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Unfair inequality and the demand for redistribution

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Unfair Inequality and the Demand for Redistribution

Leo Ahrens

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Unfair Inequality and the Demand for Redistribution

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Abstract

Income inequality is rising but there seems to be no clear-cut effect on redistribution preferences, which is inconsistent with expectations of individual utility maximization. To explain this puzzle, recent research focuses on other-regarding motives. This study follows prior theorization presuming that the effect of inequality is transmitted through normative value judgements, but argues that a central point has been neglected. Individuals support a certain level of inequality caused by differences in individual merit and it is primarily non-merit based inequality that affects redistribution preferences. This view is substantiated by assessing the effect of an inequality measure that aims to solely measure non-merit based inequality. Multilevel models using repeated cross-sections show that it can explain both within- and between-country variance in redistribution preferences and that it is a better predictor than previously used measures. This suggests that the socio-political consequences of inequality cannot be inferred directly from the level of inequality.

Keywords: Redistribution; inequality; fairness; legitimacy; preferences

1 Introduction

Income inequality has been on the rise since the 1970s, which led to a rapid growth in the literature on the implications of inequality in political science and neighboring disciplines. The effect on redistribution preferences received particular attention because, in principle, it should be possible to reduce inequality by taxation and redistribution in democratic countries. The ubiquitous model of Meltzer and Richard (1981) predicts that, in the aggregate, rising inequality should strengthen the demand for redistribution (DFR) because individuals are assumed to be fully rational utility maximizers. Even though there is inconclusive empirical support for its main implications (e.g., Luebker 2007), however, it continues to be pivotal in research focusing on redistribution (e.g., Dorsch and Maarek 2019; Midtbø 2018; Schmidt-Catran 2016).

As Dimick, Rueda, and Stegmueller (2016) note, there is now widespread dissatisfaction with the simplistic view of rational choice theory due to its neglect of normative value judgements about inequality. Thus, a literature theorizing how the impact of inequality on redistribution preferences depends on normative factors has developed. Notable examples include Dimick, Rueda, and Stegmueller (2016), who argue that inequality positively affects redistribution preferences due to a combination of altruistic motivations and declining marginal utility of income; and Lupu and Pontusson (2011), who argue that the structure of income inequality affects redistribution preferences due to its influence on social affinity between classes (see also Shayo 2009). This study adds to the literature by outlining a general framework of when inequality affects redistribution preferences and by testing its implications in an empirical application.

The argument relies on two interconnected claims. Firstly, the effect of inequality on redistribution preferences is mediated by normative value judgements about inequality (Luebker 2007). While this presumption is consistent with prior theories focusing on normative evaluations, I depart from them in the second claim. In principle, people have no trouble with inequality. Inequality is generally perceived to be legitimate if it results from fair processes (Lewin-Epstein, Kaplan, and Levanon 2003; Starmans, Sheskin, and Bloom 2017), which means that inequality solely results from individual merit (*reciprocity*; see Fong 2001). Reciprocal distributions are perceived to be fair even if they are unequal. Regarding income inequality, merit is primarily indicated by individuals' employment status, among other things their occupation, education, and skills (Kuhn 2011; Osberg and Smeeding 2006). The central argument is that people do not wish to reduce such fair income differentials via redistribution to avoid distorting fair inequality (Gee, Migueis, and Parsa 2017). It is rather unfair inequality that positively affects redistribution preferences.

Focusing solely on labor incomes while disregarding capital incomes, this view is substantiated by assessing the impact of an inequality measure that aims to solely measure non-merit based income inequality. It employs the measurement technique described in Almås et al. (2011) that yields an unfairness Gini index purged from all inequality associated with labor- and productivity-related characteristics. It involves estimating hypothetical fair income distributions where each person's income depend solely on his or her merits, whereas each individual has the same returns to these merits. These hypothetical fair distributions are then compared to actual income distributions. The classical Gini index used in prior research, in contrast, compares the actual income distribution to a perfectly equal distribution. Although the measure has weaknesses, I argue that the unfairness Gini captures a form of inequality that spurs redistribution preferences to a better degree than the classical Gini index.

A multilevel analysis of repeated cross-sections using quantifications from 48 country-years of the unfairness Gini supports the theory. It can explain both within- and between-country variance in redistribution preferences and is a better predictor than the classical Gini index. This underlines the argument that the effect of inequality depends on fairness perceptions, which need not be proportional to overall inequality. Furthermore, the effect of the unfairness Gini varies with political left-right ideology, with right-leaning individuals reacting more strongly. This lends further support to the presumed importance of normative judgements since left- and right-leaning differ in their normative stance regarding the legitimacy of income inequality and redistribution.

This study makes several contributions to the literature. It underlines the importance of explanations beyond individual utility maximization in the analysis of inequality and redistribution preferences emphasized in recent contributions (Dimick, Rueda, and Stegmueller 2016; Lupu and Pontusson 2011; Shayo 2009), which adds further doubt regarding the validity of rational choice approaches. However, this study suggests that not all inequality is equal. Prior approaches aim to infer directly from a specific level or structure of inequality to redistribution preferences. In contrast, this study suggests that individuals in different contexts support a varying proportion of inequality due to differences in distributional fairness and do not seek to reduce this part of inequality via redistribution, which has been neglected so far. This calls into question the use of simple measures of overall inequality in research where the effect of inequality depends on fairness concerns, which applies to research on redistribution preferences and other dependent variables. When unfair inequality is not a fixed proportion of overall inequality, as my quantification suggests, correlating simple inequality measures with other social phenomena may produce flawed results. On the empirical side, this study develops a novel application of an inequality measure to redistribution preferences that explicitly addresses normative considerations, showing that empirical modeling considering legitimacy concerns in inequality research is feasible. Prior studies focusing on normative evaluations most often resorted to an analysis of perceptions while this study draws a link directly from measurable real-life structures to redistribution preferences.

2 Inequality and the demand for redistribution

Meltzer and Richard's (1981) rational choice approach to redistribution preferences posits that, *ceteris paribus*, individual redistribution preferences negatively depend on the own income relative to the mean income. Under typical lognormal income distributions, this translates into a positive macro association between income inequality and redistribution preferences. Empirical research offers inconclusive support for this expectation. Some studies find a positive association (Dallinger 2008; Johnston and Newman, Benjamin 2015) while others find none (Dallinger 2010; Jæger 2013; Kenworthy and McCall 2008; Luebker 2007; Roller 1998). Other researchers employ more sophisticated tests of the micro-level expectations of the model, namely an effect size of income on redistribution preferences that increases with inequality. Poor (rich) individuals should have a stronger (weaker) DFR under high inequality because their income relative to the mean income decreases (increases). Both Finseraas (2009) and Schmidt-Catran (2016) find some support for this since median income earners have stronger redistribution preferences under high inequality. However, the highest income earners' redistribution preferences increase with inequality as well, which clearly contradicts the micro-level expectations.

