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Risk Aversion and Reservation Wages

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Risk Aversion and Reservation Wages

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Abstract

This study examines the relationship between individual risk aversion and reservation wages using a novel set of direct measures of individual risk attitudes from the German Socio-Economic Panel (SOEP). We find that risk aversion has a significantly negative impact on the level of reservation wages. Moreover, we show that the elasticity of the reservation wage with respect to unemployment benefits is remarkably lower for risk-averse job seekers than for risk-loving job seekers. The results are consistent with an interpretation that risk-averse job seekers set their reservation wage levels sufficiently low, so that they accept almost every job offer.

JEL-Classification: J64, J65

Keywords: Risk Aversion, Reservation Wages, Survey Data.

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1 Introduction

A worker's reservation wage encodes all of the relevant information about his search behavior. In particular, it serves as a threshold above which a worker accepts offered wages and stops searching for a new job. Obviously, the level of the individual reservation wage depends on the worker's evaluation of his risky labor market environment, e.g. his subjective beliefs about the wage offer distribution and the job offer arrival rate. Thereby, a worker's risk preference plays a pivotal role. Economic intuition suggests an inverse relationship between the degree of risk-aversion and the level of reservation wages, i.e. the more risk-averse a worker the lower is his reservation wage, ceteris paribus. This intuition is formalized in finite-horizon sequential search models (Cox/Oaxaca 1989) and backed up by experimental evidence on individual search behavior (Cox/Oaxaca 1992, 1996).

If individual risk attitudes indeed play a role in setting reservation wages, this might have consequences for active labor market policy measures, such as introducing systems of "counseling and monitoring", since these measures essentially are targeted on the reservation wages of unemployed job seekers. For example, van den Berg/van der Klauw (2006) show in a job search framework that counseling and monitoring schemes lower the reservation wages of unemployed workers. However, if the utility loss due to benefit sanctions as a result of monitoring varies remarkably with the degree of individual risk aversion, the distribution of risk preferences in the target group has an impact on the effectiveness of this policy measure.

Our study analyzes the impact of risk preferences on reservation wages by means of estimating the impact of risk attitudes on the level of reservation wages, as well as on the elasticity of the reservation wage with respect to unemployment benefits. We use a new set of direct measures of individual willingness to take risks in different domains drawn from representative German survey data (SOEP), which have been validated in a field experiment with representative subject pools. The direct risk measures are combined with self-reported reservation wages. Subjective data on reservation wages is frequently used in empirical work (e.g. Lancaster/Chesher 1983, Feldstein/Poterba 1984, Jones 1988, Bloemen/Stancanelli 2001, and Frijters/van der Klaauw 2006). However, the empirical literature typically assumes that individual workers maximize their expected discounted income, which is equivalent to assuming that risk-neutral workers maximize their expected utility (cf. e.g. Eckstein/van den

Berg 2007, Rogerson et al. 2005).[1] To our knowledge, our study is the first which explicitly analyzes the relationship between individual risk aversion and reservation wages using representative survey data.

The paper unfolds as follows. Section 2 describes the data and presents some descriptive evidence. Section 3 contains the regression results. Section 4 presents some checks of robustness. Section 5 provides a conclusion.

[1] Only a few empirical structural approaches model risk-averse behavior, but in these studies, the impact of risk aversion on the optimal individual reservation wage path is not explicitly investigated, e.g. by means of parameterizing the utility function, due to insufficient data (c.f. van den Berg 1990, p. 859).

2 Data and descriptive evidence

The empirical analysis is based on the German Socio-Economic Panel (SOEP), which is a nationally representative longitudinal data set for Germany (Wagner et al. 1993, Wagner et al. 2007).[2] Our sample consists of unemployed job seekers aged 18-65 in the survey year 2004, who provide one of the following answers to the question "*How high would your net income or salary have to be for you to take a position offered to you*?": (a) "*An amount in € per month*" or (b) "*Can't say, it depends*". This leads to a sample of N=2915 job seekers, with N=1199 (41%) reporting a reservation wage. Unemployed job seekers might receive one of the following types of unemployment benefits: unemployment insurance benefits (*Arbeitslosengeld*), unemployment assistance benefits (*Arbeitslosenhilfe*) or welfare benefits (social assistance [*Sozialhilfe*], parental leave payments [*Erziehungsgeld*]).

To check whether the values of the self-reported reservation wages are reasonable, we compare real reservation wages with the current amount of real unemployment benefits and the last real net wage observed in the previous job.[3] 95.4% of all respondents report a reservation wage, which is higher than the respective benefit level.[4] Moreover, the weighted individual ratio of the self-reported real reservation wage and the last real net wage in the previous job is 1.04, with a 95% confidence interval of [0.99-1.11]. This is in line with findings from experiments that reservation wages are strongly shaped by previous wage payments (Falk/Fehr/Zehnder 2006). Hence, the self-reported reservation wages appear to be of reasonable quality.[5]

Our direct measures of individual risk attitudes rely on three survey questions in the SOEP on willingness to take risks in general, in financial matters and in occupational issues. Respondents indicate their risk preferences on an eleven-point scale, with zero indicating total unwillingness to take risks and ten indicating total willingness to take risks. The SOEP risk measures have been validated in an incentive compatible field experiment with representative subjects. Dohmen et al. (2005) demonstrate that questionnaire responses to the general risk

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[2] The data used in this paper was extracted using the add-on package SOEP Menu written by J. P. Haisken-DeNew (Haisken-DeNew 2005; http://www.soepmenu.de) and SOEP Menu plugins written by J. Haisken-DeNew, M. Hahn and M. Sinning.

