02)	(0.02)
Unemployed[c]		0.02***	0.05***	0.07***
		(0.00)	(0.02)	(0.03)
Unemployment risk[c]				0.03***
				(0.02)
Support for redistribution	0.00		0.02***	0.05***
	(.)		(0.00)	(0.01)
Government responsibility	0.05		0.05***	0.06***
	(.)		(0.01)	(0.02)
Residuals SD	0.50	0.49***	0.49***	0.48***
	(.)	(0.00)	(0.00)	(0.00)
N	31036	23221	23181	11634
ll	-39713	-28695	-28476	-14178

Significance levels: * $p<.05$, ** $p<.01$ *** $p<.001$. *Note*: the outcome variable is standardized such that the difference between 0 and 1 is equal to 2 SDs, the coefficients on the non-standardized variables, such as income or university degree, are to be interpreted with this recoding in mind. *Data*: ESS 2008. [a] Once I restrict the sample to those who are on the labor market, being an outsider has the expected effect (0.1 SD more likely to believe welfare recipient deserving)

[b] The slope for university degree varies a lot across countries, indicating that higher education is not a good predictor of higher levels of deservingness in all countries.

[c] I include RE for the unemployment risk and unemployed coefficients to account for the fact that measurement error might make it a poor predictor of deservingness beliefs in some of the countries in my sample.

4.2 Alternative Hypotheses: Cognitive Capacity and Ideological Constraint [TO ADD]

Table A.3: Cognitive Capacity and the Interaction Between Income and Free Riding Beliefs

	(1)	(2)	(3)
	Compositional Effects of Education and ideological constraint		Ideologues only
Fixed Effects			
Free Riding beliefs	0.31***	0.25***	0.27*
	(0.05)	(0.06)	(0.13)
Top quintile	-0.11***		
	(0.03)		
Free Riding beliefs * Top quintile	**0.30****		
	(0.04)		
Income (1/10)[a]		-0.01**	-0.03**
		(0.00)	(0.01)
Free Riding beliefs * Income (1/10)		**0.04****	**0.05***
		(0.01)	(0.02)
Intensity	0.01	0.01	
	(0.01)	(0.01)	
Government responsibility	0.26***	0.26***	0.28***
	(0.04)	(0.04)	(0.05)
Support for redistribution	-0.25***	-0.25***	-0.35***
	(0.04)	(0.04)	(0.07)
Tertiary degree	0.02	0.02	-0.03
	(0.02)	(0.02)	(0.06)
Years of schooling	-0.00	-0.00	-0.00
	(0.01)	(0.01)	(0.03)
Random Effects	YES	YES	YES
Residuals SD	0.94***	0.94***	
	(0.01)	(0.01)	
N	23733	23733	3110
ll	-31540	-31533	-4411

Significance levels: * $p<.05$, ** $p<.01$ *** $p<.001$.

Note: The categorical income measure compares individuals in the top and bottom quintile of the income distribution. The continuous measure is a measure running from 1 to 10 identifying the income decile individuals belong to. The "Intensity" variable is computed using subjective left-right placement. The details on how this variable was computed are available in Table A.4. Using this variable, I run the analysis only using individuals with a clear left-right orientation (intensity ¿ 2) and who have response patterns on the government responsibility variable that place them distinctively (¿ 1 SD or ¡ - 1 SD) to the left or the right of the ideological spectrum (see M3).

Data: ESS 2008.

[a] I switch to a continuous measure of income for the last test. The sample size is greatly reduced because of the sub-setting and the bottom and top quintiles only have a small number of observations. I consequently leverage the full variation available with the 1/10 income decile variable (see Table A.4).

4.3 Measuring Benefit Concentration

The OECD uses country-specific income surveys provided by member states to compute the measures used in the analysis in section 2. These surveys cover the 2004-2008 period. To test the robustness of this measure, I used the Luxembourg Income Study (LIS 2015) , which harmonizes income and labour force surveys to make them comparable across countries, to compute measures of benefit concentration, using a formula identical in spirit to the Gini coefficient (see code below). Because LIS does not provide enough information on the nature and origin of transfers, I rely on a second best solution, which is to examine the distribution of cash transfers in the working-age population (18-62 years old). This allows me to compute a measure that does not take into account pension and old-age related transfers. However, when compared to the OECD measure, the reference population is different, providing only an imperfect point of comparison. I find a strong correlation between the OECD working-age cash transfer and the LIS measure (0.76 with a sample size of 20). The main problematic case is Switzerland: the concentration levels are much higher in the LIS data than in the OECD data. However, a recent 2011 version of this measure released by the OECD confirms the country ranking in the 2008 measure (OECD 2014).

I also examined whether measures of benefit concentration are related, as assumed, to the distribution of unemployment risk in the population, as well as to policy design. To measure risk concentration, I use a measurement strategy similar to the one in Rehm, Hacker and Schlesinger (2012) (see the article for more details). Unfortunately, the size of my sample drops from 20 to 11, in this small sample, the correlation between benefit concentration and risk concentration is 0.66. As a result, I prefer to use average unemployment rates over the previous five years as a proxy for risk concentration. The assumption is that countries with higher resilient unemployment rates are most likely to be countries where unemployment risks expands beyond the low skilled poor workers (i.e. higher average unemployment rate indicates lower risk concentration). As a proxy for policy design, I use average income replacement rates for unemployment insurance. I use an updated version of Ferrarini et al. (2013) that was kindly provided to me by the authors. Unemployment rate and replacement rates predict the working-age benefit measure well: the explained variance is close to 0.7 and the standardized coefficients on each measure are substantive (ranging from 0.4 to 0.7 depending on specifications).

