



**Demand for Redistribution, Support for the Welfare State,
and Party Identification in Austria**

by

Andreas KUHN

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University of Zurich
Institute for Empirical Research in Economics
Mühlebachstrasse 86
8008 Zürich, Switzerland
www.laborrn.at

Corresponding author: kuhn@iew.uzh.ch
phone +41 (0)44 634 3726

Demand for Redistribution, Support for the Welfare State, and Party Identification in Austria

Andreas Kuhn, University of Zurich and IZA*

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Abstract

This paper describes subjective wage inequality and the demand for redistribution in Austria using individuals' estimates of occupational wages from the International Social Survey Program. Although these estimates differ widely across individuals, the data clearly show that most individuals would like to decrease wage inequality, relative to the level of inequality which they perceive to exist. The empirical analysis also shows that the demand for redistribution is strongly associated not only with variables describing self-interested motives for redistribution, but also with perceptions of and social norms with respect to inequality. Further, the demand for redistribution is a strong predictor for whether an individual is supportive of redistribution by the state. On the other hand, however, I find almost no evidence for an empirical association between the demand for redistribution and individuals' party identification.

JEL classification: D31, D63, H50

Keywords: subjective inequality measures, demand for redistribution, support for the welfare state, party identification

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1 Introduction

In the mid-2000s, overall public cash benefits accounted for almost 16 percent of disposable household income of the average individual in working age in the OECD. The tax burden, at the same time, amounted to about 31 percent of disposable household income (OECD, 2008). These few numbers make it clear that, typically, governments exert substantial influence on the distribution of market income through the collection of taxes and the provision of transfer payments. This holds also true for Austria, which will be the focus of the empirical part of this paper: the corresponding figures are 27.4 and 24.8 percent, respectively. Starting from the premise that political outcomes, such as the factual amount of redistribution, must somehow relate to individuals' preferences over redistribution (e.g. Borck, 2007), the question comes up whether and to what extent the actual amount of redistribution mirrors individuals' perceptions of wage inequality as well as their normative beliefs as regards the just distribution of wages, and how these perceptions and beliefs translate into the political and economic outcomes.

Indeed, recent theoretical work in economics has convincingly pushed the idea that the amount of redistribution is linked to individuals' attitudes towards distributive justice (Alesina and Angeletos, 2005) and to individuals' perception of whether differences in earnings are primarily due to either luck or due to individual effort (Bénabou and Tirole, 2006), respectively. Such theoretical arguments are supported by some interesting empirical evidence on the assumed link between social norms and beliefs on the one hand and economic and political outcomes on the other hand. For example, Di Tella *et al.* (2007) analyze a situation which randomly granted legal land titles to some land squatters near Buenos Aires, but not to some others. Their analysis shows that those squatters who were given legal land titles developed more materialist and individualistic beliefs; beliefs that are commonly thought to be conducive to the functioning of a market economy. A recent paper by Giuliano and Spilimbergo (2009) even shows that individuals who grow up during a recession have different beliefs than individuals growing up in an economic boom. The reverse channel, running from norms to outcomes, has been studied in Stutzer and Lalive (2004). They use regional variation in a national referendum on the level of unemployment benefits in Switzerland as a measure for the norm not to work off public benefits. Their analysis shows that the social norm to work has a significant impact on average unemployment duration.

Most of the available empirical evidence on the issue, however, rather focuses on the determinants of individuals' demand for redistribution and their support for the welfare state (Alesina and Giuliano, 2009; Alesina and La Ferrara, 2005; Corneo and Grüner, 2002; Fong, 2001). These studies typically find that attitudes towards the welfare state and individuals' perceptions of which factors determine one's income are all associated with the demand for redistribution. For example, people who think that luck is an important determinant of income tend to be more in favor of redistribution. A second typical finding is that income by itself appears to be a surprisingly poor predictor of the demand for redistribution, given its prominent role in the economic literature (e.g. Meltzer and Richard, 1981). In an interesting take on the issue Alesina and Fuchs-Schündeln (2007) additionally stress the role of the prevailing

economic and political institutions on individual preferences, comparing individuals' attitudes from former East and West Germany. They find that East Germans are much more supportive of the state than West Germans and that it will take a couple of generations until attitudes will converge between the two regions.

This abundance of empirical evidence on the determinants of the demand for redistribution notwithstanding, and even though it seems an obvious thing to link people's preferences over redistribution with their party identification, evidence on the hypothesized link between attitudes and norms on the one hand and political outcomes on the other hand is scarce.¹ Alesina and Angeletos (2005) provide some tentative empirical evidence on the relation between the belief that luck determines income and individuals' political orientation, i.e. they show that individuals who believe that luck determines income tend to be found left on the political spectrum. Guiso *et al.* (2006) make the connection between preferences and political outcomes explicit, showing that the actual amount of redistribution and preferences are indeed related to each other. Kuhn (2009) finds indirect evidence for the link between people's attitudes and political outcomes in Switzerland, showing quite a strong empirical association between various subjective inequality measures and individuals' support for redistribution by the state. Moreover, he finds a substantial impact of these inequality measures on individuals' party identification.

In this paper, I will use a simple and intuitive conceptual framework to measure inequality from an individual's subjective point of view and to study the association between subjective inequality measures and individuals' support for the welfare state and individuals' stated party preferences, respectively, using survey data from Austria. Austria is, *inter alia*, an interesting country for further inquiry because it belongs to the group of countries with lowest inequality in disposable household income.² At the same time, however, the effectiveness of the redistributive system is judged to be rather low, probably mainly due to the fact that public transfers are comparatively only weakly targeted. Consequently, the reduction in inequality due to transfers and taxes is comparatively low in Austria, relative to the amount of resources that is involved (OECD, 2008). The conceptual framework yields various measures that are able to describe both the perception of actual wage inequality and the normative assessment of the desired wage inequality at the individual level, given appropriate data on individuals' subjective estimates of occupational wages. This also leads me to a very natural conceptualization of the demand for redistribution. In the main part of the empirical analysis I will first check how several potential motives for redistribution relate to these measures. Specifically, I will focus on economic incentives on the one hand and perceptions and norms with respect to distributive

¹There is some related evidence from political science. First, there is aggregate evidence showing that welfare retrenchment is associated with partisan politics (Allan and Scruggs, 2004; Korpi and Palme, 2003). At the individual level, there is research showing that individuals' preferences over political issues are associated with party identification (Carsey and Layman, 2006; Goren, 2005).

²Inequality in market income in Austria is lower than in most other OECD countries to start with (OECD, 2008). This most likely relates to the high degree of centralization of wage bargaining in Austria (e.g. Wallerstein *et al.*, 1997). The structure of wage bargaining also fits the observation that relative wage structures seem to be rather rigid (Hofer *et al.*, 2001) and wage mobility to be comparatively low (Hofer and Weber, 2002).

justice on the other hand. Second, in order to provide some tentative empirical evidence on the link between attitudes and political outcomes, I study whether these subjective measures are associated with individuals' support for the welfare state (i.e. for redistribution by the state). Finally, I also check whether these measures are associated with individuals' stated party identification, which would again reflect the hypothesized link between norms and desired political outcomes.

The remainder of this paper is structured as follows. Section 2 shortly describes the data source. Special emphasis is given to individuals' estimates of occupational wages available in these data. In section 3, I will discuss a simple framework suitable for the analysis of subjective inequality measures and the demand for redistribution. Section 4 presents descriptive evidence on these various measures. The main empirical results are presented and discussed in section 5. Section 5.1 looks at whether the observed variation in these measures is linked to different motives behind redistribution. Section 5.2 explores the link between subjective measures of inequality and redistribution and individuals' support of redistribution by the state. Section 5.3 looks at whether those different measures can explain individuals' party preference. Section 6 concludes.

2 Data

I use data from the International Social Survey Program (ISSP), an annual survey program aimed at establishing internationally comparable data on several key themes as religion, the role of government and social inequality, inter alia. The ISSP organized its first survey focusing on social inequality in 1987 and a second and a third survey followed in the years 1992 and 1999, respectively (a fourth survey is scheduled for 2009). Although Austria took part in all three surveys, the data on occupational wage estimates that are key for the conceptual framework are not available in the 1992 survey. Because there have also been some changes to the key over time I will focus exclusively on the data from 1999.

2.1 Subjective Estimates of Occupational Wages

The variables that are key for the subsequent empirical analysis are individuals' subjective estimates of the wages of people working in different occupations. Specifically, individuals were asked to estimate what they thought that people working in nine different occupations and their coworkers actually earn and ought to earn (before taxes and social security contributions), respectively (see also appendix A which contains the exact wording of the questions and the list of occupations).