[3] Reservation wages, unemployment subsidies and wages are deflated using the CPI with base year 2000.

[4] Figure Sep_A.1 in the Separate Appendix shows kernel density estimates of the individual difference of stated reservation wages and received unemployment benefits.

[5] Frijters/van der Klaauw (2006) find a correlation between observed reservation wages and post-unemployment wages of 0.58 using SOEP Data. Prasad (2003) calculates the individual differences between accepted wage offers and previously stated reservation wages also based on SOEP data. He finds that the majority of the observed differences are clustered around zero.

question are reliable predictors of actual risk-taking behavior in the experiment. Moreover, they show that answers to the general risk questions are strongly correlated with answers to the two other questions on the willingness to take risks, used in our empirical analysis (i.e. financial matters and occupational issues). Therefore, we are confident that the SOEP risk measures used in our study are high-quality proxies for the underlying individual risk preferences.

Classifying respondents with "0-5" answers on the original scale in the questionnaire as risk-averse reveals that 64% (*general risk attitudes*), 91 % (*risk attitudes in financial matters*), respectively 70% (*risk attitudes in occupational matters*) of our sample are risk-averse.[6] Risk-averse job seekers report a mean real reservation wage of € 1012, while risk-loving job seekers on average report a significantly higher real reservation wage of € 1253 (e.g. *Wald-Test:* $\chi^2(1)=13.05$ *for the general risk measure*).

59% of all job seekers in our sample answer "*Can't say, it depends*" to the reservation wage question. Estimating a probit model with a dependent variable that equals 1 if the respondent answers "*Can't say, it depends*" leads to significantly positive parameter estimates for our direct general risk measure, as well as for the risk measure with respect to financial matters. This might indicate that risk-averse job searchers are less picky about what job offers to accept *ceteris paribus*. We investigate this issue further in the next section.

[6] Figures Sep_A.2-Sep_A.4 in the Separate Appendix provide the distributions of the three risk measures.

3 Regression results

In our empirical specifications self-reported reservation wages are specified lognormally as a function of the particular direct measure of individual risk attitudes and specification specific sets of control variables.[7] For the sake of a more intuitive interpretation we recode the eleven-point scale of the three SOEP measures of risk attitudes for our regression analysis in reverse order, i.e. "0" indicating strongly risk loving and "10" total unwillingness to take risks. In *specification A* we use information on all job seekers. *Specification B* restricts the sample to job seekers with valid information on the respondents' last job and on the log amount of unemployment benefits. In both specifications, observations with missing values on relevant covariates are dropped. OLS is used to estimate the parameter of interests in *specification A*. With respect to *specification B*, we additionally employ a standard Heckman-selection model to account for non-random selection into the group of job seekers with valid information on their reservation wage, instead of the answer "*Can't say, it depends*". To identify the parameter of interest, we use information on whether a computer-assisted personal interview (CAPI) was conducted as a covariate in the selection equation. In all regressions survey weights provided with the SOEP are used to take into account the sample designs of the different samples of the SOEP as well as panel attrition. The results for key variables with respect to our three measures of individual risk attitudes are presented in Table 1.[8]

[7] See the notes below Table 1 and Table 2 for a list of all control variables used in the particular regression excercises and Table A.3 in the Appendix for descriptive statistics of all variables.

[8] See Table A.1 in the Appendix for a documentation of all parameter estimates for some selected specifications.

Table 1:
Determinants of Reservation Wages in Germany

	General risk attitudes	Risk attitudes in financial matters	Risk attitudes in occupational issues
	Specification A (OLS): All job seekers		
$\hat{\alpha}_{risk\ aversion}$	-0.031***	-0.031***	-0.021***
	(0.008)	(0.009)	(0.007)
R^2	0.42	0.41	0.39
N. obs.	1101	1093	1061
	Specification B (OLS): Job seekers with info on last job		
$\hat{\alpha}_{risk\ aversion}$	-0.026***	-0.016*	-0.026***
	(0.010)	(0.009)	(0.009)
$\hat{\varepsilon}_{\log(benefits)}$	0.252***	0.260***	0.270***
	(0.074)	(0.074)	(0.075)
$\hat{\varepsilon}_{\log(last\ wage)}$	0.318***	0.327***	0.322***
	(0.113)	(0.121)	(0.121)
R^2	0.58	0.57	0.59
N. obs.	316	315	309
	Specification B (Heckman-ML): Job seekers with info on last job		
$\hat{\alpha}_{risk\ aversion}$	-0.027***	-0.015*	-0.028***
	(0.010)	(0.009)	(0.009)
$\hat{\varepsilon}_{\log(benefits)}$	0.253***	0.256***	0.268***
	(0.073)	(0.073)	(0.074)
$\hat{\varepsilon}_{\log(last\ wage)}$	0.325***	0.348***	0.328***
	(0.114)	(0.120)	(0.121)
Wald_Ex (1)	1.06	2.56	1.93
Wald_RW	295.8*** (43)	274.7***(41)	342.28***(43)
N. obs	539	533	523

Note: SOEP 2004. Survey weights are used. Robust standard errors are in brackets. ***, **, * indicate statistical significance at the 1, 5, 10 percent level, respectively.