Something seems to be going on despite these shortcomings. The association between inequality and redistribution preferences has been tested extensively, with a considerable amount of studies finding a positive association. One answer to this puzzle lies in the rediscovery of normative value judgements

in political economy (Cavaillé and Trump 2015; Dimick, Rueda, and Stegmueller 2016; Lupu and Pontusson 2011; Shayo 2009). As Luebker (2007) notes in a primer on the topic, the insufficient evidence in favor of Meltzer-Richard can be explained by the model's neglect of values. Inequality affects redistribution preferences because of inequality aversion rather than utility maximization, whereas inequality and inequality aversion are only loosely related. This view surrenders the characterization of humans as purely rational beings and expects that the effect of inequality is mediated by normative concerns (see also Luebker 2014). It may explain why previous research inconsistently finds a positive effect of inequality and why rich individuals seem to act against their best material interest.

There are different views on how exactly norms shape the effect of inequality on redistribution preferences. Political scientists address the impact of altruism and social affinity (Dimick, Rueda, and Stegmueller 2016; Lupu and Pontusson 2011; Shayo 2009). While these approaches are sound, the following section will argue that research has neglected a vital point. Theories on the impact of inequality must consider that a proportion of inequality is perceived to be perfectly legitimate.

2.1 The neglect of fair income inequality

What kind of inequality do individuals perceive as legitimate and why? I argue that the income distribution must result from a fair distribution process by satisfying the reciprocity criterion. Reciprocity requires that people receive as much as they give in return, implying that incomes are distributed according to individual merit (Fong 2001; Mau 2016; van Oorschot 2000). When the feeling prevails that people earn what they receive, perceived fairness increases because, put bluntly, “the poor deserve to stay poor and the rich deserve to stay rich” (Gee, Migueis, and Parsa 2017, 896). Accordingly, research shows that reciprocal distributions are perceived to be fair even if they are unequal (Lewin-Epstein, Kaplan, and Levanon 2003; Osberg and Smeeding 2006; Starmans, Sheskin, and Bloom 2017). In a related vein, the perceived fairness of the own income strongly depends on comparisons to persons with similar merit (Feldman and Turnley 2004; Sauer and May 2017; Verhoogen, Burks, and Carpenter 2007), implying that income inequality *not* based on merit is perceived as unfair. What is it that individuals have to give in return to satisfy reciprocity and legitimize inequality?

Regarding the distribution of labor incomes, merit is primarily indicated by people's attributes that relate to their occupation, skills, experience, and effort. Individuals who work harder, follow more advanced occupations, and are more able have higher deservingness. While it is likely that people have differing feeling on how large the resulting income differences should be, it is generally accepted that different merit results in income inequality. This does not rule out that there are other sources of legitimate inequality, but I argue that distributional fairness according to labor related merit is the most important one, especially when focusing solely on labor income.

Research confirms that individual attributes related to occupation, skills, experience, and effort legitimize inequality. Cappelen, Sørensen, and Tungodden (2010) let participants in an experiment work towards a real monetary output. They show that differences in remuneration resulting from differences in productivity (e.g., being able to type more words) are accepted while randomized differences are not. Lewin-Epstein, Kaplan, and Levanon (2003) find strong support that differences in individuals' education as well as their skills and effort on the job warrant unequal reward. Osberg and Smeeding (2006) as well as Kuhn (2011) exploit several items from the ISSP, a cross-national survey that asked respondents to indicate how much individuals in various jobs such as factory workers and lawyers should earn. The resulting income differences between professions are substantial with an average Gini index of

ethical income of 34, although it is difficult to compare this number to the Gini of a real income distribution because it is not based on a representative list of professions (Osberg and Smeeding 2006). Lastly, individuals expect to earn as much as their colleagues (Feldman and Turnley 2004) and employees in the same industry (Verhoogen, Burks, and Carpenter 2007), which supports the view that occupational attributes define deservingness.

The disaggregation of inequality into fair and unfair parts has important implications for research on redistribution preferences because “it no longer follows that the demand for redistribution closely mirrors actual inequality” (Luebker 2007, 122). If people support substantial levels of income inequality, they cannot be expected to support redistribution that reduces this type of inequality. Thus, I argue that inequality is not sufficient for redistribution preferences. It is primarily inequality that is perceived as unfair that has an effect. The following section outlines this argument in more detail and develops hypotheses for an empirical evaluation.

2.2 How unfair inequality affects redistribution preferences

I argue that individuals are less inclined to believe that reciprocity is satisfied when the income distribution is not governed by merit, which leads to a perceived unfairness of inequality. This is associated with an increase in redistribution preferences because individuals have an aversion to unfair income differences. Unfair inequality serves as a yardstick of how much redistribution is required according to normative concerns (Gee, Migueis, and Parsa 2017). When unfair inequality rises, individuals seek to decrease inequality because it is not warranted by merit. Accordingly, Fong (2001, 226) shows that redistribution preferences increase when individuals perceive the income distribution as unfair and concludes that “individuals care deeply that other people get what they deserve” (see also Alesina and La Ferrara 2005; Corneo and Grüner 2002; Linos and West 2003; Miles 2014). Two studies report a negative correlation between just-world beliefs, i.e. being convinced that people generally get what they deserve, and redistribution preferences (Benabou and Tirole 2006; Frank, Wertenbroch, and Maddux 2015). Lastly, Gee, Migueis, and Parsa (2017) conduct an experiment where an income is distributed to participants based on either luck or performance. Participants were more inclined to reduce resulting inequality when it was caused by luck rather than differing performance. Thus, I expect that *unfair inequality positively affects redistribution preferences (H1a)*. Fair inequality, on the other hand, should have no effect on redistribution preferences. It does not make sense to assume that people support a certain level of merit-based inequality and seek to reduce this inequality at the same time. I expect that *unfair inequality is a better predictor of redistribution preferences than overall inequality (H1b)*.