Code submitted to LIS platform (data is only accessible remotely):

```
program define welfdimP
drop if age> 62
drop if age< 18
drop if dhi==.
drop if hwgt==.
replace hwgt=0.01 if hwgt==0
gen pwt=hwgt*nhhmem

gen transfer =hit - hitp
replace transfer = hit if transfer == .
drop if transfer == .
replace transfer=0 if transfer¡0
replace transfer= transfer/(sqrt(nhhmem))
```

```
* pre transfer income
gen pretrinc=dhi-transfer
replace pretrinc= pretrinc/(sqrt(nhhmem))
replace pretrinc=0 if pretrinc¡0

*concentration coefficient generated here
sgini transfer [aweight=pwt], sortvar(pretrinc)

end

foreach ccyy in at04 be00 cz04 dk04 ee04 fi04 fr05 de04 gr04 hu05 ie04 nl04 no04 pl04 sk07 es04
se05 ch04 uk04

di "'ccyy'"

use age dhi hwgt nhhmem hit hitp hits hitsu hitsa using $'ccyy'h, clear
welfdimP
```

4.4 The Role of Benefit Concentration: Hierarchical Linear Model, Two-level Interaction

[TO ADD]

4.5 Variables

Table A.4: Variables: Overview

	ESS variable	Recoding
Income	The ESS provides a categorical income variable designed to match the income distribution of the surveyed country: e.g. individuals who are in category 1 are individuals who declare a household income below the country's first percentile.	I limit my use of this continuous measure to the bare minimum. Indeed, I need a measure of income that is comparable across countries. Robustness checks reveal inconsistencies in the cut-off points chosen by the ESS country teams. As a result, I recoded the income measure in order to identify households in the top and the bottom quintile. I used the Luxembourg Income Study's datasets to compute country by country values for the P20 and the P80. I then recode the 1 to 10 income value into a three category variable.
Unemployment risk	The ESS provides data on individuals' occupation, using the ISCO88 classification at the 3 digit level	I use the occupation variable to match respondent to a measure of occupational unemployment rate. I use the European Labour Force Survey to measure the share of individuals in a given occupation who are unemployed at the time of the survey. I pooled three years of labour force surveys to decrease measurement error. Occupations that have too few observations are dropped. In a robustness check, I also ran the same analysis using the number of individuals who are unemployed as well as individuals who are in involuntary part-time or in a fixed-term contracts. Despite harmonization efforts by the Eurostat team, some of the measures for Eastern European countries raise a few red flags. I include it in the analysis but interpretation of the coefficients requires much caution. I assume the absolute level of risk to matter more than the relative level (i.e. relative to the country average). This variable is consequently standardized but with regards to the average unemployment rate and standard deviation **of the full sample**.
Education	The ESS provides the following categorical variable: Less than lower secondary education/Lower secondary education completed / Upper secondary education completed /Post-secondary non-tertiary education / Tertiary education completed	I identify respondents who have a post-secondary education as having a "tertiary degree."
Years of schooling	Years of full-time education completed	I standardize this measure with regards to average schooling in the country. I use this measure in conjunction with the "tertiary degree" variable to control for years of education and degree.
Labor market status	The ESS asks respondents about their main activity in the past 7 days	I distinguish between the employed, the unemployed and those out of the labor market. Within the employed, I single out "outsiders", i.e. individuals who have experienced unemployment in the past year and are working part time or on a fixed-term contract.

Table A.5: *

Variable: Overview (continued)

	ESS Variable	Recoding
Government responsibility	How much responsibility you think the government should have to : Ensure a decent standard of living for the unemployed / Provide childcare services for working parents / Provide paid leave from work to care for sick family / Ensure a decent standard of living for the old / provide healthcare for the sick / Provide jobs for everyone	I use these six items to measure latent support for government responsibility in the provision of social services. Individual scores are computed following a factor analysis using country-specific item means and standard deviations. I use this item as a proxy of an individual's ideology on left-right economic issues.
Support for redistribution	Government should reduce differences in income levels : Agree Strongly / Agree / Neither / Disagree / Disagree Strongly	I use this item as a proxy of an individual's ideology on left-right economic issues.
Subjective placement on the left-right scale	In politics people sometimes talk of "left" and "right". Using this card, where would you place yourself on this scale, where 0 means the left and 10 means the right?	

Table A.6: Additional Robustness Checks

	Concern	Check	Result
1	Higher country-level unemployment rates predict both low reliance and low income gradient.	Re-ran multi-level analysis controlling for unemployment rates averaged over the 2003-2008 period, as well as the 2008 unemployment rate.	Results hold.
2	Because of large confidence intervals my results run the risk of being mainly driven by the contrast between Great Britain and Denmark on the one hand and Greece on the other (see Figure 8).	I re-ran the multi-level analysis taking each country out in turn.	Results hold.
3	By running a regression using factor scores, I do not take into account errors when estimating the free riding scores in my estimation of covariance between beliefs and policy preferences	I re-ran key parts of the analysis using structural equation modeling (SEM). SEM explicitly models measurement error when examining the relation between a latent construct (here free riding beliefs) and the outcome of interest.	SEM returns the same results, indicating that my findings are unlikely to be an artifact of systematic differences in measurement errors across groups. An example of the code used is presented above.