Table 1

Table 1 shows descriptive statistics for these wage estimates.³ According to table 1, for example, individuals perceive the gross monthly wage of a shop assistant to be about €1,650 on

³The original wage estimates in the survey are given in units of the former Austrian currency, the Austrian Schilling. To simplify the reading of the table I have converted all numbers into Euros, using the exchange

average, while they on average think that a shop assistant should earn about €1,890 a month, yielding a difference between desired and perceived wage of about €300 per month. Note that the real wage of a shop assistant is not the focus of this study because misperceptions of factual wage rates are one important reason why people might demand (different amounts of) redistribution. In the case of a lawyer, by way of comparison, the average perceived monthly wage (about €7,890) is considerably higher than what the average person would judge as appropriate (about €5,940 only).

Figure 1

Figure 1 plots the average estimates of actual and desired wages for each occupation to make the main features of these estimates more visible. First, people seem to accept rather large differences in wages across occupations on average as there is a very clear-cut ranking of the occupations not only with respect to actual wages, but also with respect to desired wages. Moreover, note also that the ranking of the occupations as regards their just wages is exactly the same as the ranking with respect to their actual wages. Thus people not only think that a lawyer actually earns more than a shop assistant, they also tend to think that a lawyer ought to earn more than a shop assistant. Second, average estimates for actual and desired wages differ considerably from each other within each occupation. However, they do so to a very different degree. For example, the average ethical wage estimate is higher than the actual wage estimate in the case of the shop assistant, while the reverse holds true for the lawyer. Third, leaving coworkers' wages aside, there is a dichotomous grouping of the nine remaining occupations, based on both their average wage estimates but also on the difference between the average actual and the average desired level of pay. Specifically, there are three occupations (i.e. unskilled worker, shop assistant and skilled worker) for whom both perceived and desired wages are comparatively low and desired wages are higher than perceived wages on average. The reverse holds true for the remaining six occupations. Coworkers' wage estimates fall right in between these two groups and, therefore, coworkers somehow represent the average occupation in a random sample of workers.

Two additional remarks relate to the variation in individuals' wage estimates (see table 1 again). First, note that the variation in wage estimates is larger for those occupations which have higher estimated wages on average. At the same time, these are the very same occupations for which the desired wage estimate is lower than the perceived wage estimate on average. Second, the comparison between actual and perceived wage estimates within occupations shows that, for the group of lower skilled occupations, the dispersion of estimates is higher with respect to ethical than to actual wages. Interestingly, the reverse holds true for the higher skilled occupations. For this second group of occupations, the distribution of desired wage estimates is clearly less spread out than the distribution of perceived wage estimates.

rate at which the Austrian Schilling was replaced by the Euro (1 € = 13.7603 ATS). Since almost all of the subsequent analysis is based on relative comparisons, the exact choice of exchange rate does not matter on substantial grounds.

3 Conceptual Framework

This section discusses shortly the building blocks of a simple conceptual framework suitable for describing subjective wage inequality and the demand for redistribution. The framework is borrowed from and discussed in more detail in Kuhn (2009). The framework is based on individuals' occupational wage estimates that have been discussed in the preceding section and rests on a simple analogy between the measurement of objective and subjective wage inequality. The second key feature of the framework is that the data allow me to distinguish between individuals' perception of the wage inequality and their assessment of how a fair distribution should ideally look like. This, in turn, gives rise to a very natural and intuitive measure for the demand for redistribution as the discrepancy between the perceived and the desired level of inequality.

The conceptual framework is directly based on methods for measuring objective wage inequality. First, we thus note that, to measure objective wage inequality in some subpopulation of size n , it is sufficient to observe the corresponding vector of wages:

$$y = \{y_{(1)}, \dots, y_{(i)}, \dots, y_{(n)}\}, \quad (1)$$

as most inequality indices are a function of y only. The measurement of subjective wage inequality is a simple generalization in that the vector of wages now becomes a function of the evaluation of these wages by a specific individual:

$$y^{(i)} = \{y^{(i)}_{(1)}, \dots, y^{(i)}_{(i)}, \dots, y_{(n)}\} \quad (2)$$

Thus, subjective inequality may differ across individuals because individuals may have different evaluations of occupational wages. The framework this way incorporates the feature that inequality is in the eye of the beholder: individuals may hold widely different beliefs about inequality. As a consequence, while objective inequality can be summarized by one inequality measure only, subjective inequality is described by a distribution of inequality indices across individuals.

The second step simply is to realize that individuals' estimates of occupational wages (discussed in section 2.1) can be used to approximate subjective wage distributions. More specifically, the occupational wage estimates discussed in the preceding section are used to construct the following two triples of information for each individual in the sample:

$$(\bar{y}^{(i)}_{\text{bottom}}^a, \bar{y}^{(i)}_{\text{top}}^a, f_{\text{bottom}}), \quad \text{and} \quad (3a)$$

$$(\bar{y}^{(i)}_{\text{bottom}}^j, \bar{y}^{(i)}_{\text{top}}^j, f_{\text{bottom}}), \quad (3b)$$

where superscript a refers to actual (perceived) and j to just (ethical, desired) wage estimates, respectively, and \bar{y}_{bottom} and \bar{y}_{top} denotes an individual's average wage estimate of the lower and the upper part of the occupational distribution, respectively. The distinction between perceived and fair wages is the final key characteristic of the framework: equation (3a) is used

to approximate an individual’s perceived distribution of occupational wages, while equation (3b) approximates his or her imagination of the ethical wage distribution.

In both cases, the population of occupations is divided into two non-overlapping groups, labelled ‘bottom’ and ‘top’. The different occupations for which individuals gave wage estimates are then assigned to one of the two groups.⁴ Estimates of the two group-specific wages are then computed as simple averages of the corresponding estimates of occupation-specific wage estimates.⁵ Finally, the fraction of individuals belonging to the bottom group, f_{bottom} , is estimated from the occupational distribution in the sample using the International Standard Classification of Occupations (ISCO). Note that f_{bottom} is the same for the actual and the ethical wage distribution, and that it is fixed across individuals also. Importantly, these numbers are sufficient to compute the Gini coefficient for both actual and ethical wages at the individual level. In the simple case of two groups only, the Gini coefficient is given by the following simple expression (as shown in Kuhn, 2009):

$$G(i)^w = f_{\text{bottom}} - q^w(i)_{\text{bottom}}, \quad (4)$$

where $w = a$ ($w = j$) again refers to the actual (ethical) wage distribution, and where q_{bottom}^w equals the wage share of the bottom group. This quantity in turn is given by the following expression:

$$q(i)_{\text{bottom}}^w = \left(\frac{\bar{y}(i)_{\text{bottom}}^w f_{\text{bottom}}}{\bar{y}(i)_{\text{bottom}}^w f_{\text{bottom}} + \bar{y}(i)_{\text{top}}^w (1 - f_{\text{bottom}})} \right) \quad (5)$$

Note that the denominator is equal to an individual’s overall actual and overall ethical wage estimate, respectively. Descriptive statistics for the different components of equation (5) are given in panels (a) and (b) of table 2. Because the group-specific wages are simple averages of occupation-specific wage estimates, they basically mirror the pattern from figure 1. Because the two population weights are the same for the actual and the desired wage distribution for any given individual and also across different individuals, all differences between individuals as regards their evaluation of wage inequality must be due to differences in their estimates of occupational wages.⁶

Given a measure for both an individual’s perception of actual wage inequality as well as a measure of what this individual considers as an acceptable level of inequality, it’s straightforward to compute the desired amount of redistribution. Specifically, in what follows, I use the

⁴Specifically, the three blue-collar occupations (shop assistant, unskilled worker, skilled worker) are assigned to the bottom group and the remaining six occupations (doctor, judge, lawyer, minister, chairman, owner of a factory) are assigned to the top group. See also table 1 and appendix A.

⁵For example, the wage of the bottom group ($\bar{y}(i)_{\text{bottom}}$) is computed as the simple average of i ’s estimates of the wages of a shop assistant, an unskilled worker, and a skilled worker.

⁶It is well known that the Gini coefficient based on grouped data will generally be lower than if based on individual level data due to convexity of the Lorenz curve (e.g. Gastwirth and Glauber, 1976). Also note that one could easily rescale the Gini coefficient to the unit interval, simply by dividing the Gini coefficient from equation (4) by f_{bottom} . However, because I do not intend to make literal interpretations of the subjective inequality measures and as there are no comparisons across different countries involved, I do not use this adjustment. Moreover, the primary variable of interest is unaffected by any such rescaling.

desired reduction in the perceived level of wage inequality as my main measure for the demand for redistribution, multiplied by -1 to fit the intuition that higher values of the measure indicate a higher demand for redistribution:

$$R(i) = -1 \cdot \left[\frac{G(i)^j}{G(i)^a} - 1 \right] = \left[1 - \frac{G(i)^j}{G(i)^a} \right] \quad (6)$$

Because the population weights are fixed, the only reason why $G(i)^j$ and $G(i)^a$ can possibly differ and thereby give rise to any demand for redistribution is because the desired wage share of the bottom group differs from its perceived wage share, irrespective of the level of perceived wage inequality.⁷ Moreover, $R(i)$ has the characteristic that a higher perceived inequality and a lower desired inequality, respectively, lead to a higher demand for redistribution ceteris-paribus. Importantly however, it is exactly this feature of the measure that seems to perfectly fit our own intuition about the demand for redistribution. Note that for most of the measures used in the empirical literature such ceteris-paribus comparisons are not possible because they confound these two dimensions.