$\hat{\alpha}_{risk\ aversion}$: Parameter of relevant measure of risk-aversion; $\hat{\varepsilon}_{\log(benefits)}$ elasticity of reservation wage with respect to benefit level; $\hat{\varepsilon}_{\log(last\ wage)}$: elasticity of reservation wage with respect to last net wage.

Specification A: Other covariates included: gender, marital status, age, age squared, years of education, subjective assessment of individual job chances, dummies for search for full-time/part-time job, other household income, dummies for type of benefit received, state dummies. *Specification B*: Dummies for type of benefit are replaced by log (amount of) benefits. Added covariates are real last monthly net wage, tenure last job, tenure last job squared, unemployment duration and dummies for industry of last job in the reservation wage equation as well as a dummy for "computer-assisted personal interview" (CAPI) in the selection equation.

With respect to all job seekers the estimated parameters ($\hat{\alpha}_{risk\ aversion}$) of the three different measures of individual risk aversion are significantly negative and similar in size (*specification A, row 1*). This indicates that individual risk aversion in general as well as individual risk aversion concerning financial matters or occupational issues is negatively correlated with self-reported reservation wages. Taking the parameter estimate $\hat{\alpha}_{risk\ aversion}$

with respect to general risk attitudes at face value, implies that someone who switches from extremely risk-loving ("0") to extremely risk-averse ("10") sets his reservation wage roughly 30% lower than before. Hence, our findings suggest a remarkable negative relationship between the degree of individual risk-aversion and the level of reservation wages.

The estimated models using the sample of job searchers with valid information on their last job control more carefully for the employment history of the respondents. The estimated parameters ($\hat{\alpha}_{risk\ aversion}$) are similar in size to the previous ones and reveal again that reservation wages of risk-averse job-seekers are significantly lower than reservation wages of risk-neutral or risk-loving job seekers (*Specification B, row 4*). Hence, our results corroborate the predictions of finite-horizon sequential job-search models (Cox/Oaxaca 1989) that optimal reservation wages of a risk-averse worker never exceed those of a risk-neutral worker. They are also in line with evidence from job-search experiments (Cox/Oaxaca 1992, 1996).

Considering the estimates of the elasticity of the reservation wage with respect to the level of unemployment benefits the estimated parameters of $\hat{\varepsilon}_{\log(benefits)}$ are significantly positive and imply that a 10% increase in the benefit level roughly leads to a 2.5% increase in the reservation wage. These estimated elasticities are lower than those found by Feldstein/Poterba (1984) for the US, similar to those provided by van den Berg (1990) for the Netherlands and higher than those found by Lancaster/Chesher (1983) for the UK.[9] The parameter estimates for the elasticity of the reservation wage with respect to the net wage in the last job $\hat{\varepsilon}_{\log(last\ wage)}$ are significantly positive and based on a Wald-test, we cannot reject the hypothesis that the two elasticities are of equal size. This is in line with findings from experiments that reservation wages are strongly shaped by previous wage payments (Falk/Fehr/Zehnder 2006).

One might argue that those with observed self-reported reservation wages are not a random sample of all job seekers, e.g. workers who answer "*can't say, it depends*" to the reservation wage question may be less picky about what jobs to accept. This argument is addressed by means of a standard Heckman sample selection model. We exploit information whether a computer-assisted personal interview (CAPI) is used to collect the data from the respondents in the selection-equation to identify the parameters of interest. The parameter estimates for the three measures of individual risk attitudes are again significantly negative (*Specification B, row 9*) and similar in size to the previous ones. This also holds for the estimated benefits

[9] The estimated elasticities are also in line with the evidence provided by Addison/Centeno/Portugal (2006) based on ECHP data.

elasticities of reservation wages and for the elasticities of the reservation wage with respect to the net wage in the last job.

The regression results in Table 1 all depend on the assumption that the parameters of interest are constant across groups with varying risk attitudes. However, if the curvature of the individual utility functions differs, it seems likely that parameters such as the elasticity of reservation wages with respect to unemployment benefits also vary with individual risk attitudes. To check this argument we estimate separate regressions for risk-averse and risk-loving job seekers whereas we classify respondents with "0-5" answers on the original scale in the risk attitudes questions as "risk-averse" and "risk-loving" otherwise. To control for the fact that selection into one of the two risk preference groups might be not at random, we apply "inverse probability weighting"(IPW) as suggested, for example by Wooldridge (1999, 2002a/b, 2003). In a first step, we calculate the probabilities of being in the group of risk-averse job seekers (being a member of the group of risk-loving job seekers) using a standard probit model. To identify the parameters of interest we add individual height as a covariate in the probit-equation (c.f. Dohmen et al. 2005). The fitted individual probabilities are combined with the fitted survey selection probabilities provided with the SOEP to calculate the overall individual selection probabilities.[10,11] The inverses of these fitted probabilities are then used in a weighted least squares estimator for the particular group. Under the key assumption that conditional on the covariates selection is ignorable, the IPW approach identifies the population parameters of interest. Moreover, Wooldridge shows that the estimated standard errors lead to "conservative inference" when we ignore the fact that the probabilities used to calculate the individual weights are estimated.

Since 91% of our job seekers are risk-averse with respect to financial affairs, when we apply the above mentioned dummy classification, we cannot conduct our regression exercise due to a small sample size in this case. Table 2 presents the results for the two elasticities $\hat{\varepsilon}_{\log(benefits)}$ and $\hat{\varepsilon}_{\log(last\ wage)}$ for the groups of risk-averse and risk-loving job seekers with respect to general risk attitudes and risk attitudes in occupational issues.[12]

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[10] Note that information on field work as well as on household characteristics is used in the empirical specifications to estimate the survey selection probabilities of the SOEP. These covariates are not part of the set of covariates of the reservation wage equation and therefore help to identify the parameters of interest.