Furthermore, I argue that the association between unfair inequality and redistribution preferences is not homogenous but depends on individuals’ political attitudes, specifically their orientation on a left-right scale. Attitudes on state intervention in general and redistribution in specific are fundamental for the left-right divide. The left supports much stronger redistribution compared to their right counterpart. Additionally, research suggests that fairness perceptions and their impact on redistribution preferences vary with left-right ideology. Experiments show that right-leaning individuals react more sensitively in their fairness perceptions when the association between performance and reward is altered (Mitchell et al. 2003). This is because right-leaning individuals support meritocratic norms to a stronger degree. In line with this finding, Miles (2014) argues that left individuals’ support of redistribution is less conditional on perceived fairness. His empirical results show that the association between fairness perceptions and redistribution preferences is stronger in right respondents while left respondents tend to have

a strong redistribution preference irrespective of fairness perceptions. Thus, I expect that *the association between unfair inequality and redistribution preferences is stronger in right-leaning (H2)*.

Although Hypothesis 2 might seem out of place considering the overall framework of this article, it serves a specific purpose. It supports the evaluation of whether the influence of inequality on redistribution preferences depends on normative assessments. There should be no observable difference between individuals with different norms regarding the fairness of income differentials and redistribution if norms play no role. While the concept unfair inequality already considers normative concerns, corroborating the hypothesis would considerably strengthen their presumed importance.

A discussion of the theory's potential blind spots is warranted before turning to empirics. It can be criticized as too simplistic because distributional fairness according to merit-based reciprocity is not the only normative principle that guides the legitimacy of inequality and redistribution. Wim van Oorschot (2000) as well as Lewin-Epstein, Kaplan, and Levanon (2003) show that there are other salient distributive justice ideals, among them individuals' level of *need* (those who are in need should receive more). However, I argue that reciprocity is the most important distributive principle that guides the legitimacy of the *primary* income distribution, i.e. prior to taxation and transfers. Principles such as need certainly play a role in who should benefit, which explains why, e.g., the unemployed and sick are targeted in welfare provision, but these principles mainly concern how redistribution is implemented after the primary income distribution. Nevertheless, I contend that work and effort related attributes are insufficient to assess individual deservingness comprehensively even though they are paramount. There are other issues such as equality of opportunity that complicate the conceptualization of distributional fairness, but these do not invalidate the importance of reciprocity.

3 Measuring unfair inequality

Almås et al. (2011) propose a technique to measure unfair inequality, which requires representative micro datasets that contain information on income and individual characteristics. It involves estimating a hypothetical income distribution based on individuals' merits, calculating how much it differs from the actual distribution, and aggregating it into an unfairness Gini index purged from fair income differentials. A fair distribution is defined as one where everybody has the same returns to their merits. This requires a choice of what individual characteristics make up merits. The definition of merits will be conceived of in broad terms for the purpose of this study, which goes to say that many characteristics recorded in the datasets are defined as merits and thus as legitimizing causes of inequality. Merits are defined as all attributes related to occupation, skills, experience, and effort. This follows an intentionally minimal reciprocity principle, namely that individuals in similar employment with similar skills and effort who do similar work should receive similar remuneration. The methodology, exact choice of merits, and estimation results are presented below.

3.1 The approach of Almås et al. (2011)

Incomes vary according to individuals' characteristics. These include *merits* that result in fair inequality and *circumstances* that produce unfair inequality (e.g., family background). Estimating unfair inequality proceeds in the following steps. Firstly, the linear regression model given in equation (1) is fitted using log income as the dependent variable and all variables identified as merits and circumstances as independent variables.

$$(1) \log y_i = \beta_m X_i^m + \beta_d X_i^c + \varepsilon_i$$

where y refers to income, X^m to all variables defined as merits, and X^c to all defined as circumstances of individual i . The vector of the estimated coefficients β_m indicates the merits' average value irrespective of the circumstances' relationship to income, which effectively serve as control variables. Secondly, equation (2) yields a fair income share for each individual using the merits' coefficients and the individuals' observed values of the corresponding variables, denoted by lower-case letters.

$$(2) \vartheta_i = \frac{\exp(\beta_m x_i^m)}{\sum_i \exp(\beta_m x_i^m)}$$

where the numerator of the fraction corresponds to the predicted income of individual i solely based on merit, and the denominator to an aggregation of all predicted merit-based incomes. The exponential function is used because of the log-transformation of the dependent variable in the initial regression. The logic of the fair income share ϑ_i is that each individual should receive an income share given by individual merit relative to aggregate merit. The hypothetical fair income y^f is then calculated with equation (3). It multiplies the fair share with the total available income, which is defined as the aggregate income in a country.

$$(3) y_i^f = \vartheta_i \sum_i y_i$$

Lastly, the results can be aggregated into an unfairness Gini index given by equation (4) that indicates to what extent the hypothetical fair incomes deviate from actual incomes:

$$(4) Gini_{unf.} = \frac{1}{2n(n-1)\mu(y)} \sum_i \sum_j |(y_i - y_i^f) - (y_j - y_j^f)|$$

where n refers to the number of individuals, $\mu(y)$ mean income, and both i and j to individuals (see Almås et al. 2011, 489–90).

3.2 Empirical application

The unfairness Gini is estimated using data from the Luxembourg Income Study (LIS 2019). The LIS offers a high-quality data infrastructure with harmonized micro datasets on, e.g., the income of German citizens in 2012. Each dataset is used to estimate aggregate unfair inequality for a specific country and year, the results of which will be merged to micro-level data from the ESS to assess the impact on redistribution preferences in the subsequent step. The sample selection of country-years depends on mutual data availability in the LIS and ESS data, which will be explained in detail in the ESS data description. Using all available data, the unfairness Gini can be estimated for 48 country-years from 16 countries.

The regression models are estimated with personal labor income before taxes, normalized according to total hours worked, as the dependent variable.¹ Capital incomes are explicitly disregarded because of

¹ Incomes crucially depend on working time, and it is necessary to normalize incomes accordingly to make them comparable between individuals. This is achieved by dividing income by annual working time. My framework assumes it to be legitimate that people who work more receive a larger income. Thus, the normalization according to hours worked is a first consideration of distributive fairness. Hours worked could also be framed as a fair input and used as an independent variable in the income regressions instead. However, it is much cleaner to normalize according to working hours first because otherwise a single coefficient of working hours would have to be estimated for whole workforces.

their obscure relation to merits since it is unclear what characteristics legitimize capital income inequality. The samples are restricted to non-retired working age (16-65) individuals in dependent employment with an income above zero, weighted according to the LIS personal weights. Defined as merits are the variables education (dataset-specific categories), profession (10 categories based on ISCO-08), industry (nine categories), sector (public or private), age (five categories: <25, 25-34, 35-44, 45-54, >54), as well as interaction terms between education and profession.² All job-related variables refer to the respondents' first job.³ Defined as circumstances are gender, a children dummy, an interaction of the gender and children dummies, region (dataset-specific categories), the father's education (dataset-specific categories), as well as dummies on the respondents' immigrant background, rural place of living, and permanent employment status. Unfortunately, not all variables are available for each individual regression. Table A1 in the Online Appendix lists which variables are excluded in which country-years.

What qualifies the classification of variables as merits or circumstances? As previously stated, the guiding principle is a minimalist conception of distributive fairness, namely that individuals in similar employment with similar skills and effort who do similar work should receive similar remuneration. Accordingly, merits are defined as all attributes related to occupation, skills, experience, and effort. The merits profession, industry, and sector indicate respondents' *occupation*. Working hours, education, and profession show to the *effort* that respondents deliver or have delivered in the past.⁴ Lastly, education and age relate to individuals' *skills and experience*. The variables defined as circumstances, on the other hand, are at most loosely related to individuals' occupation, skills, or effort.

3.3 Discussion

The choice of merits and circumstances may seem questionable. Is it fair that employees in the private sector earn more and that income rises with age, as the model suggests? Is it sensible to lump work and effort related variables together and define them all as legitimizing sources of inequality? I contend that this classification does not lead to a fine-grained measurement of unfair inequality. Substantially, the resulting unfairness Gini indicates whether people with similar skills and effort who hold similar jobs in similar places of employment receive similar labor income. Although it is clear that this is not a comprehensive fairness assessment, the unfairness Gini thus assesses to what extent the fundamentals of distributional fairness are met. I argue that it is necessary in the context of the macro view that this study takes to follow a minimalist fairness conceptualization. The empirical analysis covers 16 countries and it would be impossible to justify a more sophisticated model. This would require a discrimination of what work and effort related variables do and do not legitimize inequality. There is simply insufficient evidence on actual perceptions to do this for all countries under consideration,⁵ and following a minimalist fairness principle is the best available option.

² The preferred specification is not available in some cases because the profession and industry dummies are recorded in rougher or dataset-specific categories. If the 10-category profession specification is not available, I use the three-category specification; and if this is not available, I use the dataset-specific categories. Likewise, I prefer the nine-category industry categorization over the three-category specification over the dataset-specific entry. Lastly, education is used as a continuous variable for the interactions with profession to keep the number of independent variables in check.

³ This affects the results because some individuals have a second job that is not considered in the income regressions. However, most LIS datasets do not collect information on respondents' second job and including more variables would overload the regressions models. Furthermore, most individuals only have one job.

⁴ Although working hours is not used as a variable in the income regressions, it is used to normalize the dependent variable, which is a first consideration of distributive fairness.

⁵ See Sauer and May (2017) as well as Sauer, Valet, and Liebig (2016) for evidence on Germany.

Furthermore, one might also criticize the measurement technique because it implicitly assumes the market mechanism to generally be a fair distributive tool. Inequality is only unfair under the regression-based approach if people have unequal returns to their characteristics defined as merits, whereas the average income differences associated with these characteristics are considered to be fair, even though the populace may not agree.⁶ The critique cannot be dismissed entirely, but I expect that it is less important than one might assume. Firstly, let me repeat that only a minimalist fairness conceptualization is considered. Secondly, research shows that individuals have insufficient knowledge about the income distribution (Cruces, Perez-Truglia, and Tetaz 2013; Fernández-Albertos and Kuo 2018). They are generally unable to gauge their relative position and cannot tell what individuals outside their peer groups earn. Income fairness is primarily assessed by social comparisons to observable peer groups (i.e. colleagues, others working in the same industry, family members, friends, etc.) (Feldman and Turnley 2004; Sauer and May 2017; Verhoogen, Burks, and Carpenter 2007). This implies that individuals adapt their perception of how large income differentials should be to what they observe in reality (c.f. Trump 2018). Income fairness is not judged relative to an abstract standard of how much individuals ought to earn in absolute terms but rather relative to what others with comparable attributes actually earn.

Overall, the downside of the quantification approach is that a more fine-grained differentiation between fair and unfair inequality is disregarded. It must be stressed that the measurement technique is rather rough and does certainly not result in a perfect measure of how fair a distribution is. Even if fairness perceptions would be known for all countries under consideration, data limitations such as missing variables and rough concept measurement remain. Age, for example, is an imperfect measurement for experience, but defining it as a merit is preferable compared to disregarding individuals' seniority altogether.⁷ Nevertheless, I argue that an imperfect measurement of unfair inequality still captures a part of inequality that spurs redistribution preferences to a much better degree than the classical Gini index, which does not consider distributive fairness at all since it merely compares the actual income distribution to a perfectly equal distribution. Even though the unfairness Gini has its shortcomings, it serves to advance inequality research in political economy, where fairness concerns have received too little attention.

3.4 Results

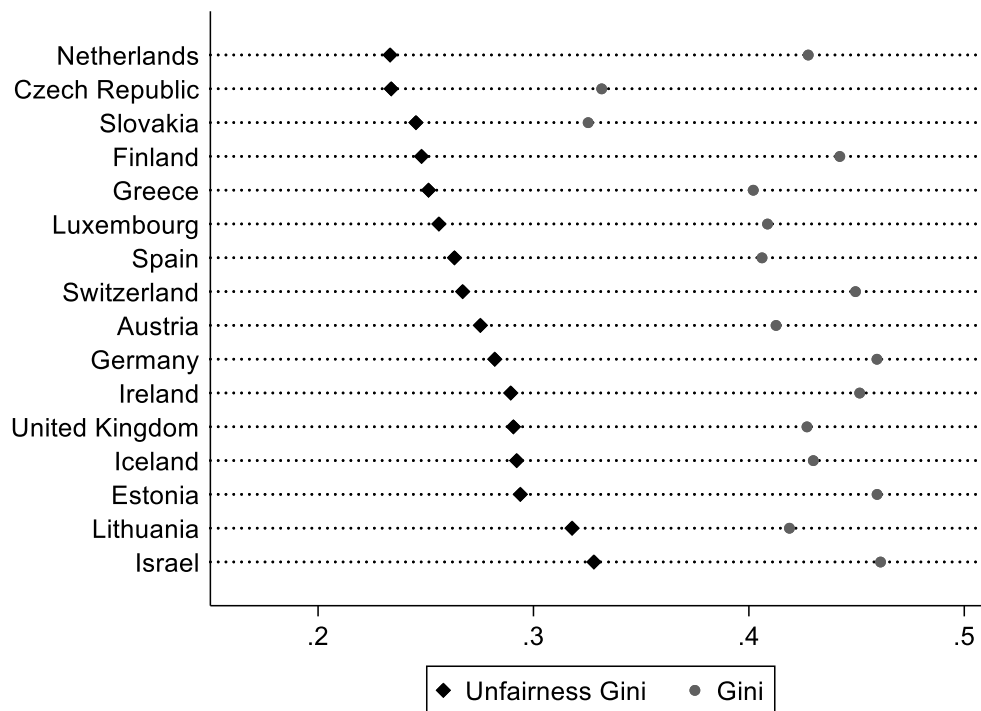
The results are depicted in Figures 1 and 2. Supplying the full results of all 48 regressions would overstretch the scope of even the Online Appendix, but the Stata syntax to recreate the results is available in the supplementary material. Both figures compare the unfairness Gini to a classical Gini index that indicates overall labor income inequality and is estimated from the same datasets.⁸

⁶ For example, the unfairness Gini would increase if, *ceteris paribus*, Master's degree holders earn more in large firms than in small firms; but it would stay constant if all people with a Master's degree receive an additional fixed annual sum. This would primarily increase the estimate of how much someone with a Master's should earn.