4 Heterogenous Perceptions and Beliefs

Panel (c) of table 2 shows descriptive statistics for the different subjective inequality indices discussed in the preceding section. As expected, the average subjective Gini coefficient describing individuals' perceived wage distribution is positive on average (about 0.335) and remarkably higher than the average Gini coefficient describing the desired wage distribution (which is equal to about 0.229).

Table 2, panel (c)

It is also interesting to note that all individuals perceive at least some wage inequality and that only a tiny fraction (about 0.4 percent) of all individuals judges absolute equality as their desired wage distribution. The second number is probably somewhat surprising and it suggests that absolutely equal wages across occupations is in general not judged as a fair distribution. Consequently, individuals demand a positive and quantitatively significant amount of redistribution on average. Average demand for redistribution equals 0.311, implying that individuals want to decrease inequality with respect to wages by about one third, relative to the level of inequality that they perceive to exist. Table 2 also shows the fraction of individuals exhibiting a negative, null or positive demand for redistribution. Not surprisingly, an overwhelming majority of individuals desires some positive amount of redistribution.

Figure 2

Panel (a) of figure 2 shows the joint distribution of the two subjective inequality measures. This figure shows that there is pronounced heterogeneity not only in the beliefs that people

⁷I have re-run part of the analysis using the difference between the two inequality indices as a measure for desired redistribution, i.e. using $\Delta G(i) = -1 \cdot [G(i)^j - G(i)^a]$ as dependent variable. The results turn out to be qualitatively the same (results not shown).

hold, but also in the perceptions they have. Moreover, there is variation in the desired level of inequality for any given level of perceived inequality. Further, it is also clear that most individuals favor a level of occupational wage inequality that is somewhat lower than what they actually perceive, as most of the points lie below the 45° line (indicating no demand for redistribution at all).

Consequently, the resulting distribution of the demand for redistribution takes on positive values for most individuals, as shown in panel (b) figure 2.⁸ However, there are also some individuals with a value on the demand for redistribution that is larger than one and some individuals with a negative value on this measure even. Closer inspection of the first case reveals that a demand higher than one results for individuals who would like to overturn the ranking of the two groups (however, there are only two observations where this happens). A negative value for the demand for redistribution most often results from individuals' desire increase all wages and the wages of the top group to an even higher degree than the wages of the bottom group (or vice versa), and not because they want to redistribute from the bottom to the top group literally (i.e. holding overall wages constant).

Figure 3

Next, figure 3 shows the joint distribution of the demand for redistribution and the perceived level of wage inequality as well as the joint distribution of the demand for redistribution and the desired level of wage inequality. Interestingly, the simple bivariate correlation between the demand for redistribution and the perceived wage inequality is essentially zero, whereas the correlation between the redistribution measure and the desired wage inequality is negative and very pronounced.⁹

4.1 The Anatomy of the Demand for Redistribution

Because I actually observe several wage estimates for most individuals in the sample, I can compute some additional moments describing more specific features of subjective wage distributions, analogous to the measures used by Osberg and Smeeding (2006). Let $y(i)^w$ denote an individual's vector of wage estimates for the nine different occupations (i.e. I exclude wage estimates which refer to an individual's coworkers), referring again to either actual ($w = a$) or desired ($w = j$) wages. The following moments describe the tails of the distributions of subjective wage estimates:

$$\text{floor}(i)^w = \min(y(i)^w)/\bar{y}(i)^w, \quad \text{and} \quad (7a)$$

$$\text{ceiling}(i)^w = \max(y(i)^w)/\bar{y}(i)^w, \quad (7b)$$

⁸Figure 2 makes it also clear that it is perfectly appropriate to use standard linear regression models in this case, as opposed to the conventional measures that have been analyzed in the literature so far. These measures are most often of ordinal nature only and thus require more sophisticated (but also more difficult to interpret) statistical models.

⁹A simple regression of the demand for redistribution on the first and second polynomial of the perceived wage inequality yields an R-squared of 0.006 only. In contrast, regressing the redistribution measure on the first two polynomials of the desired level of inequality gives an R-squared of 0.381.

with $\bar{y}(i)^w$ denoting an individual's overall estimate with respect actual and ethical wages, respectively. These two additional moments describe the lower and the upper tail of the actual and the perceived wage distribution, respectively. Both of them are relative to an individual's overall wage estimate in order to make them comparable across individuals.

Table 2, panel (d)

Panel (d) of table 2 shows descriptive statistics for these additional moments. Individuals perceive that the lowest wage (of the nine occupations) is about half their average wage estimate. Looking at the other end of the distribution, the perceived wage ceiling is about 4.5 times as large as the average wage estimate. Moreover, and consistent with what has already been presented, the ethical floor is higher than the perceived floor on average and the ethical ceiling is considerably lower than the perceived ceiling, respectively.

The empirical associations between the different subjective inequality measures can easily be described using regression models. Specifically, I estimate the parameters of the following models:¹⁰

$$I_i^w = m_i^w \gamma + \epsilon_i, \quad \text{and} \quad R_i = m_i^w \gamma + \epsilon_i, \quad (8)$$

where I_i^w denotes the subjective inequality measures of an individual, R_i denotes her demand for redistribution, and m_i^w denotes other moments describing the subjective wage distributions as evaluated by this individual.

Table 3

Table 3 shows the resulting parameter estimates. The first two columns show that the perceived level of wage inequality is, conditional on the estimate for the average actual wage, driven by both the lower and the upper tail of the distribution of actual wage estimates. Interestingly, the second column shows that, conditional on moments relating to the actual wage distribution, the two additional variables that relate to the ethical distribution of wages do not reach statistical significance. In the next two columns the desired level of inequality is used as dependent variable. We see that both the lower and the upper tail of the corresponding distribution of estimates are relevant predictors for the desired level of wage inequality again. The fourth column adds moments of the actual wage distribution. Interestingly, and in contrast to actual inequality, these additional regressors do explain some significant amount of variation in the desired level of wage inequality. The final three columns of table 3 show results for the demand for redistribution. Note that both moments of the actual and the desired occupational wage distribution are, on their own, associated with the demand for redistribution. However, the association is much stronger for the moments that relate to the ethical distribution of wages. Moreover, if both actual and ethical moments are used as regressors, all four estimates of interest turn out to be highly significant. In sum, the demand for redistribution appears to

¹⁰For the ease of comparison, all coefficients are fully standardized. That is, $\hat{\gamma}$ gives the predicted change in the dependent variable in terms of its standard deviation resulting from a one standard deviation increase in the corresponding regressor.

be a function of both tails of the distribution of perceived wages as well as the distribution of ethical wages.

5 Empirical Analysis

The main empirical analysis starts by looking at potential predictors of the demand for redistribution, focusing mainly on variables that measure economic self-interest or perceptions and normative beliefs related to the distribution of wages. Second, I study the empirical association between the perceptions of inequality and the beliefs about the just distribution of wages, respectively, and an individual's support for redistribution by the state. Such an analysis may yield important insights into the hypothesized link between perceptions and beliefs on the one hand and political outcomes on the other hand. Third, I estimate the effect of the demand for redistribution and other subjective inequality measures on individuals' stated party preference, thereby providing additional evidence on the potential feedback from norms and perceptions to political outcomes.

5.1 Motives for Demanding Redistribution

Given the huge amount of heterogeneity in both inequality perceptions and normative beliefs, it is not really evident whether individuals' perceptions and beliefs have some structure at all. In a first step, I therefore investigate different potential motives for demanding redistribution that have been put forward in the literature. The first group of predictors consists of the following factors: Financial self-interest (e.g. Meltzer and Richard, 1981), comparison income (Clark and Oswald, 1996; Senik, 2005), and social mobility (Benabou and Ok, 2001; Piketty, 1995). In the following, I will use family income, individuals' justice evaluation of their coworkers' wages and a simple index of social mobility as the corresponding empirical measures.

The second group of regressors includes individuals' perceptions of how wages are determined in reality and their normative beliefs with respect to the just distribution of wages (subsumed under the vector beliefs_i). There are two different variables describing individuals' perceptions. The first variable measures whether people think that acquired skills or active inputs, like educational attainment and personal effort, are in reality relevant for determining pay, and the second variable measures the weight that people attach to ascribed skills or inputs beyond an individual's control, like knowing the right people, in determining one' wage. Moreover, I include two variables that try to measure what are probably the most important principles with respect to distributive justice, namely equity (or proportionality) and needs (Dawes *et al.*, 2007). I use several survey items to measure these concepts (see appendix A).