[11] Additionally we calculate overall individual selection probabilities where we control for the fact that a remarkable fraction of respondents answer „Can't say, it depends" to the reservation wage question. The information on CAPI is used for identifiction in this case like in the standard Heckman model discussed in the main text. The findings are very similar to those presented in Table 3.

[12] See Table A.2 in the Appendix for a documentation of all parameter estimates for both measures of individual risk attitudes.

Table 2:
Determinants of Reservation Wages in Germany: Estimates for risk-averse and risk-loving job seekers

	General risk attitudes		Risk attitudes in occupational issues	
	Specification B (IPW-OLS)		*Specification B (IPW-OLS)*	
	Risk-averse job seekers	Risk-loving job seekers	Risk-averse job seekers	Risk-loving job seekers
$\hat{\varepsilon}_{\log(benefits)}$	0.146*	0.642***	0.139**	0.381**
	(0.080)	(0.094)	(0.060)	(0.076)
$\hat{\varepsilon}_{\log(last\ wage)}$	0.437***	-0.005	0.289**	0.623**
	(0.113)	(0.101)	(0.119)	(0.122)
R^2	0.61	0.81	0.61	0.91
N. obs.	212	104	213	96

Note: SOEP 2004. Inverse probability weighting (IPW) applied. Robust standard errors are in brackets. ***, **, * indicate statistical significance at the 1, 5, 10 percent level, respectively. $\hat{\varepsilon}_{\log(benefits)}$ elasticity of reservation wage with respect to benefit level; $\hat{\varepsilon}_{\log(last\ wage)}$: elasticity of reservation wage with respect to last net wage. Covariates included: gender, marital status, age, age squared, years of education, subjective assessment of individual job chances, dummies for search for fulltime/part time job, other household income, log (amount of) benefits, real last monthly net wage, tenure last job, tenure last job squared, unemployment duration and dummies for industry of last job. Information on individual height is an additional covariate in the probit-equation.

The estimated parameters for the elasticity of reservation wages with respect to unemployment benefits reveal a remarkable difference between risk-averse and risk-loving job-seekers. With respect to the measure of general risk attitudes, the elasticity of the reservation wage with respect to unemployment benefits is 4 times larger for risk-loving job seekers than for risk-averse job-seekers, considering the measure of risk attitudes in occupational issues, the benefit elasticity of risk-loving job seekers is roughly 3 times larger than for risk-averse job seekers.[13]

Hence, risk-averse job seekers have significantly lower reservation wages than their risk-loving colleagues, but are less responsive to changes in the unemployment benefits level. This result is consistent with the interpretation that risk-averse job seekers set their reservation wages sufficiently low, so that they accept almost every job offer. There is some evidence in the empirical literature which is in line with our interpretation. For example, Frijters/van der Klauw (2006), also using SOEP data, show for Germany that cutting unemployment benefits by 50% has only little impact on re-employment probabilities. Rather, their structural estimates indicate that 70% of the unemployed job seekers in Germany have constant low job offer arrival rates and negative duration dependence in the wage offer distribution. They

[13] Chow-tests indicate for both cases that the estimated $\hat{\varepsilon}_{\log(benefits)}$ are significantly lower for risk-averse job seekers than for risk-loving job seekers. (α=0.01)

conclude that labor market outcomes in Germany are not very sensitive to unemployment benefit levels. In a study for the Netherlands van den Berg (1990) finds that unemployed job seekers accept nearly every job that is being offered.

Taking our results at face value has implications for the efficiency of currently proposed measures of active labor market policy in Germany. Assume a target group of unemployed job seekers with an average high degree of risk aversion. Based on our results, their reservation wages are roughly 30% lower than those of their risk-loving counterparts. However, temporary benefits cuts due to benefit sanctions, as part of a new policy of "rights and duties" (e.g. Jacobi/Kluve 2006), might have a minor impact on their reemployment probability, since risk-averse unemployed job seekers only marginally adjust their reservation wages due to sanctions, given our estimates of the elasticity of the reservation wage with respect to the level of unemployment benefits.

4 Checks of robustness

Controlling more carefully for the employment history of the respondents as well as distinguishing between risk-averse and risk-loving job seekers leads to small sample sizes, as documented in Table 1 and Table 2. One reason for the small sample sizes is the fact that we observe missing values for unemployment benefit levels and for last real net wages for a remarkable fraction of job-seekers, conditional on valid information on their reservation wage, on individual risk attitudes, on their unemployment duration and on some information on their last job. Therefore, as a check of robustness, we impute for observations with missing values on unemployment benefit levels and/or last real net wages, a level of the particular variable. Imputation was carried out applying MICE, i.e. multiple imputation by chained equations (van Buuren et al. 2006). We created 20 multiple imputed data sets.[14] Regression results based on the multiple imputed datasets for the two elasticities $\hat{\varepsilon}_{\log(benefits)}$ and $\hat{\varepsilon}_{\log(last\ wage)}$ and for ($\hat{\alpha}_{risk\ aversion}$) using *specification B* are presented in Table 3:

Table 3:
Checks of Robustness: Determinants of Reservation Wages in Germany:

- Estimates based on multiple imputed data sets -

	General risk attitudes			Risk attitudes in occupational issues		
	Specification B (OLS, IPW-OLS)			*Specification B (OLS, IPW-OLS)*		
	All job-seekers	Risk-averse job seekers	Risk-loving job seekers	All job-seekers	Risk-averse job seekers	Risk-loving job seekers
$\hat{\varepsilon}_{\log(benefits)}$	0.205**	0.051	0.393***	0.213**	0.100	0.357*
	(0.089)	(0.110)	(0.138)	(0.092)	(0.084)	(0.183)
$\hat{\varepsilon}_{\log(last\ wage)}$	0.340***	0.520***	0.151	0.333***	0.224**	0.470**
	(0.103)	(0.120)	(0.168)	(0.106)	(0.096)	(0.226)
$\hat{\alpha}_{risk\ aversion}$	-0.019*	--	--	-0.021**	--	--
	(0.011)			(0.009)		
N. obs.	462	297	165	452	311	141

Note: SOEP 2004. 20 imputations applying MICE with number of cycles equals 10. Inverse probability weighting applied with respect to the two subgroups of risk-averse and risk-loving job seekers. Robust standard errors are in brackets. ***, **, * indicate statistical significance at the 1, 5 and 10 percent level, respectively. $\hat{\varepsilon}_{\log(benefits)}$ elasticity of reservation wage with respect to benefit level; $\hat{\varepsilon}_{\log(last\ wage)}$: elasticity of reservation wage with respect to last net wage. $\hat{\alpha}_{risk\ aversion}$: Parameter of relevant measure of risk-aversion; See notes of Table 2 for further details.

[14] Multiple imputations were conducted using the Stata-tool ice (version 1.4.0, 3/2007) written by P. Royston (see Royston 2005 for details). We chose to draw from the posterior predictive distribution for each variable with 10 cycles of regression switching to be carried out.

A comparison of the parameter estimates based on multiple imputed data sets for all job-seekers in Table 3, with those of the complete case analysis in Table 1 (*Specification B*) for both measures of individual risk attitudes reveals that our main results persist if we impute missing values for unemployment benefits and real net wages in the last job: We again find a significantly negative relationship between the degree of individual risk aversion and the level of individual reservation wages. Furthermore, the estimated elasticity of the reservation wage with respect to unemployment benefits, as well as the estimated elasticity of the reservation wage with respect to the last real net wage is significantly positive and similar in size to those from the complete case analysis.

With respect to the estimated parameters of the benefit elasticity of reservation wages, based on the multiple imputed data sets for the two subgroups of risk-averse and risk-loving job-seekers, we find again a striking difference in the response of individual reservation wages to changes in unemployment benefits. For both risk-measures we do not find a significantly positive elasticity of the reservation wage with respect to unemployment benefits for risk-averse job seekers. However, the estimated benefit elasticities of reservations wages for risk-loving job-seekers are significantly positive and indicate that a 10% cut in the benefit level leads on average to a 4 % decrease in reservation wages. Hence, risk-averse job seekers have significantly lower reservation wages than their risk-loving colleagues but do not respond to changes in the unemployment benefits level.

5 Conclusions

The present study is the first test of whether individual risk attitudes have an impact on reservation wages, based on representative survey data. We find a significantly negative relationship between individual risk aversion and self-reported reservation wages. Furthermore, we show that the elasticity of the reservation wage with respect to unemployment benefits is remarkably lower for risk-averse job-seekers than for risk-loving job seekers. These results are consistent with an interpretation that risk-averse job seekers set their reservation wage levels sufficiently low, so that they accept almost every job offer. Taken at face value, our results imply that the effectiveness of active labor market policies targeting the reservation wages of unemployed job seekers might be limited if the target group is amply risk-averse.

Due to the current availability of measures of individual risk attitudes in the SOEP we have to treat individual risk attitudes as a time-invariant characteristic ("personal trait") of unemployed job seekers. However, it cannot be ruled out that an ongoing unemployment status may alter unemployed job seekers' risk attitudes. Hence, future research exploiting repeated observations of individual risk attitudes appears warranted.