⁷ Another example is the classification of the immigrant dummy as a circumstance. While most might agree that income differences due to origin constitute unfair discrimination, it is possible that unobserved characteristics such as the command of language actually drive income disparities. It must be expected that there are many unobserved characteristics in the rather simplistic models.

⁸ The classical Gini index is estimated using the whole datasets without restricting the sample to the working-age population in dependent employment. A robustness test will also use a Gini estimated from the same sample used for the calculation of the unfairness Gini.

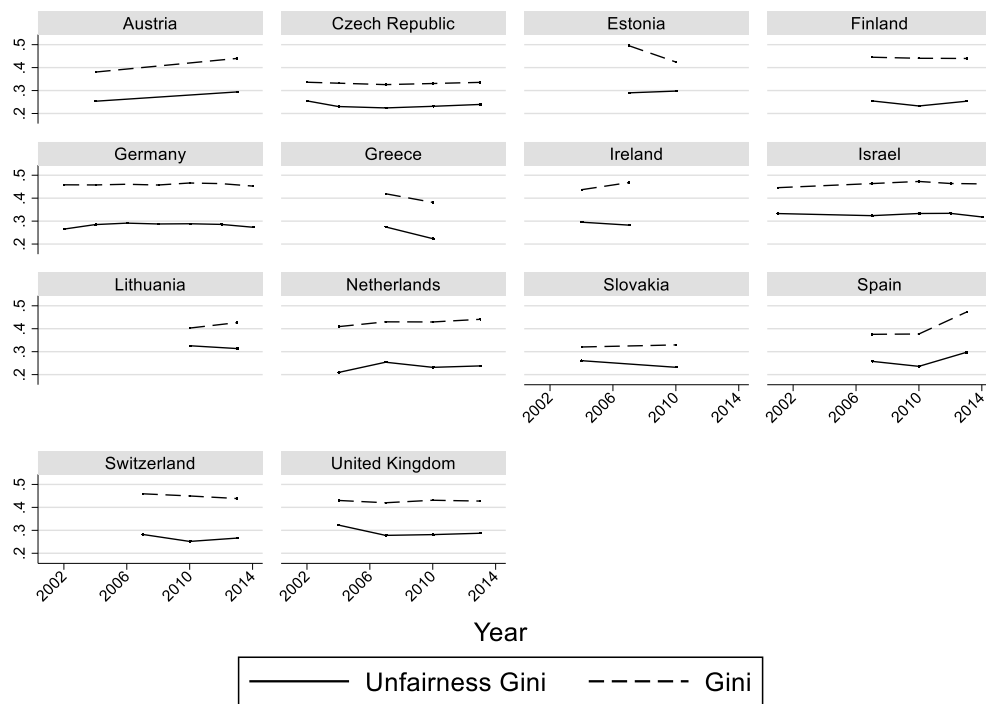
Figure 1: Mean values of unfair and overall labor income inequality by country



Note: Own calculation based on LIS (2019).

Figure 1 shows that the unfairness Gini aiming to measure unfair inequality varies considerably between countries with the Netherlands having the lowest and Israel the highest values. As expected, the measure is consistently lower than the classical Gini because a proportion of overall inequality results from individual merit. Furthermore, the two measures correlate positively since countries with higher overall inequality also have higher unfair inequality, but there is no perfect relationship between the Gini variants. As expected, the unfairness Gini is not given by a fixed proportion of the classical Gini. This implies that unfair and overall inequality are related but distinct concepts. Figure 2, which plots all available time series, confirms this notion. Unfair and overall inequality generally follow the same temporal trend, but there are exceptions such as Estonia and Ireland. Furthermore, there is no perfect relationship between overall and unfair inequality.

Figure 2: Time series of illegitimate and overall labor income inequality by country



Note: Own calculation based on LIS (2019).

4 Multilevel estimation of redistribution preferences

In a next step, the Gini variables are merged to multiple waves of European Social Survey (2002-2014) data to estimate their effect on individual redistribution preferences with multilevel models. The choice of ESS waves depends on mutual availability with LIS data. Unfortunately, the LIS data are only available for specific country-years. I selected which country-years are available in both the LIS and ESS in a mutual exclusion process. Since multilevel models require a sufficient higher-level sample size, it was necessary in some cases to use LIS data from country-years preceding the ESS data by one year (see Online Appendix, Table A2). This should not influence the results because of the high autocorrelation of labor market fundamentals. The selection process results in a sample of 48 country-years from 16 European countries. Just as the LIS data, the sample is restricted to working-age individuals (16-65) in dependent employment.⁹

The dependent variable is the demand for redistribution. Individuals were requested to indicate their support for the following statement on a five-point scale: “The government should reduce differences in income levels.” This variable was already used in several other studies on redistribution preferences (e.g., Finseraas 2009; Jæger 2013; Schmidt-Catran 2016). Furthermore, political ideology is measured by respondents’ self-assessment on an 11-point left-right scale centered around zero.

⁹ It is sensible to focus solely on people who actually are in dependent employment when assessing the impact of unfair inequality between people in dependent employment. Furthermore, primarily those in dependent employment are equipped to assess unfair inequality because they can best observe incomes and merits of themselves and their peer groups in their working and employment environment.

Concerning the individual controls, the most important variable is income. While prior research cannot show consistently that the magnitude of relative income differences (i.e. aggregate inequality) affects redistribution preferences, the relative income position does matter (e.g., Alesina and La Ferrara 2005; Finseraas 2009; Schmidt-Catran 2016). Income is inconsistently measured as either absolute or relative categories in the ESS data. I recode the variable to country-specific quintiles following the approach of Schmidt-Catran (2016, 127). Two more control variables aim to remove the bias stemming from rational motivations. Prior research shows that individuals support redistribution as a social insurance scheme. Those who expect to lose status in the future tend to increase support while those who expect to gain decrease support (Alesina and La Ferrara 2005). Following Rehm (2009), I use the occupation-specific unemployment rate¹⁰ to capture the objective unemployment risk (see also Rehm, Hacker, and Schlesinger 2012). Furthermore, I use the highest level of education. The remaining control variables are gender and age. Lastly, I implement ESS-wave dummies indicating from which data wave the data stem (Fairbrother 2014).