Additionally, I include a set of covariates that are likely correlated with potential unobserved confounding variables like, for example, risk aversion. For example, I also include individuals' employment status, age and schooling as regressors. The statistical model thus takes the following form:

$$R_i = \beta_0 + \text{self-interest}_i \gamma_1 + \text{beliefs}_i \gamma_2 + \text{controls}_i \beta + \epsilon_i, \quad (9)$$

where R_i is the demand for redistribution as given by equation (6). The vector self-interest $_i$ contains the three variables describing motives for self-interested demand for redistribution (logarithm of family income, the justice evaluation of coworkers' wage, and a scale denoting (past) social mobility). Perceptions of how wages are determined in reality and social beliefs and norms regarding the fair distribution of wages are part of vector beliefs $_i$. The third vector, controls $_i$, includes all additional control variables.¹¹ Estimates of the parameters contained in γ_1 and γ_2 are shown in table 4.

Table 4

The first two models focus on self-interested motives only, with and without controlling for background characteristics, respectively. The next two models focus on the effects of the variables describing individuals' beliefs and perceptions (again, with and without background controls). Finally, both sets of regressors are included in the last three models and the ultimate model additionally includes the interaction between log family income and one's justice evaluation to check whether the effect of income depends on the an individual's assessment of his or her wage.

The first row shows that, as expected, income has a negative and statistically significant effect on the demand for redistribution. The corresponding parameter estimates range between about -0.045 and -0.075. The effect of income is actually quite large in economic terms as the parameter estimates imply an elasticity of the demand for redistribution with respect to income of about -0.14 to about -0.24, if evaluated at the mean value of the dependent variable. Nonetheless, the predicted average demand for redistribution for individuals with highest income is still positive.¹² Interestingly, the variable labelled 'justice evaluation' has a large positive effect, i.e. individuals who think that they should earn more than they actually do have a higher demand for redistribution. The model in the last column adds the interaction term between the log of income and the justice evaluation to the set of regressors. Interestingly, the interaction term turns out to be negative, implying that the effect of income is the more negative for those individuals with the higher values on the justice evaluation. Contrary to expectation, however, the effect of the mobility index turns out to be insignificant and essentially zero in economic terms.

The next four rows show the estimated effect of individuals' beliefs and perceptions. The two belief variables, labelled needs and effort, both have the expected sign and quite strong effects on the demand for redistribution across all specifications. A one standard deviation increase in the belief that needs should be important in determining pay, for example, increases the demand for redistribution by about 0.03 (which corresponds to a relative increase

¹¹The full list of background controls is the following: Age (in years), a female dummy, educational attainment (in years), the number of persons in the household, two dummy variables indicating employment and retirement status, respectively, a dummy for living in an urban/suburban region, and a set of dummies for the state of residence. Table B.1 provides summary statistics for these variables.

¹²For example, using the estimates from model shown in column (6), the average predicted demand for redistribution is 0.287 for individuals in the highest income bracket. Although this number is clearly much lower than the average demand of the poorest individuals in the sample (sample average of 0.416), these individuals still have a positive demand for redistribution on average.

of about 9%). The belief in effort has the expected negative sign and, similarly, has also quite a strong effect on the dependent variable. Increasing effort by one standard deviation results in an increase of about -0.029 (corresponding to a relative decrease of about 9.5%). Turning to individuals' perceptions of how pay is actually determined, only one of the two included variables, i.e. the perception that 'acquired' skills, has any statistical impact on the demand for redistribution. Again, a hypothetical increase of one standard deviation leads to a predicted decrease in the dependent variable of about 0.026, which corresponds roughly to a relative decrease of 8.3%.

The results from table 4 yield a consistent picture: all models yield the same results qualitatively, whether background controls are included or not. Further, all regressors of interest have the expected sign, except the index of mobility and the variable describing whether an individual thinks that ascribed skills are important for getting ahead which are not statistically different from zero. In both cases, this seems to be a result from point estimates that are essentially zero (and not because the precision of the estimates is low). Overall, these results also fit well into the previous empirical literature (e.g. Corneo and Grüner, 2002; Fong, 2001).

5.2 Support for the Welfare State

Although most individuals demand some equalization of occupational wages, it is not clear whether this also implies that a majority of those individuals thinks that the government should be doing something about it. Therefore, in order to provide some empirical evidence on the link between norms and political outcomes, I regress a simple measure of individuals' support for redistribution by the state on some of the subjective inequality measures that have been discussed before (again, see appendix A again for the exact wording of the dependent variable). I therefore run several regression models similar to equation (9), only that now the support for redistribution by the state is the dependent variable and the demand for redistribution R_i , or some other subjective inequality measure I_i^w relating to either the actual or the ethical occupational wage distribution, is the key regressor:

$$\text{support}_i = \beta_0 + R_i\alpha + \text{self-interest}_i\gamma_1 + \text{beliefs}_i\gamma_2 + \text{controls}_i\beta + \epsilon_i, \quad \text{or} \quad (10a)$$

$$\text{support}_i = \beta_0 + I_i\alpha + \text{self-interest}_i\gamma_1 + \text{beliefs}_i\gamma_2 + \text{controls}_i\beta + \epsilon_i, \quad (10b)$$

where support_i is a simple measure for individuals' support for redistribution by the state. Interest now shifts to parameter α which quantifies the effect of individuals' subjective inequality perception on their propensity to support redistribution by the state. As shown in the preceding section, the independent variables describing different motives for demanding redistribution quite strongly correlate with R_i and I_i , respectively. Therefore, I additionally show results where only the inequality measures show up as explanatory variables. However, the background control variables are included as regressors throughout.

Table 5 shows the resulting estimates. The first panel (i.e. the first three columns) use the demand for redistribution as key regressor, the second panel includes both actual and ethical wage inequality instead. The first model of each panel includes only socio-economic

controls, the second model also includes the variables picking up self-interested motives for redistribution, and the third model additionally includes beliefs and norms. We may first note that there is considerable support for redistribution by the state on average (the average of the dependent variable equals 3.78, on a scale ranging from 1 to 5).

Table 5

The first three columns use the demand for redistribution as main regressor. We see that the demand for redistribution has a large positive and significant effect on individuals' support for redistribution by the state, i.e. people who desired a more equal distribution of occupational wages tend to be more in favor of redistribution by the state. This holds true regardless of the control variables that are included in the model, although the point estimate is somewhat reduced by the inclusion of additional controls (only including background controls yields a point estimate of 0.988, while additionally controlling for self-interested motives and beliefs leads to a smaller point estimate of 0.904). The size of the effect turns out to be large in substantive terms as the elasticity of the support for redistribution by the state with respect to the demand for redistribution equals about 7.5% ($100\%[(0.314 \cdot 0.904)/3.788]$) if evaluated at mean values (and using the point estimate of the third column).

Analogously, the remaining three columns use the two subjective inequality measures instead of the demand for redistribution as main regressors. Again, we can see that individuals with a high (low) level of perceived (desired) inequality are more favorable towards the state intervention with respect to inequality. As before, the corresponding effects are large in economic terms. For example, using the point estimates shown in column (6) yields an elasticity of the support for redistribution by the state with respect to the perceived level of wage inequality of about 23.5% ($= 100\%[(0.336 \cdot 2.653)/3.788]$). Similarly, the estimated elasticity with respect to the ethical level of wage inequality equals about -18% ($= [(0.229 \cdot -2.987)/3.788]$).

5.3 Party Identification

If individuals' demand for redistribution really shapes government's action towards inequality, then we would also expect an association between the subjective inequality measures and individuals' preferences over political parties (assuming that the political parties have different positions over redistributive policies). I therefore estimate the effect of inequality perception and the demand for redistribution on individuals' stated preference over different political parties:

$$\mathbb{1}(\text{Party}_i = j) = \beta_0 + R_i\alpha + \text{self-interest}_i\beta + \text{beliefs}_i\gamma + \text{controls}_i\delta + \epsilon_i, \quad \text{and} \quad (11a)$$

$$\mathbb{1}(\text{Party}_i = j) = \beta_0 + I_i\alpha + \text{self-interest}_i\beta + \text{beliefs}_i\gamma + \text{controls}_i\delta + \epsilon_i, \quad (11b)$$

where the dependent variable $\mathbb{1}(\text{Party}_i = j)$ is a dummy variable indicating whether individual i would vote for party j (see appendix A for details).¹³ The variables on the right-hand

¹³I have also re-estimated the same models using only those individuals who do state preference for any political party. The results are qualitatively the same as the ones obtained from using all available observations

side are exactly the same as before. For the ease of interpretation, I estimate the parameters from equation (11b) by ordinary least squares instead of using a nonlinear model like, for example, a probit. In the analysis, I only consider the four political parties that had the largest share of votes at the time the survey was administered. These are the social-democratic party (“Sozialdemokratische Partei Österreichs”, SPÖ), the conservative Austrian People’s Party (“Österreichische Volkspartei”, ÖVP), the right-of-center Austrian Freedom Party (“Freiheitliche Partei Österreichs”, FPÖ), and the Green Party (“Die Grünen”). Additionally, I also show results using a dummy variable indicating that an individual would not vote for any political party at all as dependent variable because refraining from stating any preference over political parties altogether may also be an interesting outcome. Note that the sample size is somewhat reduced because of missing information on party preference for some individuals: there remain 534 out of the original 707 observations.

Table 6

Estimation results are given in table 6. Panel (a) of table 6 shows estimates when only baseline controls are included. Panel (b) shows estimates that also control for variables describing individuals’ financial self-interest and their perceptions and beliefs. As before, I show both sets of results because subjective inequality measures and the demand for redistribution are highly correlated.

Quite surprisingly, and in stark contrast to the results for individuals’ support for redistribution by the state, all key parameters turn out to be statistically insignificant (the only exception is a significant effect of the demand for redistribution on the probability of voting for the conservative party). However, this effect also turns insignificant once beliefs and perceptions are included as regressors. Moreover, the insignificance seems to be mainly a result of small point estimates, and less so a result of imprecision of those estimates. For example, the point estimate for the effect of the demand for redistribution on stated party preference for the social-democratic party is 0.071, which yields a predicted change in the probability of stating preference for the social-democratic party of 1.65 percentage points for a hypothetical increase in the demand for redistribution of one standard deviation (which equals 0.233).¹⁴

Overall, none of the estimated parameters is significantly different from zero, except the effect of the demand for redistribution on the probability of identifying oneself with the conservative party (panel (a), third column). Second, most effects are quite small in substantive terms. Thus, in most cases, the lack of statistical significance is a result of small point estimates, and not so much a result of large standard errors. It thus appears as if concerns about wage inequality - although such concerns are clearly present, as shown in the preceding sections - is not an important determinant of individuals’ party identification.

This result is somewhat surprising, given that the preceding section has shown a substantial and significant association between subjective inequality measures and individuals’ propensity

(results not shown).

¹⁴The same calculation for the largest effect, i.e. the effect running from the demand for redistribution on the probability of stating preference for the conservative party, yields a predicted change of slightly more than three percentage points.

to support redistribution by the state.¹⁵ One potential explanation for this missing association between preferences over redistribution and party identification is that the positions of the two big parties (ÖVP, SPÖ) have converged to a significant degree, at least as regards social policy (Seeleib-Kaiser *et al.*, 2005). This convergence in turn may at least in part be driven by the underlying political institutions (Iversen and Soskice, 2006).

6 Conclusions

In this paper, I study subjective estimates of wage inequality and the demand for redistribution in Austria, using a simple empirical framework that mainly builds on individuals' estimates of both actual and ethical wages of several specific occupations. This framework explicitly distinguishes between individuals' perceptions and normative beliefs as regards the distribution of wages, which then leads to a natural measure of the demand for redistribution as the desired reduction in the perceived level of wage inequality.

A first key result of this paper is that most individuals would prefer a distribution of occupational wages that is more equal than the distribution they perceive to actually exist, and this desired reduction in overall wage inequality is driven by both a desire to increase wages at the bottom and to decrease wages at the top of the distribution. Further, and in line with previous evidence, self-interested motives do explain part of the variation in the demand for redistribution, but perceptions of inequality and normative beliefs with respect to inequality appear to be at least as important. As expected, the various subjective inequality measures in turn are substantially significant predictors of individuals' support for redistribution by the state. Individuals with a high demand for redistribution, with a high level of perceived wage inequality or with a low level of ethical wage inequality tend to support intervention by the government in order to reduce existing inequalities. However, there is no substantial association between subjective inequality indices and the individuals' party identification. Although this last result is somewhat surprising at first, it may simply reflect that the main political parties hold more or less the same positions as regards redistribution.

Finally, the comparison between Austria and analogous results for Switzerland shows some striking similarities and differences between the two countries. Although suggestive, such a comparison remains highly speculative. Nonetheless, this comparison suggests that interesting insights may be gained from applying the conceptual framework used in this study to a broader set of countries.

¹⁵It also contrasts strongly with analogous results for Switzerland, where subjective inequality measures and the demand for redistribution are substantially important predictors for individuals' party preferences (Kuhn, 2009). Interestingly, this difference in the predictive power of subjective inequality indices as regards party identification is the only notable difference between the results for Austria and Switzerland.

References

- Alesina, A. and Angeletos, G.-M. (2005). Fairness and Redistribution. *American Economic Review*, **95**(4), 960–980.
- Alesina, A. and Fuchs-Schündeln, N. (2007). Good-Bye Lenin (or Not?): The Effect of Communism on People’s Preferences. *American Economic Review*, **97**(4), 1507–1528.
- Alesina, A. and Giuliano, P. (2009). Preferences for Redistribution. NBER Working Paper No. 14825.
- Alesina, A. and La Ferrara, E. (2005). Preferences for Redistribution in the Land of Opportunities. *Journal of Public Economics*, **89**(5-6), 897–931.
- Allan, J. and Scruggs, L. (2004). Political Partisanship and Welfare State Reform in Advanced Industrial Societies. *American Journal of Political Science*, **48**(3), 496–512.
- Benabou, R. and Ok, E. (2001). Social Mobility and the Demand for Redistribution: The Poup Hypothesis. *Quarterly Journal of Economics*, **116**(2), 447–487.
- Bénabou, R. and Tirole, J. (2006). Belief in a Just World and Redistributive Politics. *The Quarterly Journal of Economics*, **121**(2), 699–746.
- Borck, R. (2007). Voting, Inequality and Redistribution. *Journal of Economic Surveys*, **21**(1), 90–109.
- Carsey, T. and Layman, G. (2006). Changing sides or changing minds? Party identification and policy preferences in the American electorate. *American Journal of Political Science*, **50**(2), 464–477.
- Clark, A. E. and Oswald, A. J. (1996). Satisfaction and comparison income. *Journal of Public Economics*, **61**(3), 359–381.
- Corneo, G. and Grüner, H. P. (2002). Individual Preferences for Political Redistribution. *Journal of Public Economics*, **83**, 83–107.
- Dawes, C., Fowler, J., Johnson, T., McElreath, R., and Smirnov, O. (2007). Egalitarian Motives in Humans. *Nature*, **446**, 794–796.
- Di Tella, R., Galiani, S., and Schargrodsky, E. (2007). The Formation of Beliefs: Evidence from the Allocation of Land Titles to Squatters. *The Quarterly Journal of Economics*, **122**(1), 209–241.
- Fong, C. (2001). Social Preferences, Self-Interest and the Demand for Redistribution. *Journal of Public Economics*, **82**, 225–246.
- Gastwirth, J. and Glaubergerman, M. (1976). The Interpolation of the Lorenz Curve and Gini Index from Grouped Data. *Econometrica*, **44**(3), 479–483.
- Giuliano, P. and Spilimbergo, A. (2009). Growing up in a recession: Beliefs and the macroeconomy. Working Paper 15321, National Bureau of Economic Research.
- Goren, P. (2005). Party Identification and Core Political Values. *American Journal of Political Science*, **49**(4), 881–896.

- Guiso, L., Sapienza, P., and Zingales, L. (2006). Does culture affect economic outcomes? *The Journal of Economic Perspectives*, pages 23–48.
- Hofer, H. and Weber, A. (2002). Wage mobility in Austria 1986–1996. *Labour Economics*, **9**(4), 563–577.
- Hofer, H., Pichelmann, K., and Schuh, A.-U. (2001). Price and quantity adjustments in the austrian labour market. *Applied Economics*, **33**(5), 581–592.
- Iversen, T. and Soskice, D. (2006). Electoral institutions and the politics of coalitions: Why some democracies redistribute more than others. *American Political Science Review*, **100**(02), 165–181.
- Korpi, W. and Palme, J. (2003). New Politics and Class Politics in the Context of Austerity and Globalization: Welfare State Regress in 18 Countries, 1975–95. *American Political Science Review*, **97**(03), 425–446.
- Kuhn, A. (2009). In the Eye of the Beholder: Subjective Evaluations of Wage Inequality and the Demand for Redistribution. NRN: The Austrian Center for Labor Economics and the Analysis of the Welfare State, Working Paper 0914.
- Meltzer, A. and Richard, S. (1981). A Rational Theory of the Size of Government. *The Journal of Political Economy*, **89**(5), 914.
- OECD (2008). Growing Unequal? Income Distribution and Poverty in OECD Countries. Technical report, OECD.
- Osberg, L. and Smeeding, T. (2006). "Fair" Inequality? Attitudes toward Pay Differentials: The United States in Comparative Perspective. *American Sociological Review*, **71**, 450–473.
- Piketty, T. (1995). Social Mobility and Redistributive Politics. *Quarterly Journal of Economics*, **110**(3), 551–584.
- Seeleib-Kaiser, M., Van Dyk, S., and Roggenkamp, M. (2005). What Do Parties Want? An Analysis of Programmatic Social Policy Aims in Austria, Germany and the Netherlands. *European Journal of Social Security*, **7**(2), 115.
- Senik, C. (2005). Income distribution and well-being: what can we learn from subjective data? *Journal of Economic Surveys*, **19**(1), 43–63.
- Stutzer, A. and Lalive, R. (2004). The role of social work norms in job searching and subjective well-being. *Journal of the European Economic Association*, **2**(4), 696–719.
- Wallerstein, M., Golden, M., and Lange, P. (1997). Unions, Employers' Associations, and Wage-Setting Institutions in Northern and Central Europe, 1950-1992. *Industrial and Labor Relations Review*, **50**(3), 379.