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Appendix

Table A.1: Determinants of Reservation Wages

	Spec. A (OLS)	*Spec. B (OLS)*	*Spec B /(Heckman_ML)*	
			Log (r_wage)	Selection-equ.
	Coeff./SE	Coeff./SE	Coeff./SE	Coeff./SE
$\hat{\alpha}_{risk\ aversion}$ / (*general risk attitudes*)	-0.031***	-0.026**	-0.027**	-0.063**
	(0.008)	(0.010)	(0.010)	(0.023)
Male	0.110**	0.033	0.038	0.278*
	(0.037)	(0.047)	(0.048)	(0.131)
Married	-0.033	-0.136*	-0.143*	-0.287*
	(0.043)	(0.060)	(0.060)	(0.129)
Age	-0.002	0.015	0.017	0.084*
	(0.013)	(0.014)	(0.014)	(0.037)
Age(sqrd)	0.000	-0.000	-0.000	-0.001*
	(0.000)	(0.000)	(0.000)	(0.000)
Years of Education	0.048***	0.014	0.012	-0.095***
	(0.011)	(0.014)	(0.014)	(0.025)
"Hard to find job"	0.014	-0.096	-0.083	0.539*
	(0.064)	(0.094)	(0.093)	(0.231)
"Impossible to find job."	0.078	-0.046	-0.033	0.526*
	(0.076)	(0.102)	(0.103)	(0.252)
Other household income	0.000	0.000	0.000	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Search for full-time job	0.185***	0.202***	0.199***	-0.233
	(0.046)	(0.054)	(0.054)	(0.144)
Search for part-time job	-0.481***	-0.109	-0.119	-0.429*
	(0.071)	(0.144)	(0.147)	(0.197)
Dummy: Unemployment	0.105*	--	--	--
insurance benefits	(0.049)	--	--	--
Dummy: Unemployment	0.018	--	--	--
assistance benefits	(0.056)	--	--	--
Dummy: Social assistance	0.140	--	--	--
	(0.074)	--	--	--
Dummy: Parental leave	0.049	--	--	--
	(0.090)	--	--	--
Unemployment duration	--	-0.011	-0.013	-0.101
	--	(0.022)	(0.022)	(0.057)
Tenure last job (in years)	--	-0.011	-0.010	0.043*
	--	(0.008)	(0.008)	(0.019)
Tenure last job (sqrd.)	--	0.000	0.000	-0.002*
	--	(0.000)	(0.000)	(0.001)
$\hat{\varepsilon}_{\log(benefits)}$	--	0.252***	0.253***	0.059
	--	(0.074)	(0.073)	(0.148)
$\hat{\varepsilon}_{\log(last\ wage)}$	--	0.318**	0.325**	0.410*
	--	(0.113)	(0.114)	(0.172)
Dummy: Computer-assisted	--	--	--	0.471***
Interview (CAPI)	--	--	--	(0.123)
Constant	6.360***	2.690***	2.611**	-2.808*
	(0.295)	(0.782)	(0.792)	(1.175)
Athan_rho	--	--	0.150	
	--	--	(0.146)	
State dummies	*yes*	*yes*	*yes*	*yes*
Industry dummies last job	*no*	*yes*	*yes*	*no*
Wald_X	489.3***	291.5***	295.8***	268.5***
R^2	0.42	0.58		
Number of observations	1101	316	539	

Note: SOEP 2004, own calculations. ***, **, * indicate statistical significance at the 1, 5 and 10 percent level, respectively. See notes below Tab. 1 in the main text for details.

Wald_X: Wald-Test with H_0: No joint significance of all regressors. Wald_Ex: Wald-Test with H_0: Independence of reservation wage equation and selection equation. Wald_RW: Wald-Test with H_0: No joint significance of all covariates in the reservation wage equation. Degrees of freedom in brackets.

Table A.2:
Determinants of Reservation Wages in Germany: Estimates for risk-averse and risk-loving job seekers

	General risk attitudes		*Risk attitudes in occupational issues*	
	Specification B (IPW-OLS)		*Specification B (IPW-OLS)*	
	Risk-averse job seekers	Risk-loving job seekers	Risk-averse job seekers	Risk-loving job seekers
	Coeff./SE	Coeff./SE	Coeff./SE	Coeff./SE
Male	0.047	-0.113	0.062	0.153*
	(0.061)	(0.076)	(0.060)	(0.062)
Married	-0.131**	-0.152*	-0.068	-0.247**
	(0.062)	(0.087)	(0.059)	(0.077)
Age	0.008	0.009	-0.023	-0.010
	(0.017)	(0.021)	(0.015)	(0.020)
Age(sqrd)	-0.000	-0.000	0.000*	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Years of Education	0.000	0.050***	0.016	0.009
	(0.016)	(0.015)	(0.016)	(0.023)
"Hard to find job"	-0.217*	0.137	-0.135	0.079
	(0.114)	(0.128)	(0.121)	(0.124)
"Impossible to find j."	-0.193	0.210	-0.165	0.141
	(0.128)	(0.148)	(0.134)	(0.167)
Other household income	0.000	-0.000*	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Search for full-time job	0.200***	0.222***	0.259***	0.178**
	(0.063)	(0.071)	(0.077)	(0.056)
Search for part-time job	-0.311**	0.164	-0.167	0.578***
	(0.127)	(0.113)	(0.125)	(0.106)
Unemployment duration	-0.026	-0.013	0.012	-0.025
	(0.028)	(0.034)	(0.023)	(0.034)
Tenure last job (in years)	-0.013	-0.051***	-0.005	-0.070***
	(0.010)	(0.018)	(0.010)	(0.016)
Tenure last job (sqrd.)	0.000	0.002***	0.000	0.004***
	(0.000)	(0.001)	(0.000)	(0.001)
$\hat{\varepsilon}_{\log(benefits)}$	0.146*	0.642***	0.139**	0.381***
	(0.080)	(0.094)	(0.060)	(0.076)
$\hat{\varepsilon}_{\log(last\ wage)}$	0.437***	-0.005	0.289**	0.623***
	(0.113)	(0.102)	(0.119)	(0.122)
Constant	2.885***	3.631***	4.353***	0.038
	(0.615)	(0.749)	(0.755)	(0.713)
State dummies	*yes*	*yes*	*yes*	*yes*
Industry dummies last job	*yes*	*yes*	*yes*	*yes*
R^2	0.61	0.81	0.61	0.91
Number of observations	212	104	213	96

Note: SOEP 2004, own calculations. ***, **, * indicate statistical significance at the 1, 5 and 10 percent level, respectively. See notes below Tab. 1 in the main text for details.