The data have a three-level hierarchical structure with individuals on level one, country-years on level two, and countries on level three. The goal is to assess the impact of a country-year-level variable, i.e. the unfairness Gini, on individual redistribution preferences. Thus, I employ multilevel models with random intercepts for both country-years and countries, treating the dependent variable as continuous. Multilevel models allow the researcher to (a) regress micro-level variables on macro-level variables and (b) to analyze hierarchical data without invalidating hypothesis tests (Hox 2010). The advantage of the model is that the impact of macro-level variables can be assessed while controlling for individual characteristics.

Since the sample contains repeated cross-sections for most of the countries,¹¹ the estimations rely on both temporal and cross-sectional variance. Fairbrother (2014) and Bell and Jones (2015) propose a method to analyze the two types of variance separately. It is implemented by generating two variants of the Gini variables: country-specific means capturing between-variance, and values of the variables subtracted by their country-specific means capturing within-variance.¹² I use this approach in the analysis because, firstly, it would considerably strengthen the argument if unfair inequality could explain both longitudinal and cross-sectional variance in redistribution preferences; and secondly, because it prevents endogeneity bias resulting from a difference in between- and within-effects in longitudinal models with random intercepts (Bell and Jones 2015).

¹⁰ Occupation-specific unemployment is estimated separately for each country-wave from the ESS data. It is based on the 1-digit ISCO-08 classification of occupations.

¹¹ There are, e.g., biannual data between 2002 and 2012 for Germany.

¹² More formally, between-variance is assessed with the following variable: $X_c^{BE} = \bar{X}_c$, whereas the subscript c denotes countries; and within-variance with: $X_{ct}^{WE} = X_{ct} - \bar{X}_c$, where t denotes time.

Table 1: The effect of illegitimate inequality on redistribution preferences

	(1)	(2)	(3)	(4)	(5)	(6)
Gini	1.95** (0.95)				0.22 (1.02)	
Gini (between)		0.52 (1.67)				-2.00 (1.71)
Gini (within)		2.56** (1.12)				1.22 (1.22)
Unfairness Gini			4.05*** (1.08)		3.91*** (1.26)	
Unfairness Gini (between)				4.66** (2.08)		6.37*** (2.46)
Unfairness Gini (within)				3.83*** (1.26)		3.07** (1.44)
Left-right	-0.09*** (0.00)	-0.09*** (0.00)	-0.09*** (0.00)	-0.09*** (0.00)	-0.09*** (0.00)	-0.09*** (0.00)
Gender	-0.13*** (0.01)	-0.13*** (0.01)	-0.13*** (0.01)	-0.13*** (0.01)	-0.13*** (0.01)	-0.13*** (0.01)
Age	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Occupational risk	2.13*** (0.25)	2.13*** (0.25)	2.14*** (0.25)	2.14*** (0.25)	2.14*** (0.25)	2.14*** (0.25)
<i>Education</i>						
Below secondary	-0.01 (0.04)	-0.01 (0.04)	-0.01 (0.04)	-0.01 (0.04)	-0.01 (0.04)	-0.01 (0.04)
Secondary	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)
Post-secondary	-0.09** (0.04)	-0.09** (0.04)	-0.09** (0.04)	-0.09** (0.04)	-0.09** (0.04)	-0.09** (0.04)
Tertiary	-0.20*** (0.03)	-0.20*** (0.03)	-0.20*** (0.03)	-0.20*** (0.03)	-0.20*** (0.03)	-0.20*** (0.03)
<i>Income</i>						
1st income quintile						
2nd income quintile	-0.04* (0.02)	-0.04* (0.02)	-0.04* (0.02)	-0.04* (0.02)	-0.04* (0.02)	-0.04* (0.02)
3rd income quintile	-0.09***	-0.09***	-0.09***	-0.09***	-0.09***	-0.09***

	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
4th income quintile	-0.16***	-0.16***	-0.16***	-0.16***	-0.16***	-0.16***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
5th income quintile	-0.39***	-0.39***	-0.39***	-0.39***	-0.39***	-0.39***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Constant	2.85***	3.45***	2.53***	2.37***	2.48***	2.75***
	(0.41)	(0.71)	(0.32)	(0.58)	(0.40)	(0.65)
Observations	31,343	31,343	31,343	31,343	31,343	31,343
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of countries	16	16	16	16	16	16
Number of country-years	45	45	45	45	45	45

Note: Standard errors in parentheses. * p<.1 ** p<.05 *** p<.01.

5 Results

All models are estimated with a common sample of 31,343 individuals using the full set of control variables and the post-stratification weight of the ESS.¹³ The results are displayed in Table 1. The first two models aim to assess the effect of the classical Gini index used in prior research. Model 1 shows that it is associated positively with redistribution preferences. Model 2 disaggregates the variable and assesses within- and between-variance separately. The classical Gini index significantly predicts the variance in redistribution preferences within countries but not between countries. Models 3 and 4 repeat this approach using the unfairness Gini instead. It becomes evident that the unfairness Gini is a good predictor of redistribution preferences. It is highly significant in all variants and can explain both within- and between-country variance in redistribution preferences. The results are a first indication for the superiority of the unfairness Gini in comparison because the unfairness Gini can explain between-country variance while the simple Gini cannot.

Models 5 and 6 assess the relative explanatory power of the two Gini variables. Model 5 uses both Gini variants in their aggregated form. The results show that the unfairness Gini retains its significance and coefficient size while the classical Gini index turns insignificant. This result is supported by Model 6, which contains both Gini variants in their disaggregated form. Both the within- as well as the between-version of the unfairness Gini retain their significance while the classical Gini does not. This suggests that it is unfair inequality and not overall inequality that affects redistribution preferences. The predictive power of the classical Gini in the first two models is merely due to its high correlation with the unfairness Gini. Overall, the results confirm Hypotheses 1a and 1b. The unfairness Gini positively affects redistribution preferences. It is an especially strong result that the measure can explain both within- and between-country variance, which suggests that the unfairness Gini and not an omitted variable drives the association. Furthermore, the unfairness Gini is a better predictor than the classical Gini. This supports the theory that the effect of inequality is mediated by normative value judgements about inequality, which crucially depend on merit-based distributive fairness.

Table 2: Interaction with political left-right ideology

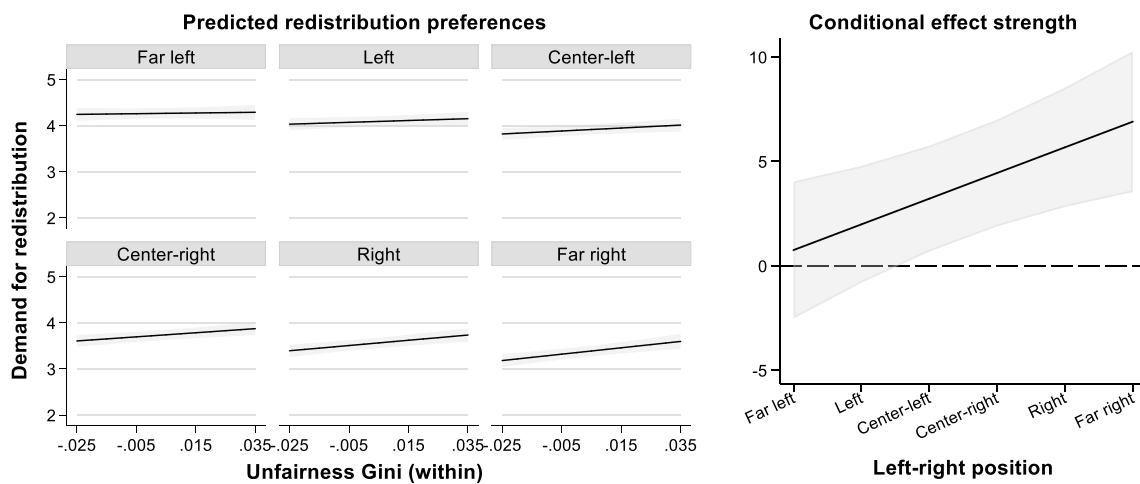
	(1)	(2)
Unfairness Gini	4.01***	
Unfairness Gini * Left-right	1.12***	
Unfairness Gini (between)		4.23**
Unfairness Gini (within)		3.83***
Unfairness Gini (between) * Left-right		1.19***
Unfairness Gini (within) * Left-right		0.61***
Left-right	-0.40***	-0.42***

Note: * p<.1 ** p<.05 *** p<.01. The full regression table is available in the Online Appendix.

¹³ Post-stratification weights aim to remove both sample error and non-response bias.

I now turn to an evaluation of Hypothesis 2, which expects that the effect of unfair inequality is moderated by individuals' left-right ideology. The results from a second set of regressions are depicted in Table 2, which only shows the directly relevant coefficients and their significance level while the full results are available in the Online Appendix. Both models extend the prior specifications by adding cross-level interactions between the unfairness Gini and political left-right ideology. Model 1 suggests that the effect of the unfairness Gini depends on ideology. The interaction term is positive and highly significant, indicating that more right-leaning respondents react more strongly to unfair inequality in their redistribution preferences. The second model confirms this result using the within- and between-variants of the unfairness Gini. Both variables interact significantly with left-right ideology with a comparable effect size. Hypothesis 2 can thus be confirmed.

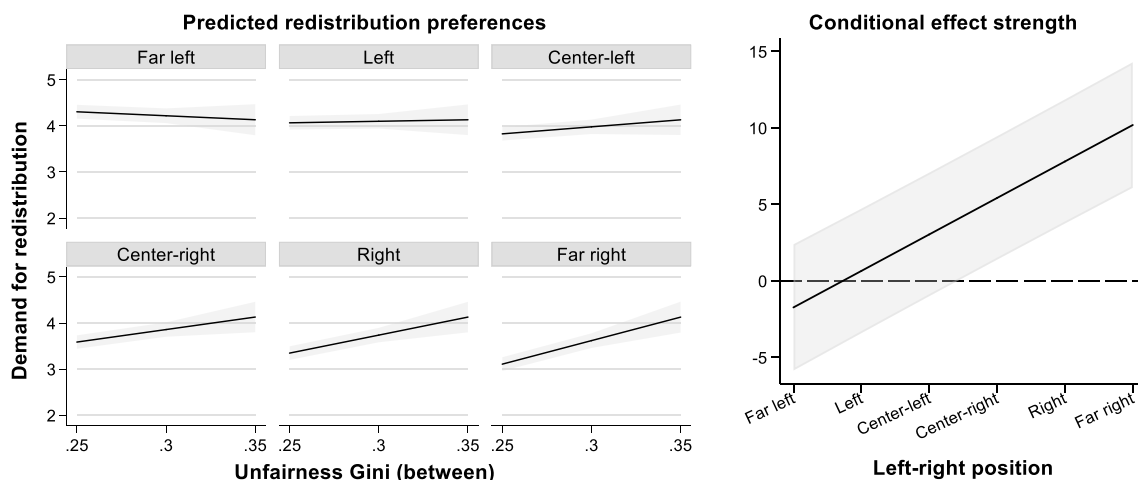
Figure 3: Within-effects of unfair inequality



Note: Marginal effects calculated from Model 2 in Table 2. The grey areas represent 95% confidence intervals.

Figures 3 and 4 plot the main results from Model 2 in Table 2. The left panels show predicted redistribution preferences for different values of the unfairness Gini and ideology while the right panels show the marginal effect strength of the unfairness Gini conditional on ideology. It becomes apparent that the effect of the unfairness Gini strongly depends on ideology, whereas the effect size increases with more right-leaning ideology. As per the right panel of both figures, the effect of the unfairness Gini significant at a 95% level for respondents with a center to far right ideology. Furthermore, the left panels show that unfair inequality has a considerable effect strength, especially in more right-leaning individuals. Varying the between-measure from the minimum to the maximum observed value increases the predicted redistribution preference by about one category of the five-point scale for the most right-leaning individuals. Left-leaning individuals, in comparison, do not alter their redistribution preference in reaction to unfair inequality; they rather have an unconditionally strong redistribution preference. Overall, the results line up with the expectations. Left-leaning individuals have a stronger redistribution preference than right-leaning individuals, but the discrepancy vanishes in countries with high unfair inequality of labor incomes. This is because more right-leaning individuals support meritocratic norms to a stronger degree and accordingly condition their redistribution preferences on merit-based distributive fairness concerns.

Figure 4: Between-effects of unfair inequality



Note: Marginal effects calculated from Model 2 in Table 2. The grey areas represent 95% confidence intervals.

Overall, all theoretical expectations are confirmed by the empirical analysis, lending strong support to the notion that normative perceptions of distributive fairness affect redistribution preferences and not inequality itself. Several additional tests using alternative specifications assert the robustness of the results (see the Online Appendix). Firstly, a re-estimation of the main models using unweighted ESS data (Table A4, Models 1-2) and a re-estimation using cluster-robust standard errors both lead to the same inferences (Models 3-4). This latter result is particularly promising because, unfortunately, the country-level sample is smaller than one would prefer, which is associated with a high type I error rate of the country-level variable, i.e. the between-variant of the unfairness Gini. As Maas and Hox (2004) show, cluster-robust standard errors deal with this problem, but they are inefficient in small higher-level sample sizes, implying that they overcorrect the downward bias of model-based standard errors. However, the results show that cluster-robust errors still lead to highly significant results. Secondly, a re-estimation of the core models using a standard fixed effects panel specification with cluster-robust errors that relies solely on intra-country variance does not affect inferences (Table A5). This supports the validity of the exogeneity assumption required for the initial random effects specifications (uncorrelated independent variables and errors) since fixed effects models do not make this assumption.

Lastly, I repeat the comparison of results between specifications with the adjusted and classical Gini index using a different estimation sample to compute the classical Gini from the LIS data (Table A6). The initial comparison used a classical Gini computed from all labor incomes in society while the unfairness Gini is based on working-age individuals in dependent employment, restricted even further by listwise exclusion. A re-estimation using a classical Gini computed from this exact sample confirms the previous findings. It still cannot explain between-country variance in redistribution preferences and, when estimated in a common model, loses its explanatory power while the unfairness Gini does not. Overall, the results are highly robust.

6 Discussion

I argued that the effect of inequality is mediated by normative value judgements about the legitimacy of inequality, whereas inequality is not seen as offensive in a normative sense *per se*. Primarily inequality perceived as unfair affects redistribution preferences. The results of the quantitative analysis line up with these theoretical expectations. Firstly, the unfairness Gini of labor incomes that aims to measure unfair inequality affects redistribution preferences positively. Countries with higher unfair inequality have stronger redistribution preferences, and countries where unfair inequality rises over time display stronger redistribution preferences. Secondly, unfair inequality has superior predictive power compared to the classical Gini index and offers the better modeling choice. Thirdly, the effect size of unfair inequality increases with right-leaning political ideology. In line with Miles' (2014) findings, left-leaning individuals have an unconditionally strong preference for redistribution while right-leaning individuals condition their preference according to concerns regarding the necessity of redistribution. This finding offers further support to the notion that normative evaluations drive the effect of inequality. Otherwise, there should be no observable difference between individuals with different norms regarding the legitimacy of income differentials and redistribution.

Revisiting the weaknesses of the analysis, this study crucially leans on the assumption that inequality produced by differences in work and effort related attributes are actually perceived as unfair in the analyzed countries. On the one hand, this seems justified because a fundamental fairness principle guides the quantification, namely that people with similar skills and effort who hold similar jobs in similar places of employment receive similar labor income. Previous research reliably shows that people support considerable inequality based on individuals' labor market position (Kuhn 2011; Osberg and Smeeding 2006) and expect the same pay as others with similar occupational attributes (Feldman and Turnley 2004; Sauer and May 2017; Verhoogen, Burks, and Carpenter 2007). On the other hand, it is likely that the different countries under consideration have different fairness perceptions that are not captured by the modeling approach that treats all attributes related to occupation, effort, and skills as legitimate sources of inequality. By necessity, the unfairness Gini follows a rather simple modeling approach that addresses neither country heterogeneity nor a more fine-grained definition of merits and circumstances. Accordingly, the unfairness Gini does not perfectly and comprehensively indicate how unfair a certain income distribution is, not least because capital income and alternative distributive ideals such as equality of opportunity are not considered.

I argue that the analysis offers support for the theoretical argument despite these concerns. The claim is that, against the backdrop of the considerable merit-based inequality that individuals support, the unfairness Gini should be a much better measure than the classical Gini index. The classical Gini measures how much the actual income distribution diverges from a perfectly equal distribution, which does not conform to what constitutes a fair income distribution at all (Kuhn 2011; Lewin-Epstein, Kaplan, and Levanon 2003; Osberg and Smeeding 2006). The unfairness Gini explicitly addresses merit-based fairness concerns and is thus a valuable tool in inequality research despite its apparent shortcomings.

7 Conclusion

How does this study relate to recent work in political economy that explores how the effect of inequality on redistribution preferences depends on normative concerns? On the one hand, it is compatible with

them. I argued that individuals have an aversion to unfair inequality and seek to reduce it with redistribution, which leaves the exact sociological mechanism unspecified. Income-dependent altruism (Dimick, Rueda, and Stegmueller 2016) and different versions of social affinity (Lupu and Pontusson 2011; Shayo 2009) are viable mechanisms that fill this gap and may thus explain why people seek to equalize unfair distributions (or in other words, why people should care about others at all).¹⁴ On the other hand, my approach stands in contrast to these contributions because, just as simplistic rational choice theory (Meltzer and Richard 1981), they aim to infer from a particular level or structure of inequality to redistribution preferences. The theory and empirical measurement presented in this article rather suggest that inequality and redistributive demands are only loosely related since unfair inequality is not a fixed proportion of overall inequality, suggesting that not all inequality is equal. It is thus questionable to assess the impact of a simple inequality measure that does not consider distributive legitimacy in redistribution research. From a broader viewpoint, this also calls into question theorization that links highly aggregated inequality to other political phenomena such as electoral accountability (Hicks, Jacobs, and Matthews 2016), at least when normative evaluations are influential. Researchers should rather consider the heterogeneity of what inequality is perceived as legitimate and what inequality is not carefully.

Lastly, the results further undermine the characterization of humans as simple utility maximizers. Rational considerations certainly play a pivotal role in social policy preferences; like all statistical estimates, my results show that redistribution preferences decrease with income. Nonetheless, the importance of normative considerations may have implications for future rational choice theorization. If rational and normative considerations operate in an additive fashion, i.e. independently, they can coexist without major bias in predictions. However, the theory outlined in this study suggests that rational considerations may often depend on normative considerations. A situation where an individual restrains her rational longing for a higher income due to normative constraints is certainly conceivable. It will be worthwhile to consider how rationalistic motivations may interact with normative motivations in future applications (see Dimick, Rueda, and Stegmueller [2016] for a laudable example). These words of caution also apply to rational choice applications in other political science research, where fully rational individuals should be the exception rather than the norm.

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¹⁴ However, note Luebker's (2019) critique of Lupu and Pontusson's (2011) argument.

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