Table 1: Subjective estimates of occupational wages

	Actual wage	Just wage
<i>(a) Bottom group:</i>		
Unskilled worker	1,170.37 (304.40)	1,411.62 (409.06)
Shop assistant	1,263.61 (304.33)	1,544.12 (412.86)
Skilled worker	1,646.91 (423.40)	1,887.64 (484.87)
<i>(b) Top group:</i>		
Doctor	5,960.82 (5,222.48)	5,365.46 (3,729.71)
Judge	6,772.14 (4,222.56)	5,481.61 (3,090.27)
Lawyer	7,892.25 (5,666.69)	5,944.27 (4,129.51)
Minister	10,083.33 (5,335.44)	6,296.60 (3,418.85)
Chairman	10,983.98 (8,889.57)	7,690.27 (6,270.98)
Owner factory	13,574.40 (12,619.85)	9,982.49 (9,797.28)
<i>(c) Respondent's occupation</i>		
Coworker	1,843.64 (1,060.26)	2,074.53 (1,209.94)

Notes: Table entries are average estimates of perceived (actual) and desired (just) wages (in €, gross per month). Standard deviations are given in parentheses. All numbers are based on 707 observations except coworkers' wage estimates which are based on 653 and 658 observations, respectively. See also appendix A.

Table 2: Subjective inequality measures and the demand for redistribution

	Mean	Standard deviation
<i>(a) Perceived wage distribution</i>		
Wage, overall	2,318.102	734.675
Wage, bottom group	1,360.298	283.893
Wage, top group	9,211.153	5,277.663
Population share, bottom group	0.878	–
<i>(b) Desired wage distribution</i>		
Wage, overall	2,246.297	624.699
Wage, bottom group	1,614.461	389.194
Wage, top group	6,793.449	3931.714
Population share, bottom group	0.878	–
<i>(c) Inequality and redistribution</i>		
Gini coefficient, actual wage distribution	0.335	0.120
$\mathbb{1}(\text{Actual Gini} = 0)$	0.000	0.000
Gini coefficient, desired wage distribution	0.229	0.110
$\mathbb{1}(\text{Desired Gini} = 0)$	0.004	0.065
Demand for redistribution	0.311	0.233
$\mathbb{1}(\text{Demand} < 0)$	0.047	0.211
$\mathbb{1}(\text{Demand} = 0)$	0.033	0.178
$\mathbb{1}(0 < \text{Demand} < 1)$	0.914	0.281
$\mathbb{1}(\text{Demand} = 1)$	0.004	0.065
$\mathbb{1}(\text{Demand} > 1)$	0.003	0.053
<i>(d) Additional moments</i>		
Perceived floor	0.508	0.132
Ethical floor	0.626	0.135
Perceived ceiling	6.536	3.079
Ethical ceiling	4.548	2.701

Notes: All table entries are based on 707 observations. All wage estimates in panel (a) and (b) are given in €. All variables are defined in the main text. $\mathbb{1}(\cdot)$ denotes the indicator function.

Table 3: The anatomy of the demand for redistribution

	Actual inequality			Ethical inequality			Demand for redistribution		
Mean	0.335	0.335	0.229	0.229	0.311	0.311	0.311	0.311	0.311
Standard deviation	0.120	0.120	0.110	0.110	0.233	0.233	0.233	0.233	0.233
Actual floor	-0.519*** (0.022)	-0.480*** (0.026)	-0.115*** (0.028)	-0.115*** (0.028)	0.012 (0.124)	0.012 (0.124)	0.012 (0.124)	-0.386*** (0.131)	-0.386*** (0.131)
Actual ceiling	0.333*** (0.001)	0.308*** (0.001)	-0.071** (0.001)	-0.071** (0.001)	0.162*** (0.004)	0.162*** (0.004)	0.162*** (0.004)	0.422*** (0.005)	0.422*** (0.005)
Ethical floor		-0.042 (0.023)	-0.514*** (0.025)	-0.449*** (0.029)	0.421*** (0.089)	0.421*** (0.089)	0.421*** (0.089)	0.641*** (0.102)	0.641*** (0.102)
Ethical ceiling		0.030 (0.001)	0.432*** (0.002)	0.462*** (0.002)	-0.264*** (0.005)	-0.264*** (0.005)	-0.264*** (0.005)	-0.549*** (0.006)	-0.549*** (0.006)
Actual overall wage	0.177*** (0.000)	0.289*** (0.000)	0.055* (0.000)	0.055* (0.000)	-0.137** (0.001)	-0.137** (0.001)	-0.137** (0.001)	-0.005 (0.001)	-0.005 (0.001)
Ethical overall wage		-0.135*** (0.000)	0.072*** (0.000)	0.016 (0.000)	0.165*** (0.001)	0.165*** (0.001)	0.165*** (0.001)	0.099** (0.001)	0.099** (0.001)
# observations	707	707	707	707	707	707	707	707	707
p-value (F-statistic)	0.000	0.000	0.000	0.000	0.017	0.017	0.000	0.000	0.000
Adjusted R-Squared	0.859	0.864	0.846	0.852	0.014	0.014	0.311	0.608	0.608

Notes: *, **, *** denote statistical significance on the 10%, 5%, and 1% level, respectively. Coefficients are fully standardized. Robust standard errors in parentheses.

Table 4: The demand for redistribution

	Demand for redistribution					
	0.311 0.233	0.311 0.233	0.311 0.233	0.311 0.233	0.311 0.233	0.311 0.233
Mean	0.311 (0.018)	0.311 (0.020)	0.311 (0.018)	0.311 (0.020)	0.311 (0.020)	0.311 (0.020)
Standard deviation	0.233 (0.032)	0.233 (0.025)	0.233 (0.030)	0.233 (0.023)	0.233 (0.023)	0.233 (0.019)
ln(income)	-0.043** (0.018)	-0.076*** (0.020)	-0.038** (0.018)	-0.068*** (0.020)	-0.068*** (0.020)	-0.062*** (0.020)
Justice evaluation	0.059* (0.032)	0.043* (0.025)	0.050* (0.030)	0.038 (0.023)	0.038 (0.023)	0.069*** (0.019)
Mobility index	-0.006 (0.007)	-0.009 (0.007)	-0.004 (0.007)	-0.007 (0.008)	-0.007 (0.008)	-0.007 (0.008)
ln(income)×justice evaluation						-0.115*** (0.039)
Needs		0.029** (0.012)	0.027** (0.012)	0.028** (0.012)	0.027** (0.012)	0.025** (0.012)
Effort		-0.065*** (0.019)	-0.057*** (0.018)	-0.063*** (0.019)	-0.050*** (0.018)	-0.051*** (0.018)
Acquired skills		-0.038*** (0.011)	-0.028** (0.011)	-0.035*** (0.011)	-0.023** (0.011)	-0.023** (0.011)
Ascribed skills		-0.003 (0.009)	-0.003 (0.009)	-0.003 (0.009)	-0.002 (0.009)	-0.003 (0.009)
Constant	0.376*** (0.072)	0.427*** (0.108)	0.603*** (0.085)	0.508*** (0.124)	0.594*** (0.130)	0.445*** (0.122)
Additional controls?	No	Yes	No	Yes	No	Yes
# observations	707	707	707	707	707	707
# regressors	6	25	8	27	14	34
p-value (F-statistic)	0.002	0.000	0.000	0.000	0.000	0.000
Adjusted R-squared	0.021	0.114	0.041	0.110	0.056	0.141

Notes: *, **, *** denote statistical significance on the 10%, 5%, and 1% level, respectively. Robust standard errors in parentheses. Additional control variables are: Age in years, a female dummy, education in years, household size, two dummies for employment status, a dummy for urban residency, a set of state dummies, and a scale describing the perception of conflicts. Two variables (ln(income) and justice evaluation) have been demeaned in the final column. See also appendix A for additional explanations and definitions of the variables. Full regression results are available upon request.

Table 5: Support for redistribution by the state

	Support for redistribution by the state					
Mean	3.788	3.788	3.788	3.788	3.788	3.788
Standard deviation	1.141	1.141	1.141	1.141	1.141	1.141
Demand for redistribution	0.988*** (0.224)	0.940*** (0.227)	0.904*** (0.223)			
Actual inequality				2.794*** (0.510)	2.722*** (0.513)	2.653*** (0.516)
Ethical inequality				-3.226*** (0.609)	-3.077*** (0.622)	-2.987*** (0.624)
Controls included?	Yes	Yes	Yes	Yes	Yes	Yes
Self-interested motives included?	No	Yes	Yes	No	Yes	Yes
Beliefs included?	No	No	Yes	No	No	Yes
# observations	685	685	685	685	685	685
# regressors	20	26	34	21	27	35
p (F-statistic)	0.000	0.000	0.000	0.000	0.000	0.000
Adjusted R-Squared	0.202	0.204	0.222	0.211	0.214	0.230

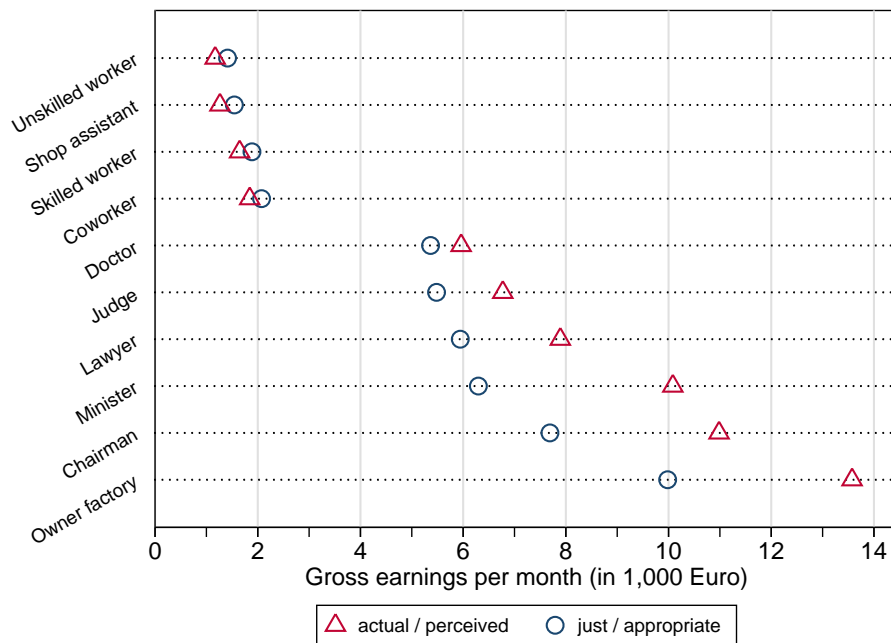
Notes: *, **, *** denote statistical significance on the 10%, 5%, and 1% level, respectively. Robust standard errors in parentheses. See also notes of table 4.

Table 6: Stated party preference

	SPÖ		ÖVP		FPÖ		The Green Party		No party	
Mean	0.324	0.324	0.243	0.243	0.109	0.109	0.124	0.124	0.182	0.182
Standard deviation	0.468	0.468	0.430	0.430	0.311	0.311	0.329	0.329	0.386	0.386
<i>(a) Restricted set of control variables</i>										
Demand	0.071 (0.081)		-0.135* (0.078)		0.017 (0.067)		0.021 (0.048)		0.035 (0.075)	
Actual inequality		0.103 (0.244)		-0.216 (0.230)		0.049 (0.192)		-0.097 (0.143)		0.182 (0.228)
Desired inequality		0.005 (0.279)		0.252 (0.258)		-0.038 (0.217)		-0.028 (0.160)		-0.228 (0.250)
p-value (F-statistic)	0.000	0.000	0.000	0.000	0.028	0.039	0.000	0.000	0.978	0.977
Adjusted R-squared	0.058	0.055	0.063	0.058	0.026	0.024	0.142	0.142	-0.020	-0.021
<i>(b) Full set of control variables</i>										
Demand	0.093 (0.083)		-0.106 (0.084)		0.033 (0.067)		0.006 (0.051)		-0.007 (0.075)	
Actual inequality		0.122 (0.248)		-0.078 (0.242)		0.081 (0.191)		-0.137 (0.147)		0.049 (0.235)
Desired inequality		-0.014 (0.280)		0.150 (0.278)		-0.118 (0.221)		0.021 (0.170)		-0.113 (0.253)
p-value (F-statistic)	0.000	0.001	0.001	0.002	0.044	0.056	0.000	0.000	0.738	0.769
Adjusted R-squared	0.064	0.061	0.059	0.054	0.029	0.027	0.142	0.142	-0.011	-0.012
n	534	534	534	534	534	534	534	534	534	534

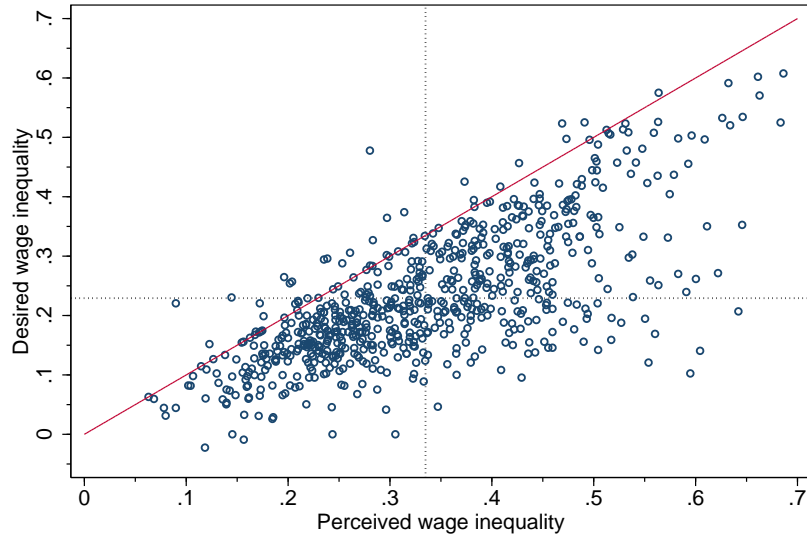
Notes: *, **, *** denote statistical significance on the 10%, 5%, and 1% level, respectively. Robust standard errors in parentheses. The regressions in panel (a) only control for socio-demographic controls, while the regressions in panel (b) additionally control for self-interested motives as well as perceptions and norms. See also notes of table 4.

Figure 1: Estimates of occupational wages

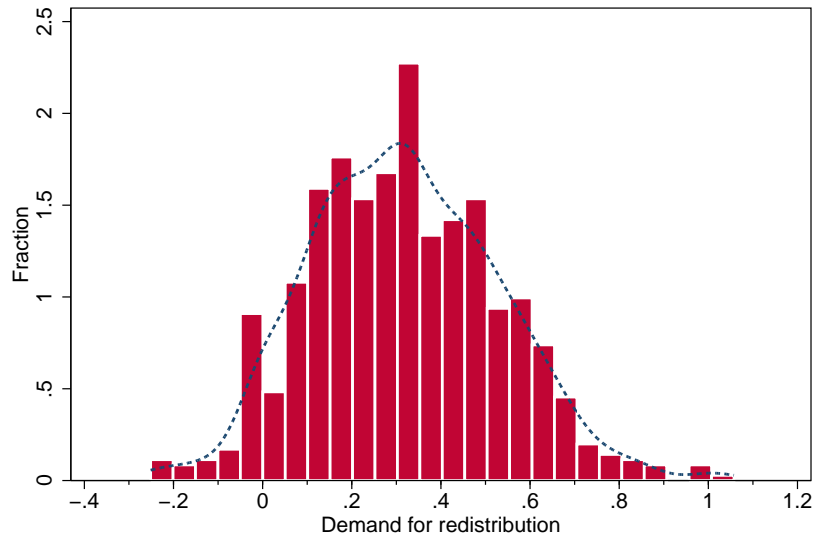


Notes: The triangles correspond to individuals' average estimates of actual (perceived) occupational wages. The circles shows average estimates of desired (just, ethical) occupational wages. The number of observations equals 707 except the estimate for coworkers' wage, which is based on 653 (658) observations only (see also table 1).

Figure 2: Subjective inequality measures



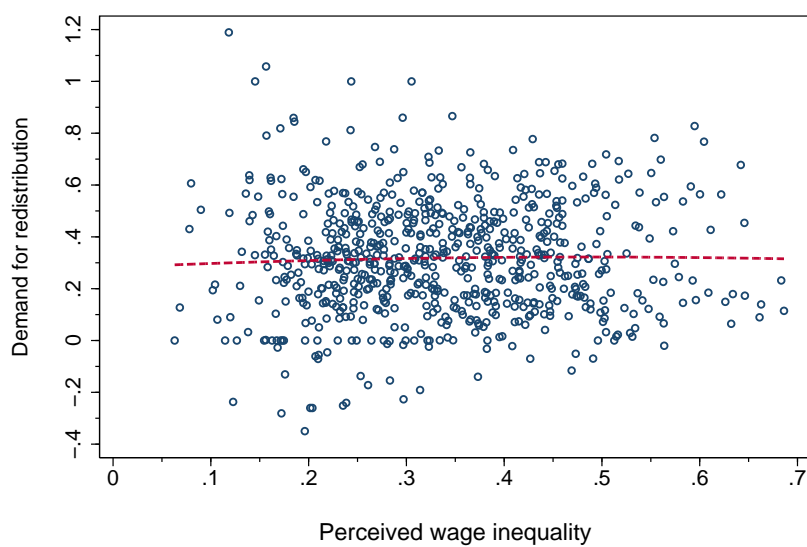
(a)



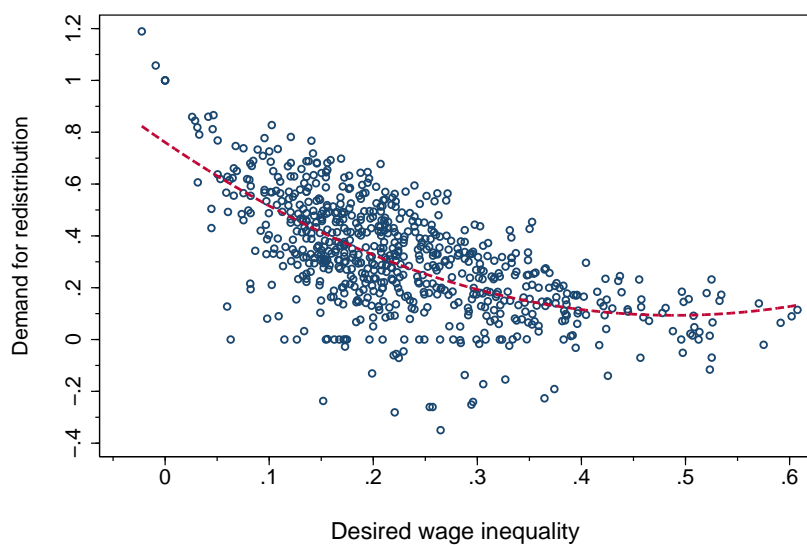
(b)

Notes: The figure in panel (a) shows the joint distribution of the two subjective wage inequality measures, as defined in equation (4) in the text. The thin line corresponds to the 45° line, and the two dotted lines denote the two sample means. The dashed line shows the nonparametric regression function from a regression of the desired inequality on the perceived inequality measure. The figure is based on 707 observations. Panel (b) shows the distribution of the demand for redistribution, as defined in equation (6). The dotted line shows the kernel density estimate with gaussian kernel and bandwidth of about 0.052. Seven observations (with a value lower than -0.25) have been excluded for drawing the graph.

Figure 3: Redistribution versus subjective wage inequality



(a)



(b)

Notes: The figure at the top (at the bottom) shows the demand for redistribution versus the perceived (the desired) wage inequality. All three variables are defined in the text (equations (4) and (6)). The dotted line shows the predicted demand for redistribution from a regression of the demand for redistribution on the first and second polynomial of the perceived wage inequality and desired wage inequality, respectively. Three observations (with a value of the demand for redistribution ≤ -0.5) have been excluded in drawing the graphs.

A Variable Definitions

A.1 Dependent Variables

Occupational wages:

Individuals were asked two questions about occupational wages (the wording is taken from the source questionnaire of the ISSP):

1. *“We would like to know what you think people in these jobs actually earn. Please write how much you think they actually earn each month (before taxes and social security contributions). Many people are not exactly sure about this, but your best guess will be close enough.”*
2. *“Next, what do you think people in these jobs ought to be paid. How much do you think they should earn each month (before taxes and social security contributions), regardless of what they actually earn.”*

Individuals were then asked to estimate actual and just wages of people working in the following ten jobs (in the same order as in the survey):

1. *“A skilled worker in a factory”* (skilled worker)
2. *“A doctor in general practice”* (doctor)
3. *“The chairman of a large national company”* (chairman)
4. *“A lawyer”* (lawyer)
5. *“A shop assistant in a big store”* (shop assistant)
6. *“The owner–manager of a large factory”* (owner factory)
7. *“A judge in the constitutional court”* (judge)
8. *“An unskilled worker in a factory”* (unskilled worker)
9. *“A cabinet minister in the Federal Government”* (minister)
10. *“Your own occupation”* (coworker)

The phrasing in parentheses is the corresponding label used in the text, figures and tables. All variables computed from these occupational wage estimates are discussed in detail in sections 3 and 4 in the main text.

Support for the welfare state / redistribution by the state:

Individuals’ support for the welfare state is measured by the following survey question: *“Do you agree or disagree? It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes.”* The variable has been rescaled such that higher numbers indicate more agreement with the statement. Possible answer categories range from a scale of 5 (*“strongly agree”*) to 1 (*“strongly disagree”*).

Stated party preferences:

Individuals were asked whether they feel affiliated with one of the political parties in Austria (i.e. they were asked for which party they would vote if there were elections at the time of the interview). The four relevant parties in the year of the interview were the following:

1. The social democrats (“Sozialdemokratische Partei Österreichs”, SPÖ)
2. The conservatives (“Österreichische Volkspartei”, ÖVP)
3. The right of center liberals (“Freiheitliche Partei Österreichs”, FPÖ)
4. The green party (“Die Grünen”).

In the empirical analysis, I additionally look at individuals who explicitly stated that they would not vote for any party.

A.2 Independent variables

Family income:

Unfortunately, family income is only available as a discrete variable with only a few different values. The midpoints of these intervals are used as values on the variable.

Justice evaluation of own earnings:

This variable corresponds to the ratio of just and actual wage for individual i 's coworkers, that is $(y(i)_{\text{Coworker}}^d / y(i)_{\text{Coworker}}^a)$, where $y(i)_{\text{Coworker}}^a$ denotes i 's estimate of what people in his occupation actually earn and $y(i)_{\text{Coworker}}^d$ denotes what individual i thinks that people in his occupation ought to earn.

Mobility:

I use the difference between the following two scales for constructing a simple index of (upward) mobility:

1. *“In our society there are groups which tend to be towards the top and groups which tend to be toward the bottom. Below is a scale that runs from top to bottom. Where would you put yourself on this scale?”*
2. *“And ten years ago, where did you fit in then?”*

The index of social mobility is measured as position today minus position ten years ago.

Needs:

This variable is also a simple rating scale constructed from two different variables: *“In deciding how much people ought to earn, how important should each of these things be, in your opinion?”*

1. *“What is needed to support your family.”*
2. *“Whether the person has children to support.”*

Effort:

A scale made up of five different questions: *“In deciding how much people ought to earn, how important should each of these things be, in your opinion?”*

1. *“How much responsibility goes with the job.”*
2. *“The number of years spent in education and training.”*
3. *“Whether the job requires supervising others.”*
4. *“How well he or she does the job.”*
5. *“How hard he or she works at the job.”*

Ascribed skills:

Underlying this scale are two questions related to whether ascribed characteristics are important for getting ahead in life: *“We have some questions about opportunities for getting ahead.”*

1. *“How important is coming from a wealthy family?”*
2. *“Knowing the right people?”*

Acquired skills:

This scale is generated from two items. The two items reflect to what extent people think that acquired skills are important in determining one's pay: *“We have some questions about opportunities for getting ahead.”*

1. *“Do you agree or disagree? In Austria, people get rewarded for their effort.”*
2. *“In Austria, people get rewarded for their intelligence and skills.”*

Perception of conflicts:

Another scale, constructed from five different questions about the perception of different conflict in society: *“In all countries, there are differences or even conflicts between different social groups. In your opinion, in Austria how much conflict is there between...”*

1. *“Poor people and rich people?”*
2. *“The working class and the middle class?”*
3. *“Management and workers?”*
4. *“People at the top of society and people at the bottom?”*
5. *“Young people and older people?”*

B Additional Tables and Figures

Table B.1: Summary statistics

	Mean	Standard deviation
<i>A. Self interest</i>		
Family income	1,840.732	674.853
ln(family income)	7.429	0.462
Justice evaluation (coworkers)	1.190	0.539
Social mobility	0.099	1.361
<i>B. Perceptions and Norms</i>		
Needs	3.438	0.929
Effort	3.998	0.513
Aquired skills	3.283	0.856
Ascribed skills	3.343	0.958
Perception of conflicts	2.148	0.535
<i>C. Additional controls</i>		
Female: Yes = 1	0.569	0.496
Age (years)	48.873	16.699
Education (years)	10.716	2.854
Household size	2.579	1.202
Employed: Yes = 1	0.480	0.484
Retired: Yes = 1	0.315	0.450
Living in urban/suburban region: Yes = 1	0.553	0.498
Regional dummies:		
Tyrol	0.059	0.237
Salzburg	0.086	0.281
Upper Austria	0.143	0.350
Carinthia	0.103	0.305
Styria	0.143	0.350
Burgenland	0.044	0.205
Lower Austria	0.184	0.388
Vienna	0.218	0.413
Number of observations	707	