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RESEARCH NOTE



Theorizing the impact of fairness perceptions on the demand for redistribution

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ABSTRACT

Prior research shows that fairness judgements regarding the income distribution have a substantive impact on redistribution preferences. Those who perceive incomes as unfair demand more redistribution. However, the association is undertheorized in previous studies. This article adds to the literature by offering a comprehensive theoretical explanation of why incomes are perceived as unfair and how this influences the demand for redistribution. Based on equity theory from social psychology, it is argued that individuals develop a preference for redistribution if they consider their own income and incomes in general to be disproportional to relevant exchanged inputs. They assess proportionality by using social comparisons with observable reference groups such as colleagues, family members or other labour market participants. Multilevel models with survey data from 39 diverse countries support this theory. Individuals who perceive their own income as disproportional in comparison to their efforts and those who perceive incomes in general as disproportional demand more redistribution. These findings have several implications for research on political economy and social policy. Most importantly, they explain the inconclusive results of empirical tests of rational choice theories such as the median-voter hypothesis.

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Introduction

The demand for redistribution (DFR), i.e. the extent to which people support redistributive policies by the state, has received extensive attention from political scientists, economists and sociologists. While rational choice explanations dominated the disciplines in the past (Meltzer and Richard 1981), recent research stresses the importance of normative beliefs. A mounting body of empirical research shows that fairness perceptions affect redistribution preferences irrespective of an individual's income. Those who believe that incomes are attained unfairly in their country, e.g. due to luck or nepotism, show greater support for redistribution from the top to the bottom; and those who believe that effort and skill determine incomes tend to show less support (Alesina and Giuliano 2010; Alesina and

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La Ferrara 2005; Corneo and Grüner 2002; Fong 2001; Fong, Bowles, and Gintis 2005; Iglesias, López, and Santos 2013; Kuhn 2010; Linos and West 2003; Miles 2014).

Overall, there is a strong consensus that fairness perceptions affect redistribution preferences. What remains is a lack of theoretical understanding of the association. Previous research is based on the contention that perceived unfairness leads to a higher DFR because redistribution offsets unfair outcomes, but there has been no comprehensive theoretical explanation as of yet. When exactly citizens perceive income distributions as unfair and how this influences redistribution preferences is treated like a black box. Therefore, this article presents a unified theoretical framework that explains which economic outcomes are seen as unfair and how this relates to redistribution preferences.

Based on equity theory from social psychology, I argue that individuals view their income as an exchange where relevant inputs, i.e. skills and efforts, are traded for the income. They perceive earnings as unfair if these inputs are disproportional to the income. To assess the value of the inputs, individuals compare themselves and others to reference groups such as colleagues, friends and family members. If they have the feeling that their own income is disproportional or incomes in general are disproportional to relevant inputs, they develop a DFR to compensate the unfairness. These theoretic presumptions are substantiated by a quantitative analysis of cross-national survey data. Using the 2009 *Social Inequality Module* of the International Social Survey Programme (ISSP), multilevel models show for the first time that people's perception of their own income strongly affects redistribution preferences. Both the perception that the own income is worth *more* and worth *less* than the exchanged inputs are associated with a stronger DFR. In line with prior research, perceptions of general system unfairness are also associated with a stronger DFR. Overall, this article adds to the literature by developing a comprehensive theoretic framework and demonstrating that people's perception of the fairness of their own income is of consequence to the attitude towards redistribution (and not only the absolute value of their income).

This article has several implications for research on social policy and redistribution preferences, in particular for studies that deal with inequality and labour market disadvantage. It provides an explanation of the mixed empirical support for Meltzer and Richard's (1981) median-voter hypothesis (e.g. Dion and Birchfield 2010; Finseraas 2009; Kenworthy and McCall 2008; Luebker 2007; Schmidt-Catran 2016). As noted by Luebker (2007), the effect of inequality is most likely mediated by value judgements about the determinants of inequality. Furthermore, it explains the mechanism that leads disadvantaged workers to support pro-redistribution parties (Emmenegger, Marx, and Schraff 2015; Marx 2014; Marx and Picot 2013). Their voting decisions are not only based on rational motivations but also on normative judgements.

My argument is structured as follows. The next section offers a comprehensive overview of prior research on fairness perceptions and the DFR. It shows that while lots of empirical research suggests an effect of fairness perceptions on redistribution preferences, there is insufficient theoretic explanation. The third section thus presents a theoretical framework based on equity theory, arguing that individuals seek to reduce disproportionalities of incomes to attributes regarded as relevant with redistribution. The fourth section outlines empirical data and methods for a quantitative analysis of this theory and the fifth presents the results, which offer support for the theoretical expectations. Lastly, the sixth section discusses the results.