Table A.3: Descriptive Statistics

Variable	Mean	Std. Dev.
Real monthly net reservation wage	1101.15	641.80
General risk attitudes	5.28	2.34
Risk attitudes in financial matters	7.71	2.16
Risk attitudes in occupational issues	5.961	2.60
Dummy-Variable: Male	0.40	0.49
Dummy-Variable: Married	0.46	0.50
Age	34.05	12.50
Years of education	11.73	2.26
Dummy-Variable: Search for fulltime job	0.48	0.50
Dummy-Variable: Search for part-time job	0.28	0.48
Subjective Ass.: "Hard to find a job" (*Dummy-Var.*)	0.62	0.48
Subjective Ass.: "Impossible to find a job" (*Dummy-Var.*)	0.23	0.42
Other real net household income	2397.35	2146.60
Dummy-Var.: Unemployment insurance benefits (*Arbeitslosengeld*)	0.17	0.37
Dummy-Var.: Unemployment assistance benefits (*Arbeitslosenhilfe*)	0.16	0.36
Dummy-Variable: Social assistance (*Sozialhilfe*)	0.02	0.14
Dummy-Variable: Parental leave (*Erziehungsgeld*)	0.07	0.25
Dummy-Variable: Computer-assisted interview (Capi)	0.25	0.43
Tenure last job (in years)	5.11	6.92
Real amount of subsidy	557.57	300.72
Unemployment duration (in years)	1.29	1.05
Real monthly net wage last job	1156.45	532.95

Note: SOEP 2004. Own calculations

Separate Appendix

Figure Sep_A.1:
Distribution of the individual difference of reservation wages and received unemployment benefits.

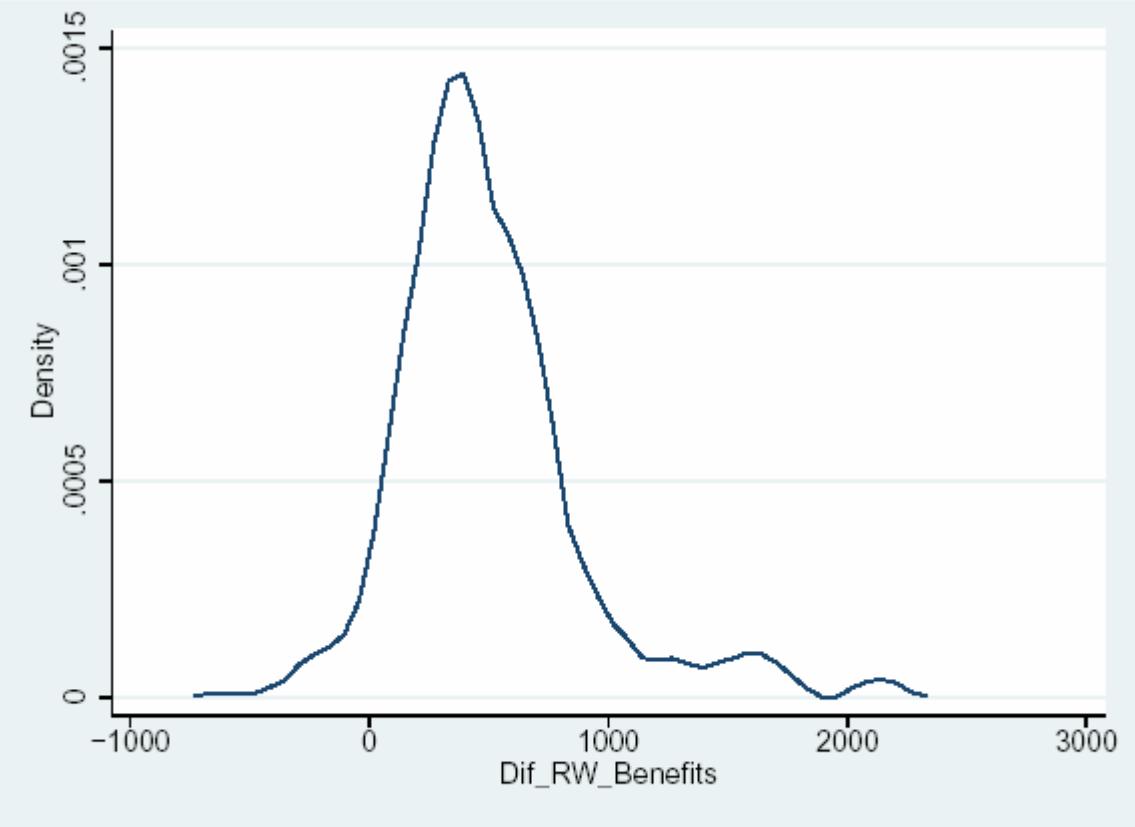

Figure Sep_A.2:

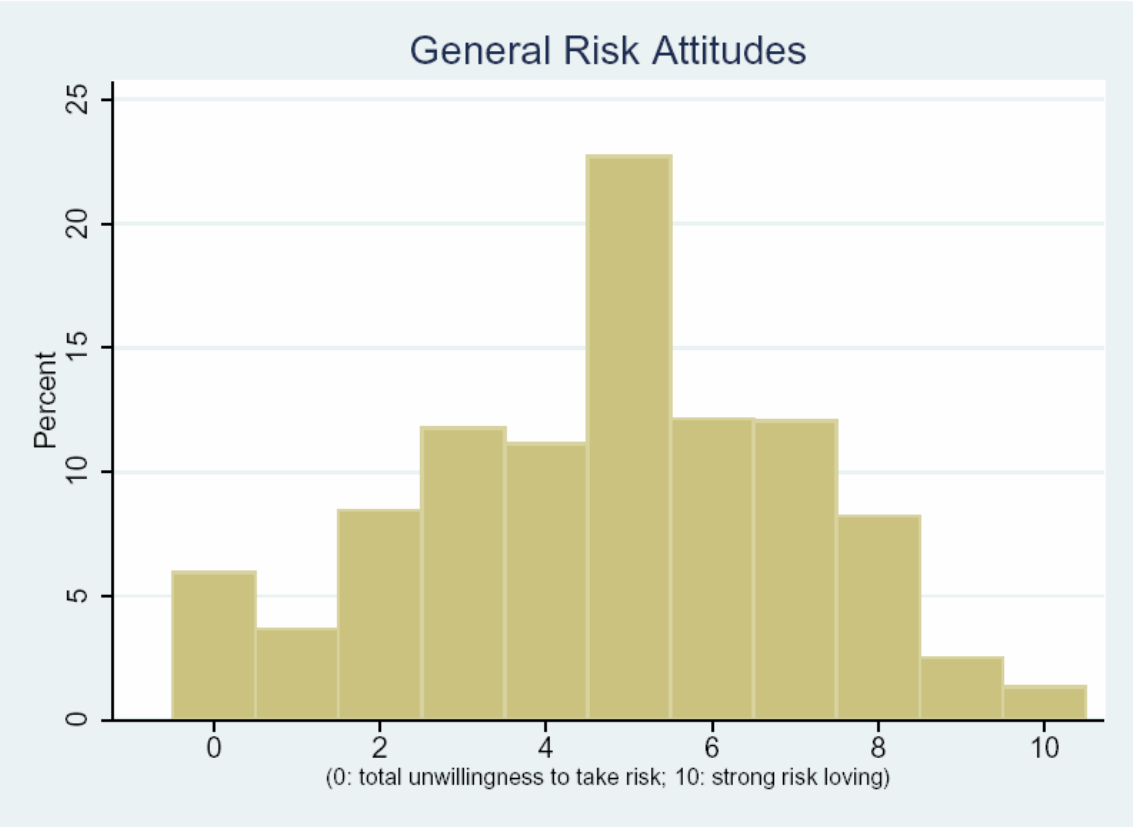

Figure Sep_A.3:

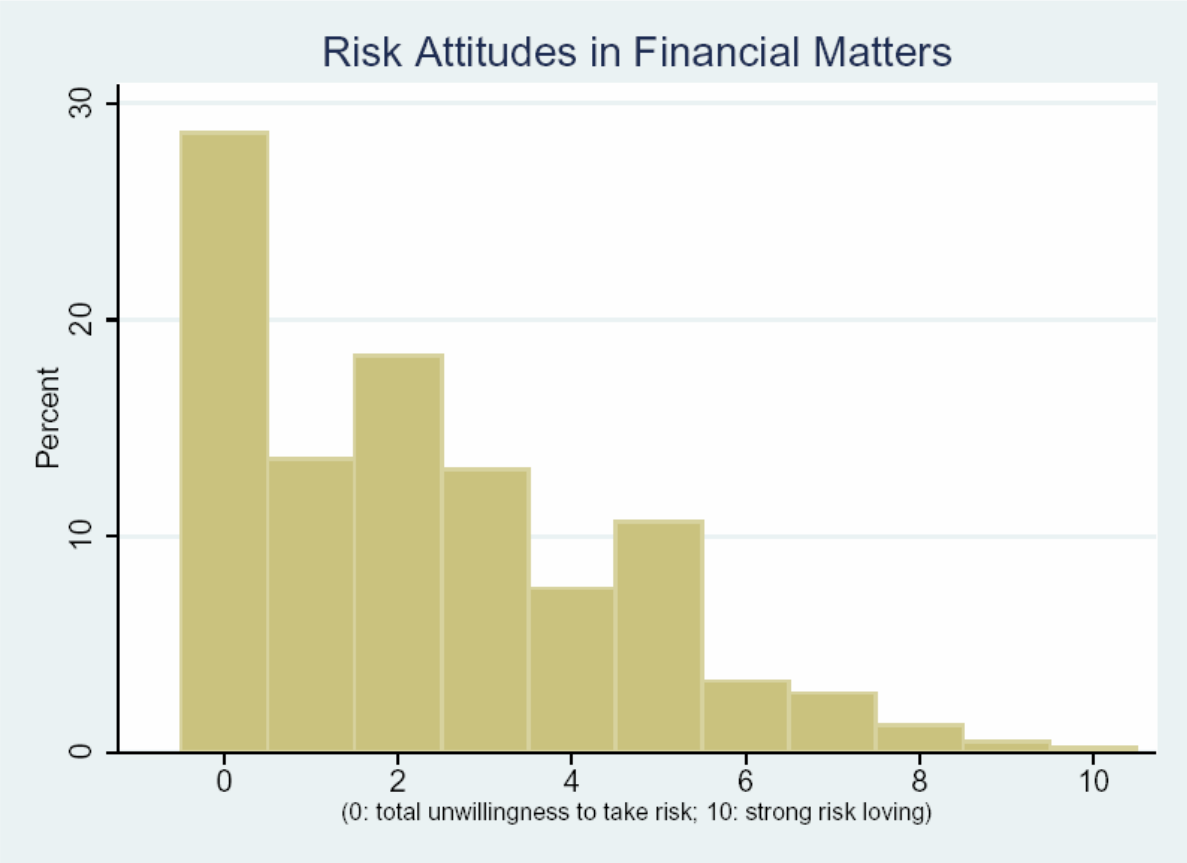

Figure Sep_A.4: