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Subjective Income and Employment Expectations and Preferences for Redistribution

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Abstract

Using probabilistic expectations data from the German Socio-Economic Panel, we establish a link between self-reported expectations of occupational mobility and preferences for redistribution. Our results provide new evidence on the validity of the "prospect of upward mobility" hypothesis.

Keywords: Expectations Data, Subjective Probabilities, Occupational Mobility, Preferences for Redistribution.

JEL Classifications: D31; D63; H23.

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> "We have learned enough for me to recommend, with some confidence, that economists should abandon their antipathy to measurement of expectations. The unattractive alternative to measurement is to make unsubstantiated assumptions." Charles F. Manski, *Measuring Expectations*, Econometrica, 2004: 1370.

1. Introduction

Recent theoretical models of redistributive politics assign a central role to expectations of upward and downward mobility as a determinant of individual attitudes toward redistribution (Piketty, 1995; Bénabou and Ok, 2001). The "prospect of upward mobility" (POUM) hypothesis is a particular case in point: not all currently poor people will support a policy that disproportionately taxes upper incomes because they may expect to move up in the income scale and therefore be hurt by such a policy. Similarly, not all currently rich people will be averse towards heavier taxation at the top of the income distribution because of the fear of downward mobility.[1]

Previous empirical work that examined how individual preferences for redistribution depend on future mobility prospects was based on the assumption that individuals have expectations of upward and downward mobility that are objectively correct, i.e., rational. Alesina and La Ferrara (2005) assumed that all individuals use the average yearly transition matrix between income deciles for the United States to forecast their own future mobility prospects. This asserts that (i) all persons condition their mobility prospects on the same information, (ii) all persons have knowledge of the information on which they condition their expectations, and (iii) all persons process this information in the same way. The credibility of the rational expectations assumption, together with the common knowledge assumption that underlies the rationality of individual expectations, has recently been questioned sharply by Manski (2004). Manski (2004) proposed to use instead self-reports of expectations elicited in the form of subjective probabilities, arguing that the use of probabilistic expectations data allows researchers to relax the assumption that individuals have

[1] While both Piketty (1995) and Bénabou and Ok (2001) give a central role to perceptions of mobility in redistributive preferences, the two approaches are quite different. In Piketty (2005), agents care about a common social welfare function, and their beliefs about the society-wide mobility process matter for redistributive preferences because they affect perceptions of the incentive costs of redistribution. In Bénabou and Ok (2001), agents care about their own expected after tax-income, and thus about their own mobility prospects relative to that of the rest of the population, for which the authors have coined the POUM acronym. Checchi and Filippin (2004) provide an experimental study of the POUM hypothesis.

rational expectations.

This paper takes up this argument and uses newly available probabilistic expectations data from the German Socio-Economic Panel (SOEP) to test the relationship between self-reported expectations about occupational mobility and individual preferences for redistribution. Probabilistic expectations of significant career events serve as proxies for expectations of occupational upward and downward mobility. Rather than assuming that individuals have expectations that are objectively correct, we will only assume that the elicited expectations accurately describe individuals' perceptions of their occupational prospects. Our estimates suggest that subjective expectations of occupational upward and downward mobility are important predictors for individual preferences for redistribution.

2. Data

Our data source is the German Socio-Economic Panel (SOEP), a representative longitudinal survey of private households in Germany. We restrict our sample to males aged 18-65 in 2005, who are part-time or full-time employed at the time of the interview. Since this study examines how preferences for redistribution depend on subjective expectations of significant career events ("pay increase" or "demotion"), we exclude self-employed individuals and civil servants from the analysis.

2.1. Preferences for Redistribution. In 2005, the SOEP contained indicators of individual attitudes to redistribution. In particular, it included two questions regarding the support given by individuals to the marginal tax rates paid by the "poor" and the "rich". The first question was: "In Germany, everyone has to pay taxes in relation to his or her income. Those who earn more have to pay higher taxes (also known as "progressive taxes"). What do you think: Is the amount of taxes paid by an unskilled worker in Germany too much compared to other groups, too little, or exactly appropriate?". The second question read: "And what do you think about the taxes paid by a manager on the board of directors of a large company? Does he or she pay too much, too little, or an exactly appropriate amount in taxes compared to other groups?". While the "tax the poor?" question (TPQ) and the "tax the rich?" question (TRQ) do not directly ask about the support given to any specific redistributive tax policy, it is reasonable to assume that respondents hold expectations about the effect for them personally of a lower marginal tax rate for the poor and a higher marginal tax rate for the rich. In particular, we assume that a respondent

who considers himself poor (respectively, rich) expects a financial gain (respectively, financial loss) from lowering the tax paid by an unskilled worker and/or raising the tax paid by a manager.

2.2. Explanatory Variables. The expectations data to be used in this study are the responses of the SOEP panel members to a question posed in the survey year 2005. In that year all individuals who were employed at the time of the interview were asked about their career expectations within the next two years. The precise question was: "How likely is it that the following career changes will take place within the next two years? Please estimate the probability of such a change according to a scale from 0 to 100. **0** means that such a change will definitely **not** take place. **100** means that such a change definitely will take place. All the values in between can be used for differentiation." Respondents were asked about the probability that they "personally receive a pay raise above the rate negotiated by the union or for the staff in general" and the probability that they "are demoted at their current place of employment".[2] We interpret answers to the former question as capturing subjective expectations of occupational upward mobility, while answers to the latter are interpreted as capturing subjective expectations of occupational downward mobility. Respondents report their expectations using the full 0-100 percent chance scale, rounding to the nearest 10 percent (i.e., 0, 10, ..., 90, 100). The self-reported expectations about occupational mobility will be represented by four dummy variables defined as:

$\mathbf{E}_{p=0} = 1$ if probability of pay raise or demotion is $p \in \{0\}$

$\mathbf{E}_{10\leq p\leq 30} = 1$ if probability of pay raise or demotion is $p \in \{10, 20, 30\}$

$\mathbf{E}_{40\leq p\leq 60} = 1$ if probability of pay raise or demotion is $p \in \{40, 50, 60\}$

$\mathbf{E}_{p\geq 70} = 1$ if probability of pay raise or demotion is $p \in \{70, 80, 90, 100\}$.

Table 1 provides cross-tabulations of occupational expectations with our measures of redistributive preferences. The table clearly indicates a link between occupational expectations and attitudes towards redistribution: the higher the perceived chance of a pay raise, the less common the view that the tax paid by the poor (respectively, the rich) is too high (respectively, too low). Conversely, the higher the perceived chance of a demotion, the more frequent the belief that the tax paid by the poor

[2]Graham and Pettinato (1999) and Ravallion and Lokshin (2000) used verbal expectations data to measure expectations of future mobility, elicited from the question "do you think that in the next 12 months you and your family will live better than today, or worse?". One problem with verbal expectations data is that the coarseness of the response options limits the information contained in the responses (Manski, 2004).

Table 1: Preferences for Redistribution by Self-Reported Expectations of Occupational Mobility

	Evaluation of tax paid by unskilled worker (TPQ)			Evaluation of tax paid by manager (TRQ)		
	Too low	Appropriate	Too high	Too low	Appropriate	Too high
Probability of pay raise:						
$\mathbf{E}_{p=0}$	0.97	34.45	**64.58**	**75.99**	19.55	4.45
$\mathbf{E}_{10\leq p\leq 30}$	1.25	36.15	**62.60**	**72.99**	20.78	6.23
$\mathbf{E}_{40\leq p\leq 60}$	0.25	39.71	**60.05**	**65.69**	23.77	10.54
$\mathbf{E}_{p\geq 70}$	3.20	47.69	**49.11**	**59.07**	30.25	10.68
Probability of demotion:						
$\mathbf{E}_{p=0}$	1.33	35.52	**63.15**	**71.68**	22.11	6.21
$\mathbf{E}_{10\leq p\leq 30}$	1.06	42.93	**56.01**	**68.96**	23.51	7.53
$\mathbf{E}_{40\leq p\leq 60}$	0.75	32.84	**66.42**	**78.73**	16.04	5.22
$\mathbf{E}_{p\geq 70}$	0.00	27.00	**73.00**	**85.00**	11.00	4.00

(respectively, the rich) is too high (respectively, too low).

To examine whether the same evidence also emerges from multivariate regression analysis, we consider the following explanatory variables as potential determinants of people's preferences concerning redistribution: household income; education; willingness to take risks (Bénabou and Ok, 2001); beliefs about the roles of self-reliance versus luck (Fong, 2001; Bénabou and Tirole, 2006); sense of reciprocity (Fong, 2001); dummy variables for being from the Guestworker and East German sample; age; and age squared. Some of our specifications also include household size controls and federal state dummies.[3]

3. Results

We now present ordered probit estimates for a model of individual attitudes to redistribution. The regression equation is:

$$R_i^* = \alpha \mathbf{E}_i + \beta X_i + \epsilon_i$$

where R_i^* is a latent variable, R_i is the observed variable (answers to TPQ and TRQ), $\mathbf{E}_i$ is the vector of expectation dummies, and X_i is the vector of explanatory variables discussed above. The observed variable R_i takes values 1 ("tax too low"), 2 ("tax appropriate"), and 3 ("tax too high") for both TPQ and TRQ.

To begin with, let us focus on the relationship between expectations of occupational upward mobility and preferences for redistribution (Table 2). Our strategy consists of analyzing three different specifications of the above model. In all specifi-

[3]A description of all variables and summary statistics are in the Appendix.

Table 2: Perceptions of Occupational Upward Mobility and Preferences for Redistribution

Dependent variable	Evaluation of tax paid by unskilled worker (TPQ)			Evaluation of tax paid by manager (TRQ)		
Equation	[1]	[2]	[3]	[4]	[5]	[6]
Probability of pay rise: $\mathbf{E}_{10\leq p\leq 30}$	-0.048	0.028	0.044	0.089	0.004	-0.017
	(0.058)	(0.059)	(0.060)	(0.060)	(0.061)	(0.063)
Probability of pay rise: $\mathbf{E}_{40\leq p\leq 60}$	-0.081	0.052	0.080	0.309***	0.155**	0.133*
	(0.071)	(0.073)	(0.075)	(0.072)	(0.074)	(0.076)
Probability of pay rise: $\mathbf{E}_{p\geq 70}$	-0.408***	-0.238***	-0.201**	0.435***	0.238***	0.212**
	(0.081)	(0.083)	(0.084)	(0.081)	(0.084)	(0.085)
Guestworker	0.370***	0.247**	0.215**	-0.028	0.093	0.070
	(0.094)	(0.096)	(0.098)	(0.092)	(0.095)	(0.097)
East German	0.138**	0.117*	0.152*	-0.090	-0.059	-0.013
	(0.067)	(0.069)	(0.091)	(0.070)	(0.072)	(0.095)
Age	-0.014	0.009	0.008	0.016	0.005	0.006
	(0.015)	(0.018)	(0.018)	(0.016)	(0.018)	(0.019)
Married		-0.035	-0.042		-0.015	0.001
		(0.065)	(0.066)		(0.067)	(0.068)
Log(Household income)		-0.469***	-0.424***		0.549***	0.498***
		(0.076)	(0.79)		(0.079)	(0.081)
Completed high school		-0.224***	-0.205**		0.093	0.073
		(0.087)	(0.087)		(0.089)	(0.090)
More than high school		-0.520***	-0.480***		0.475***	0.434***
		(0.099)	(0.100)		(0.102)	(0.103)
Risk willingness			-0.031***			0.035***
			(0.011)			(0.011)
Self-reliance			-0.141**			0.010
			(0.065)			(0.067)
Luck			0.145**			-0.058
			(0.057)			(0.059)
Reciprocity			0.064			-0.043
			(0.050)			(0.051)
Household size controls	No	Yes	Yes	No	Yes	Yes
Federal state dummies	No	No	Yes	No	No	Yes
Pseudo-R^2	0.01	0.04	0.05	0.01	0.04	0.05
Log-likelihood value	-2,016.65	-1967.59	-1945.03	-2087.92	-2026.90	-2009.13

Notes: Estimated coefficients from ordered probit models. Standard errors corrected at current household identification number are in parentheses. ***, **, * indicate significance at 1-, 5-, and 10-percent level, respectively. Household size controls are the number of children in the household and the number of adults in the household. Regressions also control for age-squared. Number of observations in all specifications is 2,848.

cations perceived occupational mobility emerges as a significant predictor for individual attitudes towards redistribution, provided the probabilistic upward expectation is sufficiently high. Indeed, respondents who express a very high degree of certainty regarding their upward prospects ($\mathbf{E}_{p\geq 70}$) are significantly less likely (respectively, more likely) to say that the tax paid by the poor (respectively, the tax paid by the rich) is too high, while no such effect emerges amongst those who have less optimistic career expectations. Among the other explanatory variables only a few have significant explanatory power. The rich and well educated are less likely to support lower taxes for the poor and are more likely to advocate a disburdening of the rich. People who

Table 3: Perceptions of Occupational Downward Mobility and Preferences for Redistribution

Dependent variable	Evaluation of tax paid by unskilled worker (TPQ)			Evaluation of tax paid by manager (TRQ)		
Equation	[1]	[2]	[3]	[4]	[5]	[6]
Probability of demotion: $\mathbf{E}_{10\leq p\leq 30}$	-0.155***	-0.094*	-0.073	0.077	-0.005	-0.030
	(0.054)	(0.055)	(0.056)	(0.055)	(0.057)	(0.058)
Probability of demotion: $\mathbf{E}_{40\leq p\leq 60}$	0.101	0.102	0.109	-0.190**	-0.208**	-0.221**
	(0.084)	(0.085)	(0.087)	(0.090)	(0.092)	(0.093)
Probability of demotion: $\mathbf{E}_{p\geq 70}$	0.299**	0.304**	0.284**	-0.415***	-0.439***	-0.435***
	(0.138)	(0.139)	(0.141)	(0.152)	(0.157)	(0.158)
Guestworker	0.374***	0.242**	0.209**	-0.053	0.088	0.064
	(0.094)	(0.097)	(0.098)	(0.092)	(0.095)	(0.097)
East German	0.151**	0.119*	0.155*	-0.096	-0.047	0.003
	(0.068)	(0.070)	(0.091)	(0.070)	(0.072)	(0.096)
Age	-0.014	0.010	0.009	0.022	0.006	0.007
	(0.015)	(0.018)	(0.018)	(0.016)	(0.018)	(0.019)
Married		-0.041	-0.047		-0.002	0.015
		(0.065)	(0.066)		(0.067)	(0.068)
Log(Household income)		-0.477***	-0.431***		0.586***	0.527***
		(0.076)	(0.078)		(0.078)	(0.080)
Completed high school		-0.229***	-0.206**		0.117	0.090
		(0.086)	(0.087)		(0.089)	(0.090)
More than high school		-0.523***	-0.479***		0.520***	0.471***
		(0.098)	(0.100)		(0.101)	(0.102)
Risk willingness			-0.031***			0.038***
			(0.011)			(0.011)
Self-reliance			-0.133**			-0.002
			(0.065)			(0.067)
Luck			0.140**			-0.063
			(0.057)			(0.059)
Reciprocity			0.054			-0.048
			(0.050)			(0.051)
Household size controls	No	Yes	Yes	No	Yes	Yes
Federal state dummies	No	No	Yes	No	No	Yes
Pseudo-R^2	0.01	0.04	0.05	0.01	0.04	0.05
Log-likelihood value	-2020.54	-1967.76	-1945.67	-2099.03	-2025.93	-2007.37

Notes: See notes to Table 2.

are prepared to take risks are significantly more averse towards disproportionately taxing upper incomes (Bénabou and Ok, 2001). Individuals who think that "how their life goes depends on themselves" are significantly less likely to support lower taxes for the poor, while the opposite is true for those who belief that achievement is determined by luck (Bénabou and Tirole, 2006). East Germans are more in favor of redistribution than West Germans, which could reflect some ideological worldview inherited from Communism, or some overall desire for interregional (West-to-East) redistribution. Finally, being a guestworker increases the demand for redistribution, which could reflect a POUM related mechanism imperfectly measured by the other regressors.

We turn next to the associations between perceived downward mobility and redistributive preferences (Table 3). Almost all of the action is amongst individuals who

perceive the chance of being demoted to be very high ($\mathbf{E}_{p\geq 70}$): a large perceived risk of occupational downward mobility promotes a desire for lowering the marginal tax paid by the poor and an even larger desire for raising the marginal tax paid by the rich. The estimated coefficients are precisely estimated and are statistically significant at either the 1 or 5 percent level. These results suggest that a sufficiently large subjective probability of occupational downward mobility significantly increases a person's support for redistribution. What is more, the effects of perceived downward mobility in Table 3 are roughly twice as large in absolute value than the effects of perceived upward mobility in Table 2. In other words, the fear of downward mobility is more closely associated with redistributive preferences than the prospect of upward mobility. Among the control variables, household income, education, risk willingness, self-reliance, and luck emerge again as significant predictors.

4. Conclusions

The main objective of this paper was to examine how individual preferences for redistribution depend on future occupational prospects, using probabilistic expectations data from the SOEP. Our results considerably strengthen existing evidence on the validity of the "prospect of upward mobility" hypothesis: a sufficiently large chance of occupational upward mobility decreases the demand for redistribution; conversely, a sufficiently large risk of occupational downward mobility promotes a desire for more redistribution.

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Subjective Income and Employment Expectations and Preferences for Redistribution: Summary Statistics and Variable Description

Table A1: Summary Statistics

Variables	Mean	Standard deviation
Outcome variables:		
Evaluation of tax paid by unskilled worker (TPQ)		
Too little	0.012	
Appropriate	0.369	
Too much	0.619	
Evaluation of tax paid by manager (TRQ)		
Too little	0.721	
Appropriate	0.215	
Too much	0.064	
Explanatory variables:		
Expected probability of pay rise:		
$\mathbf{E}_{p=0}$	0.504	
$\mathbf{E}_{10\leq p\leq 30}$	0.254	
$\mathbf{E}_{40\leq p\leq 60}$	0.143	
$\mathbf{E}_{p\geq 70}$	0.099	
Expected probability of demotion:		
$\mathbf{E}_{p=0}$	0.605	
$\mathbf{E}_{10\leq p\leq 30}$	0.266	
$\mathbf{E}_{40\leq p\leq 60}$	0.094	
$\mathbf{E}_{p\geq 70}$	0.035	
Guestworker	0.078	
East German	0.149	
Age	41.298	10.614
Married	0.632	
Log(Household income)	10.386	0.360
Household size variables:		
Number of children in the household	0.719	0.982
Number of adults in the household	2.972	1.284
Highest level of education:		
No high school	0.116	
Completed high school	0.668	
More than high school	0.216	
Risk willingness	3.225	2.333
Self-reliance	0.821	
Luck	0.248	
Reciprocity	0.619	
Number of observations	2,848	

Table A2: Definition of Variables

Variable	Question in SOEP reads:	Variable in SOEP	Definition of variable
Guestworker[a]			Variable equals one if a respondent is from the Guestworker sample, and zero otherwise.
East German[a]			Variable equals one if a respondent is from the East German sample, and zero otherwise.
Married	"What is your marital status?"	(1) Married, living together with spouse; (2) Married, living (permanently) separated from my spouse; (3) Single; (4) Divorced; (5) Widowed.	Variable equals one if a respondent indicates (1), and zero otherwise.
Household income	Generated variable.	Post-government household income averaged over all panel years positive household income is observed in the survey (in 2000 Euros)	
Less than high school	Generated variable.	Variable equals one if a respondent has intermediate or lower secondary school degree, no school degree or another school degree, and zero otherwise.	
Completed high school	Generated variable.	Variable equals one if a respondent finished an apprenticeship or a specialized vocational school, or has a school degree which enables her to go to university or to a technical college, and zero otherwise.	
More than high school	Generated variable.	Variable equals one if a respondent has a school of health care degree, technical college or university degree or received civil service training, and zero otherwise.	
Willingness to take risk in financial matters	"People can behave differently in different situations. How would you rate your willingness to take risks in the following areas?" One of the areas listed is: "in financial matters".	Respondents can answer on a scale from (0) "Risk averse" to (10) "Fully prepared to take risks".	Variable ranges from 0 to 10.
Self-reliance and Luck	"The following statements apply to different attitudes towards life and the future. To what degree do you personally agree with the following statements? Please answer according to the following scale: 1 means: disagree completely, 7 means: agree completely". We use answers to the questions: "How my life goes depends on me" and "What a person achieves in life is above all a question of fate or luck."	Respondents can answer on a scale from (1) "Does not apply to me at all" to (7) "Applies to me perfectly".	Variables equal one if a respondent indicates (5)-(7), and zero otherwise.
Reciprocity	"To what degree do the following statements apply to you personally? Please answer according to the following scale: 1 means: does not apply to me at all, 7 means: applies to me perfectly." We use answers to the statement: "If someone does me a favor, I am prepared to return it"	Respondents can answer on a scale from (1) "Does not apply to me at all" to (7) "Applies to me perfectly".	Variable equals one if a respondent indicates (7), and zero otherwise.

Notes: [a] See Haisken-DeNew and Frick (2005) for further information.