Prior research

Studies about the association between fairness perceptions and redistribution preferences can be classified into two major categories. The first focuses on individual beliefs about meritocracy, while the second focuses on social mobility. Within the first approach, a number of studies analyse how beliefs on whether incomes are determined by factors within or beyond individuals' control affect redistribution preferences (Alesina and Giuliano 2010; Alesina and La Ferrara 2005; Bjørnskov et al. 2013; Corneo and Grüner 2002; Fong 2001; Fong, Bowles, and Gintis 2005; Georgiadis and Manning 2012; Iglesias, López, and Santos 2013; Isaksson and Lindskog 2009; Kuhn 2010; Linos and West 2003; Miles 2014). These studies evaluate survey questions that ask to what extent luck, family background, race or social ties as well as effort or skill determine incomes. It is assumed that income differences due to factors beyond the individuals' control (luck, etc.) are perceived as unfair and factors within individuals' control (skill and effort) as fair. The studies expect that the perceived importance of fair (unfair) factors negatively (positively) influences the DFR. All of the studies robustly support this. Furthermore, two studies present evidence that suggests a negative correlation between just-world beliefs, i.e. being convinced that people generally get what they deserve, and the DFR (Benabou and Tirole 2006; Frank, Wertenbroch, and Maddux 2015).

Studies from the second category analyse the influence of social mobility on redistribution preferences. Dabalén, Parinduri, and Paul (2015) and Guillaud (2013) show that persons who experienced downward mobility in their lives, e.g. due to sudden unemployment, have a stronger DFR. The association is stronger the more recent, severe and persistent the downward mobility was. Alesina and La Ferrara (2005) cannot replicate these results but find a negative relationship between expected upward mobility and redistribution preferences. Several studies corroborate this finding (Benabou and Ok 2001; Rainer and Siedler 2008; Ravallion and Lokshin 2000). There is also research on the perception of aggregate income mobility. Jaime-Castillo and Marqués-Perales (2014, 627) conclude that '[i]ndividuals who believe that there is a high level of inequality in opportunities are more supportive of state intervention and redistributive policies and reject market values such as meritocracy and competition' (see also Page and Goldstein 2016; Shariff, Wiwad, and Akinin 2016). The empirical results regarding social mobility can be explained with two theoretical approaches. On the one hand, a perception of high social mobility lowers the DFR because respondents anticipate upward mobility and, thus, a declining utility of redistribution (see Benabou and Ok [2001] for the 'POUM hypothesis'). On the other hand, experienced and perceived mobility are also indicators of procedural fairness (Piketty 1995).

Overall, there is a strong consensus that fairness perceptions affect redistribution preferences. The theoretic explanation for the association put forth or implicitly assumed by prior research is simple: citizens regard redistribution as a compensation mechanism. When the market generates unfair outcomes, people tend to support state interventions that restore outcome fairness. However, the understanding of how perceptions of the income distribution influence redistribution preferences remains insufficient because prior approaches have been too simplistic. To explain why individuals support redistribution, it is necessary to understand what exactly is regarded as (un)fair in the income generation process. Therefore, this article theorizes explicitly and in a unified framework what

leads citizens to assess the income generation process as (un)fair and how this influences their DFR. The next section outlines the theoretic approach. Empirical support for the theory is presented subsequently.

The influence of fairness perceptions on redistribution preferences

In this section, I apply equity theory from social psychology to redistribution research. The first part deals with the question of which incomes are perceived as fair. Subsequently, I outline how these fairness perceptions relate to the DFR and derive empirically testable hypotheses.

Fairness evaluations of incomes

Which incomes and income distributions are perceived as fair? Prior research shows that perfect equality cannot be the answer to this question (Lewin-Espstein, Kaplan, and Levanon 2003). In a literature overview of experimental studies, Starmans, Sheskin, and Bloom (2017) show that humans generally accept unequal income distributions if the inequality results from fair processes. For example, Cappelen, Sørensen, and Tungodden (2010) conduct an experiment where subjects work for a real monetary output. They are free to choose the duration and intensity of their work. The results show that subjects generally perceive inequalities that arise from different effort as fair. The experiment subsequently adds exogenous variation to the monetary outputs by paying out different rewards for the subjects' efforts. The resulting inequalities are generally perceived to be unfair because the subjects had no control over the arbitrary pricing. The experiment has two implications. First, people make investments and expect appropriate returns in the form of incomes. Second, what is perceived as appropriate is sensitive to the returns achieved by other people.

These findings can be explained by the *equity theory* put forth by Adams (1965). His explanation draws from Stouffer et al.'s (1949) concept of *relative deprivation* (RD), which posits that humans do not base their satisfaction on what they receive but rather what they receive in relation to what they think they should receive. A person with high education, for example, may be unsatisfied with a lower-middle class status because he feels that he is entitled to more. Another individual with low education, in contrast, will most likely be content with such a status. RD was later defined as 'the judgement that one is worse off compared to some standard accompanied by feelings of anger and resentment' (Smith et al. 2012, 203). Once again, the important implication is that fairness evaluations are based on social comparisons.

Adams (1965) formulated equity theory to formalize the intuitions behind the concept RD. He framed employment as an exchange relationship where employees give inputs and expect an output in return. On the labour market, individuals sell skills and effort (inputs) and receive an income (output) in return. The exchange is perceived as fair only if the output is proportional to all directly relevant inputs. How inputs factor into the input-output proportionality depends on the value assigned to the inputs. Inputs such as working hours or relevant skills do not have an inherent value in terms of an appropriate monetary compensation. Humans thus use social comparisons to assign a value to inputs. Someone doing the same work as his neighbour and receiving the same pay for it will

perceive his income as fair. However, if the neighbour receives more despite delivering the same inputs, he will see his income as unfair. The neighbour who receives the disproportionately high pay may also perceive the distribution as unfair in this scenario. An income distribution is therefore fair if the input–output proportionality is distributed equally in the society. This implies that income differences resulting from relevant inputs and their value should be perceived as fair (Lewin-Espstein, Kaplan, and Levanon 2003). If someone brings less or less valuable inputs to social exchanges, he should receive a worse output.

First, I theorize that individuals evaluate their own income based on its income–outcome proportionality. Individuals know about their income and about relevant inputs such as their effort, working hours and education. The value assigned to these inputs depends on social comparisons to reference groups with observable input–output proportionality, which can be colleagues, family members and others labour market participants. This theory is largely supported by empirical research. Psychological studies show that humans constantly compare themselves to their peers (Buunk and Gibbons 2007). As a cognitive heuristic, they compare themselves to others who are similar in terms of relevant characteristics such as education or effort (Clark and Senik 2010). Individual attitudes towards the own income depend on the average income of colleagues (Feldman and Turnley 2004), employees in the same industry (Verhoogen, Burks, and Carpenter 2007), family members (Liebig, Sauer, and Schupp 2011) and similar people in general (Sauer and May 2017; Shamon 2014). It is a robust finding that the own position relative to others matters (Clark and D’Ambrosio 2015; Tao 2015).

Second, I theorize that individuals evaluate general income fairness in society based on input–output proportionality. Of course, this is more difficult to theorize because individuals do not possess substantive information about the inputs and incomes of fellow citizens. For example, it is unclear how a person should assess the income of an unknown person within an industry she has little information on. Thus, I theorize that general fairness evaluations are imperfect and vague. They are based on diffuse evaluations of observable patterns. For example, an individual might observe that many executives from her firm come from low socio-economic backgrounds. Based on this information, she can deduct that incomes vary according to effort, which makes input–output proportionality more likely. An individual might also observe that nepotism is influential and deduct that incomes do not vary according to relevant inputs but according to other factors that should be irrelevant. She will perceive the incomes in her society as more unfair. Unfortunately, there is no empirical research on what determines general system fairness evaluations (see Piketty [1995] for a theoretical approach).

The question remains how individuals select inputs to consider in the evaluation of input–output proportionality. Put differently, it is not clear which factors produce inequality that is perceived as (un)fair since incomes do not only vary according to relevant inputs such as working hours but also according to other factors such as luck. For example, it seems obvious that individuals who put more effort into their work and are more productive should receive a higher remuneration. However, it is unclear whether and to what extent regional differences in pay that cannot be explained by skill and effort are perceived as fair. There is a broad theoretical and philosophical literature on which inputs are relevant. There is a consensus that only factors that are (a) related to the productivity and (b) under the control of individuals should be considered as relevant inputs (Arneson 1989; Cohen 1989; Dworkin 1981). The sparse empirical evidence on fairness evaluations

supports this philosophical view. German data shows that survey respondents perceive income differences resulting from individual effort variables such as education and working time as fair. Firm-related (e.g. establishment size) and structural variables (e.g. region) correlate with fairness evaluations, but to a much lesser extent (Liebig, Sauer, and Schupp 2011; Sauer, Valet, and Liebig 2016; Schwarze 2007).

In summary, equity theory asserts that people evaluate the fairness of their own and other people's income in their society based on social comparisons. They view incomes as fair that are proportional to input factors. The value of these inputs is determined by comparisons to observable reference groups. The next section theorizes how fairness evaluations affect the DFR.

Fairness evaluations and redistribution preferences

Adams (1965) discusses how individuals react to a perception of unfair remuneration. Perceived unfairness results in a negative emotional response such as, but not limited to, RD. The strength of this response is proportional to the magnitude of the unfairness. The emotional response will motivate the person to reduce or eliminate the tension. There are several possible reactions. First, a person can alter her inputs, which is the simplest method to react to perceived unfairness. When an employee feels that her income does not reflect her efforts, she can adapt her efforts until input–output proportionality is restored. Second, a person can withdraw from the exchange relationship, e.g. by quitting her job. Third, she can try to alter the output. The most obvious method is to strive for a higher income by negotiating with employers. However, income redistribution is another method to alter the output. Individuals who perceive unfairness can form a DFR because they support a reduction of unfair income differentials. The aim is to equalize the proportionality of inputs and incomes. There are two relevant paths for this association between unfairness perceptions and the DFR.

First, individuals who perceive their own income as unfair develop a DFR. They feel that they are treated unfairly and, thus, wish for state intervention into the market that restores fairness. Personal income fairness should be highly relevant for redistribution preferences because people's perception of the world is mainly provided by their own experiences. They will see the need for redistribution by the state when they feel treated unfairly. In line with equity theory, perceived unfairness is caused by a disproportionality of the income and relevant inputs. Thus, I expect that *the DFR increases with the perception that individuals' own income is disproportional to their inputs (H1)*. Unfairness can mean two things here because it entails the perception that the own income is worth *less* as well as worth *more* than the inputs. There are various emotional responses linking both perceptions to redistribution preferences. People who think they are underpaid feel relatively deprived, which creates an incentive to resolve ensuing negative emotions. Typical responses are anger, frustration, and resentment (Smith et al. 2012). People who feel overpaid also suffer negative emotions, which may also lead to stronger redistribution preferences. Emotional responses include guilt, embarrassment and compassion towards the disadvantaged.

Second, individuals who have a diffuse perception that incomes in their country are generally unfair form a stronger DFR. Because of normative concerns, they wish for state intervention that aims to restore fairness by redistributing incomes. The feeling of

unfairness is caused by the perception that there is an inequality of input–output proportionality in their society. Since individuals cannot observe the proportionalities directly, their system fairness evaluation is rather crude. Thus, I expect that *the DFR increases with the diffuse perception that incomes in general are disproportional to relevant inputs (H2)*. Individuals derive redistribution preferences from systematic unfairness because they have an other-regarding taste for fairness. People are willing to forego personal gains to support others (Kamei 2018). Recent research suggests that altruism towards the disadvantaged is the relevant mechanism driving DFR (Dimick, Rueda, and Stegmüller 2016). However, van Oorschot's (2000) analysis shows that the beneficiaries have to be seen as legitimately deserving. Among other deservingness criteria, he outlines that those who have earned the support by giving something in return (*reciprocity*) are perceived as deserving. According to equity theory, this criterion is always satisfied when someone is remunerated unfairly. This is because unfairness always entails at least one person who received less than the value of his efforts, which implies that targeted redistribution should be seen as a legitimate tool to restore fairness in society.

Lastly, the mechanisms behind the two hypotheses might not differ substantially. It is possible that people who view their own income as unfair only consider their own situation. If this were the case, then we should expect that only those who expect to benefit from redistribution derive a DFR from perceived unfairness. However, it is also possible that individuals use their own experience to gauge how fairly incomes are generally distributed. A worker who thinks that he ought to earn more than he does might infer that other people are treated similarly. If this is true, and people do have an other-regarding taste for fairness, then those who do not benefit from redistribution should also develop a DFR from perceived unfairness of the own income. This would be similar to the theorized mechanisms behind Hypothesis 2. It is not possible to give a definitive answer with the data at hand, but I will test to what extent the association between personal income fairness and the DFR differs with individuals' income to present suggestive evidence.

Before turning to the empirical tests, note that there are alternative mechanisms that link distributive ideals with redistribution preferences. van Oorschot (2000, 2006) identifies five salient deservingness criteria: *control* (do individuals have control over their situation?), *need* (do those who receive need it?), *identification* (can individuals identify with those who receive?), *attitude* (are those who receive grateful?) and *reciprocity* (have those who receive earned their support?). The theory presented in this study is congruent with the deservingness criteria reciprocity and, to a lesser extent, control. It focuses on a particular fairness ideal, i.e. merit-based proportionality of incomes, while disregarding others. For examples, populaces generally support redistribution to elders in need because they are unable to work. While it should be acknowledged that these alternative normative influences exist, I argue that the relationship between income fairness concerns and redistribution preferences is best understood by equity theory. However, alternative distributive ideals will be considered in the choice of control variables to ensure the validity of the results.

Data and methods

The data are obtained from the 2009 Social Inequality Module of the International Social Survey Programme (ISSP Research Group 2017). After listwise deletion, they cover 34,300

observations from 39 developed and developing countries. The social inequality modules deal with views on earnings and inequality. They are well suited for my analysis because they contain items on fairness perceptions and redistribution preferences. The dependent variable, the DFR, is captured by the reaction of respondents to the statement ‘It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes’.¹ Respondents answered on a five-point Likert scale where higher values indicate increasing approval of the statement.

Independent variables

The perception of personal income fairness is gathered by the following question: ‘Is your pay just? We are not asking about how much you would like to earn – but what you feel is just given your skills and effort’: (1) Much less than is just, (2) A little less than is just, (3) About just, (4) A little more than is just and (5) Much more than is just. The item perfectly captures the theory because the question explicitly states that respondents should assess the proportionality of their income to their inputs. To my knowledge, this or a comparable item has not been used before in redistribution research. Furthermore, two items capture the diffuse perception of general income fairness. Respondents were asked to assess how important the following characteristics are for getting ahead in their country: coming from a wealthy family, and being corrupt. Higher values indicate increased importance. Since coming from a wealthy family and being corrupt should not be relevant inputs that justify income differentials, both items capture the perception of systematic unfairness in the income generation process. I expect that both correlate positively with the DFR.

Control variables

It is possible that other distributive ideals are correlated with income fairness perceptions. I consider the influence of individuals’ endorsement of *the importance of need, market performance* and *egalitarianism* using three control variables. The perceived importance of how much need should determine income distribution is captured by the mean response to the following statements: ‘In deciding how much people ought to earn, how important should each of these things be, in your opinion’: ‘What is needed to support a family’ and ‘whether the person has children to support’. Market performance ideals are captured by the mean response to the following statements: ‘In deciding how much people ought to earn, how important should each of these things be, in your opinion’: ‘How much responsibility goes with the job’, ‘the number of years spent in education and training’ and ‘how hard he or she works at the job’. Egalitarianism is captured by a dummy variable that indicates whether respondents prefer a ‘society with most people in the middle’.

It is a robust finding of prior research that rational considerations strongly influence the DFR. Individuals who are richer, better educated, have a strong standing in the labour market or expect to increase their status in the future have a lower DFR because they gain less from redistribution (e.g. Alesina and La Ferrara 2005; Finseraas 2009; Schmidt-Catran 2016). Thus, I use several variables as controls that aim to absorb rational motivations for redistribution preferences. First, a self-assessment of social class and country-specific household income quintiles. Second, the highest educational degree (five categories) and the current employment status (six categories) of the respondent. This

variety of variables ensures that no rational motivations bias the results, which is especially important because it is possible that fairness evaluations mediate the effect of rational considerations. Third, I include the logarithm of household members because individuals with a larger household have increased financial needs and might favour more redistribution. The remaining control variables are age, gender and marital status. Descriptive statistics are displayed in Table A1 in the Online Appendix.

Model

The data have a hierarchical structure with individuals nested in countries, which invalidates conventional hypothesis tests. I estimate multilevel models with random intercepts to deal with biased standard errors and country heterogeneity (Hox 2010). The dependent variable is available in only five categories and its distribution does not approximate a normal distribution since it is heavily skewed to the right. It is not advisable to estimate linear models since both coefficients and standard errors would be biased (Hox 2010, 141). I estimate a multilevel ordered probit model instead, which was developed for ordinal dependent variables and does not rely on a normally distributed outcome (Hedeker 2008; Hox 2010, 141–7). It models the DFR as a latent metric variable with cutoff points that determine which of the five ordinal categories is observed. To evaluate the hypotheses, I estimate model-based standard errors derived from the observed information matrix rather than cluster robust standard errors. The latter are robust against misspecifications such as heteroscedasticity or group-specific correlations of the residuals. However, such misspecifications invalidate logit and probit models because they cause a biased and inconsistent estimation of the coefficients. It does not make sense to estimate ‘robust’ standard errors for coefficients that are biased in an unknown direction (Greene 2012, 693).

Results

The results from the multilevel models are depicted in Table 1. Model 1 only contains the control variables. The results show that the endorsement of the alternative distributive justice ideals need, market performance and egalitarianism correlate positively with the DFR. Income, top–bottom placement, university education and household size correlate negatively with the DFR, which can be explained by rational motivations. Lastly, older individuals and women have stronger redistribution preferences. The effects of these control variables do not change substantively with the introduction of the main independent variables. Thus, I will not touch upon them further.

Model 2 introduces the dummy variables that indicate how fair a respondent perceives his income to be compared to his skills and effort. The reference category is the perception that the income is about just. The results show that individuals who perceive their income as too low and much too low have a stronger DFR compared to those who view it as fair. Furthermore, individuals who perceive their income as much too high have a significantly stronger DFR compared to those who view it as fair. Only the dummy variable for a little too much is insignificant. Overall, Model 2 strongly supports Hypothesis 1. The perception that the own income is unfair is associated positively with redistribution preferences. An

Table 1. Effects of fairness evaluations on the DFR.

	(1)	(2)	(3)	(4)	(5)
<i>Fairness own income</i>					
Much less		0.345*** (0.018)		0.324*** (0.018)	0.304*** (0.039)
A little less		0.137*** (0.014)		0.128*** (0.014)	0.099*** (0.033)
About just			Reference		
A little more		0.012 (0.032)		0.005 (0.032)	-0.044 (0.075)
Much more		0.153** (0.068)		0.146** (0.068)	0.236 (0.153)
<i>Fairness own income * Income</i>					
Much less * Income					0.007 (0.013)
A little less * Income					0.010 (0.010)
About just * Income			Reference		
A little more * Income					0.016 (0.022)
Much more * Income					-0.030 (0.045)
Importance wealthy family			0.040*** (0.006)	0.037*** (0.006)	0.037*** (0.006)
Importance corruption			0.082*** (0.005)	0.077*** (0.005)	0.077*** (0.005)
Need	0.191*** (0.007)	0.186*** (0.007)	0.184*** (0.007)	0.179*** (0.007)	0.179*** (0.007)
Market performance	0.121*** (0.015)	0.106*** (0.015)	0.117*** (0.015)	0.103*** (0.015)	0.103*** (0.015)
Egalitarianism	0.036*** (0.012)	0.038*** (0.012)	0.036*** (0.012)	0.038*** (0.012)	0.038*** (0.012)
<i>Income</i>					
Lowest			Reference		
Low	0.002 (0.020)	0.015 (0.020)	0.004 (0.020)	0.016 (0.020)	-0.020 (0.049)
Medium	-0.009 (0.020)	0.011 (0.020)	-0.006 (0.020)	0.013 (0.021)	-0.059 (0.091)
High	-0.101*** (0.021)	-0.069*** (0.021)	-0.097*** (0.021)	-0.068*** (0.021)	-0.176 (0.135)
Highest	-0.229*** (0.024)	-0.180*** (0.024)	-0.222*** (0.024)	-0.176*** (0.024)	-0.318* (0.180)
Top-bottom self-placement	-0.079*** (0.004)	-0.069*** (0.004)	-0.072*** (0.004)	-0.063*** (0.004)	-0.063*** (0.004)
Age	0.001** (0.001)	0.001** (0.001)	0.001*** (0.001)	0.002*** (0.001)	0.002*** (0.001)
Sex	0.071*** (0.012)	0.060*** (0.012)	0.085*** (0.012)	0.074*** (0.012)	0.074*** (0.012)
Married	-0.015 (0.015)	-0.016 (0.015)	-0.013 (0.015)	-0.014 (0.015)	-0.014 (0.015)
<i>Education</i>					
No education			Reference		
Lowest formal qualification	0.023 (0.035)	0.022 (0.035)	0.024 (0.035)	0.024 (0.035)	0.024 (0.035)
Above lowest qualification	0.066* (0.034)	0.062* (0.034)	0.064* (0.034)	0.061* (0.035)	0.061* (0.035)
Higher secondary completed	0.003 (0.034)	0.005 (0.034)	0.006 (0.034)	0.008 (0.034)	0.008 (0.034)
Above higher secondary level	-0.039 (0.036)	-0.045 (0.036)	-0.035 (0.036)	-0.041 (0.036)	-0.041 (0.036)
University degree	-0.081** (0.036)	-0.088** (0.036)	-0.073** (0.036)	-0.080** (0.036)	-0.079** (0.036)

(Continued)

Table 1. Continued.

	(1)	(2)	(3)	(4)	(5)
<i>Employment status</i>					
Employed, full time			Reference		
Employed, part time	0.026 (0.021)	0.038* (0.021)	0.026 (0.021)	0.038* (0.021)	0.038* (0.021)
Unemployed	0.016 (0.026)	0.024 (0.026)	0.015 (0.026)	0.022 (0.026)	0.022 (0.026)
Not in labour force	-0.004 (0.022)	0.015 (0.022)	-0.007 (0.022)	0.011 (0.022)	0.011 (0.022)
In education	-0.028 (0.040)	-0.000 (0.040)	-0.018 (0.040)	0.007 (0.040)	0.006 (0.040)
Retired	0.015 (0.021)	0.039* (0.021)	0.019 (0.021)	0.041* (0.021)	0.041* (0.021)
Household members (log)	0.037*** (0.014)	0.028* (0.014)	0.039*** (0.014)	0.030** (0.014)	0.030** (0.014)
Variance constant	0.17 (0.04)	0.16 (0.04)	0.14 (0.03)	0.13 (0.03)	0.13 (0.03)
Observations	34,300	34,300	34,300	34,300	34,300
Number of countries	39	39	39	39	39

Note: Standard errors in parentheses. * <0.1 , ** <0.05 , *** <0.01 .

intriguing finding is that this applies to people who feel underpaid as well as to people who feel overpaid.

Besides the control variables, Model 3 contains the general unfairness perceptions. Both coefficients for the perceived importance of a wealthy family and being corrupt are highly significant and have the expected direction. Those who perceive systematic unfairness in their country, which means that having a wealthy family and being corrupt are important to get ahead, have a stronger DFR. This supports Hypothesis 2.

Model 4 estimates the coefficients from Model 2 and 3 in a unified model. The aim is to rule out that the inferences are biased by correlations between personal and general fairness perceptions. For example, it is conceivable that individuals who perceive their income as disproportionately low project their dissatisfaction and develop the attitude that a wealthy family is necessary to advance. The results show that the coefficients marginally reduce in magnitude but remain indistinguishable from the previous models.²

Model 5 adds interaction terms between personal income fairness and household income to the specification from Model 4. The result shows that the effect of personal income fairness does not differ with income. This suggests that the association to the DFR is other- rather than self-regarding. If individuals aimed to improve the fairness of their own income through redistribution, feeling underpaid (overpaid) would have a weaker (stronger) association with rising income. The results show that unfairness in general leads to a stronger DFR, which suggest that individuals have a taste for fairness and use their own experience to assess what level of redistribution is needed in society.

The coefficients from the regression table do not offer an intuitive apprehension of effect sizes. Statistical significance does not equal substantive significance. Thus, I will interpret the effects with an estimation of marginal effects based on Model 4. [Figures 1](#) and [2](#) depict to what extent the independent variables influence the probability that a respondent has a very strong DFR, i.e. the highest category in the five-point Likert scale.

[Figure 1](#) shows that the fairness evaluation of the own income has a substantial influence on the DFR. An individual who thinks that his income is much less than just has a 11 percentage points higher probability to strongly support redistribution than an

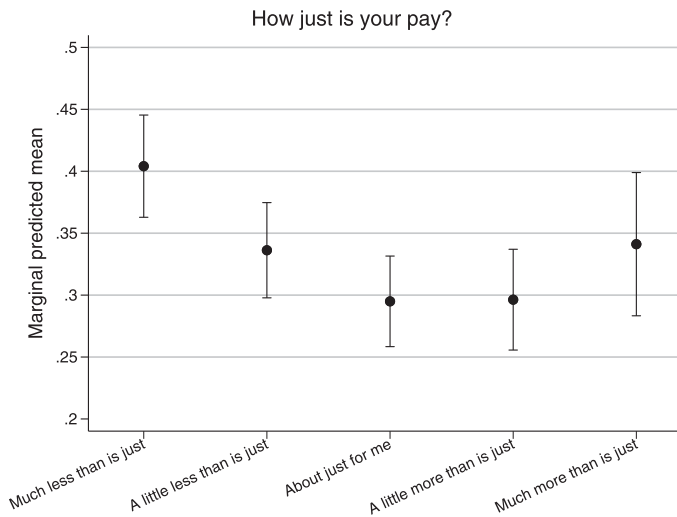


Figure 1. Influence of personal income fairness on the DFR. Note: The figure depicts the predicted probability that respondents have a very strong DFR (with 95% confidence intervals; calculations based on Model 4 in Table 1).

individual who thinks his income is just. The difference is 4 percentage points between those who think that their income is a little more than just and those who think it is just. On the other hand, an individual who perceives his income as much more than just has a probability that is 5 percentage points higher. Figure 2 shows that general fairness perceptions also have a substantial influence. Respondents who perceive coming from a wealthy family as essential have a 6 percentage points higher probability to have a strong DFR than those who perceive it as not important at all. The differential is 10 percentage points for the being corrupt variable.

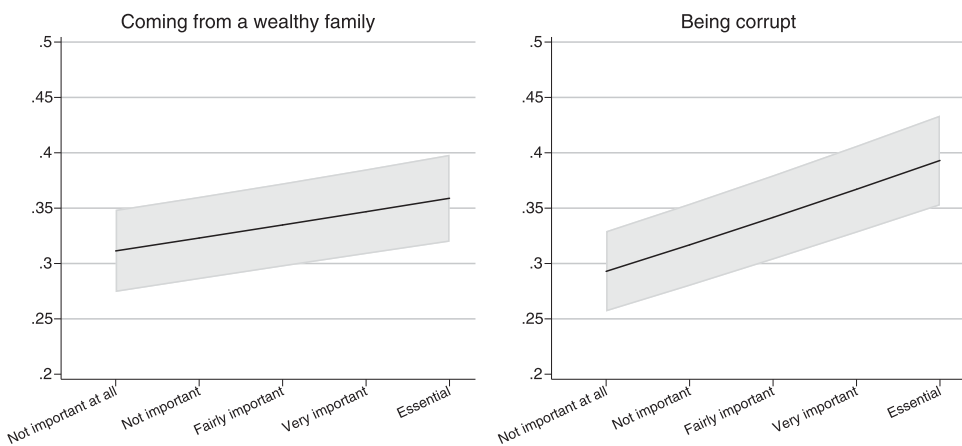


Figure 2. Influence of general income fairness on the DFR. Note: The figure depicts the predicted probability that respondents have a very strong DFR (with 95% confidence intervals; calculations based on Model 4 in Table 1). Respondents were asked how important coming from a wealthy family and being corrupt are for getting ahead in their country.

The results presented in this section are based on statistical models that include competing rational and normative explanations. This shows that fairness evaluations according to equity theory have an independent impact on redistribution preferences. To confirm the robustness of the results, I conduct several sensitivity tests based on Model 4 (see Online Appendix, Table A2). The first model uses a different measure for competing distributive fairness ideals, i.e. political ideology on a left-right scale. This variable is not used in the main estimations because values are missing in 49% of all observations, which might lead to biased estimates with listwise deletion. However, a re-estimation using left-right ideology confirms the main findings. Model 2 uses robust instead of model-based standard errors, which is an indirect specification test (Hox 2010, 263). The estimations do not lead to substantially different inferences. Model 3 is a simple ordered probit model with country fixed effects that deals with group heterogeneity without requiring the assumptions of random effects models, most importantly no correlation between independent variables and the errors terms. The inferences remain unaffected, which ensures that the results are not driven by omitted country-level variables that affect redistribution preferences. This is because the fixed effects control for all contextual influences such as government quality (see Svallfors 2013).

Summary and discussion

Prior research has reliably shown that fairness perceptions affect the DFR. People who perceive the income distribution as unfair show greater support for redistributive measures. However, the theoretic explanations underpinning prior research have been insufficient to understand the association. Thus, this study offered a comprehensive explanation of why incomes and income distributions are perceived as unfair and how this influences the DFR. Based on equity theory, it was argued that individuals see incomes as social exchanges where relevant inputs, i.e. skills and efforts, are traded against the income. They perceive earnings as unfair if these inputs are disproportional to the income. To assess the value of the inputs, individuals use social comparisons to reference groups such as colleagues, friends and family members. If they have the feeling that their own income is disproportional or incomes in general are disproportional, they develop a DFR to compensate the unfairness.

The empirical results strongly support the theoretical propositions. First, the DFR depends on the evaluation of the own income. People who perceive their income as unfair have a substantially stronger DFR. Second, the DFR also depends on the evaluation of systematic fairness. People who think that it is necessary to have a wealthy family and be corrupt to advance have a stronger DFR. Suggestive evidence indicates that the mechanism behind both associations is similar. The effect of personal income fairness on the DFR does not vary with income, which points towards other- rather than self-regarding motivations. It seems that people use their own income to gauge how much governmental redistribution is necessary overall. These results advance the literature on redistribution preferences in several ways. To my knowledge, no prior study has analysed how the evaluation of the own income influences redistribution preferences. A particularly interesting result is that individuals who feel overpaid develop a DFR and not only individuals who feel underpaid. This is surprising because high earners usually worry about forfeiting their advantageous position (Burleigh and Meegan 2013). Furthermore, no prior study

has offered a comprehensive theoretic explanation of fairness perceptions and how they affect the DFR.

The present study confirms previous research on the impact of fairness judgements on the DFR (Alesina and Giuliano 2010; Alesina and La Ferrara 2005; Bjørnskov et al. 2013; Corneo and Grüner 2002; Fong 2001; Fong, Bowles, and Gintis 2005; Iglesias, López, and Santos 2013; Isaksson and Lindskog 2009; Kuhn 2010; Linos and West 2003; Miles 2014). It adds to a mounting body of evidence that shows the strong impact of normative evaluations of income distribution on redistribution preferences. The results have implications for scholars of social policy and political economy. They help to explain why income inequality breeds tolerance for income inequality (Schröder 2017; Shariff, Wiwad, and Aknin 2016). Individuals mainly base their fairness perceptions on the incomes achieved by similar individuals while vertical comparisons are less important (see Tao 2015). This implies that fairness perceptions and resulting redistribution preferences are less sensitive to how incomes differ between stratified social groups. Thus, individuals might accept inequality because it does not affect social comparisons to similar individuals. Furthermore, the findings stress the importance of normative judgements when it comes to policy preferences. Contrary to the widely cited model by Meltzer and Richard (1981), for example, high inequality might not be sufficient to boost redistribution preferences. My analysis suggests that it is necessary that the society values the inequality as offensive in a normative sense. They also explain the mechanism that leads disadvantaged workers to support pro-redistribution parties (Emmenegger, Marx, and Schraff 2015; Marx 2014; Marx and Picot 2013). Their voting decisions are not only based on rational motivations but also on normative judgements. Especially in sub-disciplines dominated by rational choice theory, it will be a fruitful approach to incorporate normative motivations like these rather than maintaining a simple representation of humans as purely rational beings.

Notes

1. It must be noted that this dependent variable is not ideal. Preferably, an item on tax-spending preferences should be used to measure individuals' support for redistribution. While a reduction of inequality implies redistribution in most practical situations, it is not the same concept. This shortcoming cannot be overcome with the data at hand. Furthermore, previous studies I rely on use this exact dataset and item (Corneo and Grüner 2002; Isaksson and Lindskog 2009).
2. An analysis shows that personal and general income fairness variables do not correlate strongly. Recoding personal income fairness so that higher values indicate more unfairness (i.e. both feeling over- or underpaid) yields correlations of 0.09 (importance wealthy family) and 0.13 (importance corruption).

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