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The Acceptance of Earnings Losses after Voluntary Mobility

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Abstract Because rational individuals know that they cannot always get what they want, they are assumed to make appropriate adjustments. However, little is known about trade-off reasoning in labor market mobility decision making. The objective of this paper is to analyze the effect of job-specific amenities on the decision to voluntarily accept wage cuts. Application of German household data reveals that voluntarily mobile workers are more likely to accept lower wages when strain can be improved. In other words, the considered mobile workers trade off amenities and monetary rewards when changing employers.

JEL J24, J30, J62
Keywords Mobility; wage cut; quit

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1 Introduction

Today's labor markets are characterized by a large degree of flexibility. Among a variety of aspects, labor market mobility contributes to this flexibility (OECD (1997)). In recent times, a growing strand of literature corroborates that a considerable fraction of workers are changing jobs at the cost of wage cuts. In Germany, a large number of workers are shown to be mobile toward lower wages. Fitzenberger and Garloff (2007) refer to establishment-to-establishment transitions during two successive years and show that more than one in five individuals are mobile with wage cuts. Jolivet et al. (2006) apply data from the European Community Household Panel Survey to reveal that 36.3% of job-to-job transitions in Germany are accompanied by wage cuts. The authors define job-to-job mobility as transitions without noticeable unemployment spells of less than one month.

Transitions to lower wages are not a typical German phenomenon. In their cross-country analysis, Jolivet et al. (2006) show that almost one in five individuals is mobile to lower wages in Portugal and Belgium. The largest shares of wage cuts are observed in Denmark, France, and Germany. In these countries, more than 34% of mobile individuals suffer wage cuts in the period of mobility. In line with this result, Postel-Vinay and Robin (2002) show that more than one in three workers changing jobs directly did so at the cost of a wage cut.[1] For the United States, Jolivet et al. (2006) indicate that 23% of job-to-job transitions are to lower wages.[2] Nosal and Rupert (2007) utilize the Panel Study of Income Dynamics and show that about two in five individuals (voluntarily) change to lower wages. The results of these studies for different countries indicate that scientists should turn their attention to the reasons for mobility with wage cuts.

This paper sets forth an analysis of the reasons for job-to-job mobility to lower wages with a special focus on changes in different (non-pecuniary) job characteristics after the transition. It utilizes the German Socio-Economic

[1] Using French data, Postel-Vinay and Robin (2002) refer to direct mobility as job-to-job mobility with a maximum intervening unemployment spell of 15 days.

[2] Using the Panel Study of Income Dynamics, the authors refer to job-to-job mobility when intervening unemployment, if any, does not exceed three weeks.

Panel (GSOEP in the following; see Wagner et al. (2007)), which includes questions on the reasons for job termination at the previous employer and surveys comparisons between both jobs. This is a major enhancement to previous papers because it allows one to determine whether workers voluntarily accept wage cuts in order to improve job-specific (non-wage) amenities.

The paper is structured as follows. The next section illustrates briefly the basic framework and the research hypotheses. Section 3 describes the data set, main variables, and econometric models. I present the econometric results for the impact of subjective improvements in different job-specific characteristics on the decision to accept wage cuts in section 4. A conclusion is presented in section 5.

2 Framework and Research Questions

Recent literature considers wage cuts a result of job termination. In Jolivet (2009), workers are allowed to change jobs directly to lower wages because their only alternative is non-employment. These transitions are referred to as job reallocations and are also mentioned in other studies (e.g., Jolivet et al. (2006)). Other theoretic approaches explain wage cuts as an investment in future wage growth (Connolly and Gottschalk (2008), Postel-Vinay and Robin (2002)). It is also reasonable to change to a new employer offering lower wages if the wage cut at the current employer had been larger (see, e.g., Shi (2009) or Mortensen and Pissarides (1994)). Schneck (2010) empirically suggests the prevalence of investments in future wage growth but also revealed that a substantial fraction of workers are mobile to permanently lower wages. Because workers are shown to accept lower wages on a permanent basis, other determinants are hypothesized to affect mobility decisions. For example, it is suggested that job-specific (non-wage) amenities affect the job choice (Nosal and Rupert (2007)).

Economic and psychological literature, however, lack detailed information about the reasons for accepting lower wages. The basic idea of this paper proposes that differences in wages between two jobs might be bal-

anced out by differences in (non-wage) job characteristics. Analogously to Rosen (1974, 1987) one could hypothesize that jobs consist of bundles of various characteristics with implicit, or hedonic, prices. Competent and self-supporting individuals, however, know that they cannot always get what they want, and that is the reason why they are expected to make appropriate adjustments. More specifically, individuals are expected to know that it is unlikely to find a *better* job with a higher wage, more flexible work time arrangements, and more job security right at their front door. It is important to analyze the extent of trade-off reasoning in the context of labor market mobility because "Trade-off reasoning should be so pervasive and so well rehearsed as to be virtually automatic for the vast majority of the [...] population" (Tetlock (2000), p. 239).

Here, I assume that workers only change jobs if the utility U of worker i at employer j in time t exceeds the utility at the previous employer:[3]

$$U_{ijt} > U_{i,j-1,t-1} \tag{1}$$

Workers are confronted with job offers which contain information on the wage and a set of various job-specific amenities. Wage offers of employer j are offered to worker i in t independently of the worker's marginal willingness to avoid disamenities or to pay for amenities. Utility maximization implies that the worker changes employer if:

$$U_{ijt}(wage, amenities) > U_{i,j-1,t-1}(wage, amenities) \tag{2}$$

This paper concentrates on whether voluntary mobile workers accept a decrease in wages in exchange of an improvement in amenities. For this reason, the article mainly focuses on the theory of trade-off reasoning. The exclusive concentration on voluntary quits in the paper is assumed to assure that the drop in wages is compensated for by improvements in amenities.

$$\underbrace{wage_{ijt} - wage_{i,j-1,t-1}}_{-} = \underbrace{U(amenities_{ijt} - amenities_{i,j-1,t-1})}_{+} \tag{3}$$

[3] Mobility costs are ignored. In addition, this paper is only responsive to short-term wage cuts which might pay off in the long-run.

$$Pr(Wage\ Cut_{ijt} = 1) = U_{ijt}(\underbrace{improvement\ in\ amenities}_{+}, S)$$

$$Pr(Wage\ Cut_{ijt} = 1) = \Phi(\beta_0 + \beta' improvement\ in\ amenities_{ijt} + \delta' S_{ijt}) \tag{4}$$

The hypothesis about trade-off reasoning is summarized in Equation (3). Worker i balances out improvements in job-specific amenities between two jobs and the wage decline when changing employer in period t. The probability to accept wage cuts, then, is expected to be positively affected by certain job-specific amenities. S summarizes further determinants which might affect the decision to accept lower wages. I tested the hypothesis by application of the probability model in which Φ is the cumulative density function of the standard normal distribution. Evidence in favor of trade-off reasoning in mobility decisions is provided in case of a positive estimate for β. The following strategy to estimate the willingness to pay for amenities (β) exploits the preferences about wages and amenities that are revealed when workers change jobs voluntarily.[4] Precisely, utility-maximizing workers only change employers if job-specific amenities compensate for their loss in wages. In the following, I described the effects of the job-specific amenities, namely, 'flexible work schedules', 'subjective job security against job loss', 'promotion possibilities', and 'strain' on the probability to accept a wage cut.

The paper addresses whether workers trade off improvements in strain and wages. Strain is shown to negatively affect individual satisfaction (see, e.g., Loscocco and Spitze (1990)). Cornelißen (2009) finds a negative effect

[4] Note that selection of workers might bias the estimates. In regression analysis, biased estimates are obtained when unobserved determinants of the outcome and unobserved determinants of selection into the the sample are correlated. The correlation between unobservables, however, cannot be directly evaluated. I expect that my estimates rather provide an upper bound for the acceptance for wage cuts since the workers in my sample are indeed compensated for the loss in wages by amenities. Note that some workers might also be compensated for the improvement in job-specific amenities by sacrificing (large) wage markups.

of hard manual labor and stress (which are dimensions of job strain) on job satisfaction. According to Mobley (1977), dissatisfaction with a job is translated into thoughts of leaving the employer, evaluation of alternatives, and mobility because starting a new job is expected to result in a higher satisfaction. In fact, Judge (1993) shows that dissatisfied workers are more likely to quit than other individuals. Literature, however, lacks information on whether mobile individuals are willing to accept wage cuts in order to leave the dissatisfying job. This paper assesses whether individuals who expect decreasing strain when changing jobs are willing to accept lower wages. Analogous argumentation is expected to hold for improved job security by wage cuts because Cornelißen (2009) shows that satisfaction with the job is negatively affected by worries about (perceived) job security.

Based on the question of Altonji and Paxson (1988) on whether workers are willing to sacrifice wage gains for better working hours when quitting a job, I ask whether workers are even willing to accept wage cuts for an improvement of work time regulations. The main reason for a special focus on the latter hypothesis is that individuals face a trade-off between time constraints and monetary rewards. To be more precise, if the current employer offers few possibilities for flexible leisure, then, working at a new employer with more flexible working schedules might be preferred despite lower wages. In other words, workers know that it is very problematic (almost impossible) to achieve the highest flexibility without paying a price for it.

In addition, the possibilities for promotions at the new employer might affect the decision to accept wage cuts. Pfeifer and Schneck (2010) show that workers who change to higher relative wage positions compared to the previous establishment have, on average, a lower probability to change to lower wages. Workers who change to lower relative wage positions, in turn, likely suffer more wage cuts. For this reason, the authors do not present evidence in favor of trade-off reasoning in relative wage positions and wages. However, it is suggested that workers who change with wage cuts to a lower relative wage position might benefit from better chances for future promotions within the new firm. For this reason, it is argued that workers might pay for future promotion opportunities by wage cuts.

Usually workers evaluate these job-specific amenities before the transition. The data, in turn, refers to realized transitions with completed trade-off reasoning (a more detailed description of the data follows in the next section). For this reason, individual answers on the questions about subjective improvements in the new job might involve problems regarding cognitive dissonance reduction theory (Festinger (1957)). This particular theory describes that unpleasant arousal drives people to resolve the cognitive inconsistency. In other words, if two cognitions are discrepant, individuals simply change one to make it consistent with the other. Here, workers might act contrary to their attitude because of mobility to lower wages. As a consequence, these workers adjust their cognition about the job in a positive way to balance out this effect. In the underlying case, workers might change their attitude toward the new job in a positive way as a consequence from the decision to be mobile to lower wages. As a consequence, workers who accept wage cuts report to be more satisfied with the new job compared to workers changing without wage cuts. If this is true, the estimated coefficients on subjective comparisons (improvements) between the previous and the current job would be upwardly biased. A direct test of this possible critique cannot be conducted by application of the GSOEP.

3 Data and Procedure

3.1 Data

This study utilizes the GSOEP household survey to examine the impact of job-specific amenities on the probability of being mobile with wage cuts. The main advantage of this data set stems from the fact that it includes subjective comparisons between the previous and current jobs. I restricted the analysis to German citizens who are employed full-time in two successive years during the period 1994–2007. The sample considers private sector employees with permanent contracts aged between 20 and 60 years. The

lower age boundary is chosen because the school degrees are usually achieved before 20 years of age.[5]

The data include annual information on the last monthly gross wage of individual i in period t (measured in Euros) which is applied in the consecutive analysis. I apply the consumer price index provided by the Statistisches Bundesamt Deutschland (annual averages, with year 2005 = 100) to deflate the wages. In addition, the questionnaire asks the "How many hours are stipulated in your contract (excluding overtime)?" The corresponding information is utilized to calculate the hourly wage of individuals. The hourly wage (w_{ijt}) as well as the real hourly wage (w_{ijt}^{real}) of individual i in period t at employer j are defined as follows:

$$\begin{aligned} w_{ijt} &= \frac{monthly\ wage_{ijt}}{4.33 * contractual\ weekly\ working\ time_{ijt}} \\ w_{ijt}^{real} &= \frac{deflated\ monthly\ wage_{ijt}}{4.33 * contractual\ weekly\ working\ time_{ijt}} \end{aligned} \tag{5}$$

Note that the GSOEP also includes information on overtime or the actual hours worked. I decided to concentrate on the contractual working hours because this measure is less affected by (cyclical or employer-specific) fluctuations. As the data are set up as a panel, information about the wage in the previous year is utilized to determine wage cuts and wage improvements. To examine the probability of wage cuts, a binary variable is constructed to illustrate whether individuals are mobile to lower wages or not:[6]

$$\begin{aligned} Wage\ Cut_{ijt} &= \begin{cases} 1 & \text{mobility to lower wages} \quad (w_{it} - w_{i,j-1,t-1} < 0) \\ 0 & \text{mobility to higher wages} \quad (w_{it} - w_{i,j-1,t-1} \geq 0) \end{cases} \\ Wage\ Cut_{ijt}^{real} &= \begin{cases} 1 & \text{mobility to lower wages} \quad (w_{it}^{real} - w_{i,j-1,t-1}^{real} < 0) \\ 0 & \text{mobility to higher wages} \quad (w_{it}^{real} - w_{i,j-1,t-1}^{real} \geq 0) \end{cases} \end{aligned} \tag{6}$$

[5] I consider the years of education which is based on information provided by the GSOEP.

[6] Wage information of the year 1993 is utilized to calculate the wage growth of mobile workers in 1994. I drop reported wages of zero.

In order to account for the individual trade-off reasoning appropriately, the analysis attempts to identify voluntary mobility, which is defined as an unconstrained decision of the individual. The underlying GSOEP includes detailed retrospective information about labor mobility. Each year, the questionnaire asks whether a new job was started at a new employer.[7] Individuals who reported an employer change, then, are asked whether they resigned on their own initiative. In the subsequent analysis, only those reporting a resignation on their own initiative are considered. In addition, I focus on mobile workers who changed employer within one month. This criterion was instituted to meet the definition of job-to-job mobility where individuals have to be mobile within one month (Jolivet et al. (2006), Royalty (1998)). In sum, 800 voluntary employer-to-employer transitions of 670 individuals who quit their jobs up to four times are considered. Note that the sample size of the entire GSOEP data is considerably reduced by implementation of the restrictions but the sample size is comparable to the one reported in Villanueva (2007).

A diversity of subjective improvements of different job characteristics are surveyed in the data. More specifically, the data set includes information about comparisons between the previous and current jobs if individuals reported a job change. The corresponding question read as follows: "How would you judge your present position compared to your last one? In what ways has it improved, stayed the same, or worsened?" This particular question considers the following characteristics:

1. wages
2. job type
3. chances for promotion

[7] The analysis excludes workers starting their first job or have a new job after a break. Individuals who report a job change within a firm and individuals who become self-employed are also not subject of the underlying analysis. The paper, hence, focuses on transitions between different employers. Unique information about this special pattern is available from 1994 onwards.

4. work load (strain)
5. length of commute to and from work
6. work schedule regulations (work time)
7. fringe benefits
8. security against job loss[8]

In the subsequent analysis, the answers to the question on strain, job security, commuting, work time, and promotions are applied to analyze the impact of trade-off reasoning on the decision to be mobile to lower wages. Another question asks whether the individual uses his or her knowledge and skills more, the same, or less than in the previous job. This variable is to describe whether the worker's skills meet the required ones in the new job and can be interpreted as a match quality indicator. Table 1 shows the descriptive statistics and reveals that only very few transitions (9.5%) are accompanied by a subjective worsening of wages. In the following, the paper concentrates on dummy variables which describe improvements or worsenings of the subjective comparisons. The corresponding frequencies of the subjective comparisons are shown in Table A1 while means and standard deviations are presented in Table A2.

3.2 Descriptive Statistics

Table 1 presents descriptive statistics on wage changes induced by voluntary job-to-job mobility. Application of nominal wages reveals that 24.38% transitions are executed to lower wages. These numbers are comparable to the ones reported in Fitzenberger and Garloff (2007). For real wages, however, the results are closer to the ones reported in Jolivet et al. (2006), where about one in three transitions are to lower wages. On average, all

[8] The questions and potential answer categories differ slightly over the years. No information is available in the 2008 wave of the GSOEP. Regarding fringe benefits, the German questionnaire refers to "betriebliche Sozialleistungen" while the English questionnaire refers to "benefits".

directly mobile workers generate a wage markup of about 15.40% (nominal) and 13.68% (real), respectively. This average wage premium for mobility is another reason for the conventional hypothesis that employer-to-employer mobility is voluntary.

Table 1: Descriptive statistics on wage changes after mobility

	share of wage cuts	10% percentile	mean	90% percentile	Number of observations
$\frac{w_{ijt}}{w_{i,j-1,t-1}}$	0.2438	0.8756	1.1540	1.4463	800
	(0.4296)		(0.3440)		
	0.0000	1.0163	1.2488	1.5484	605
	(—)		(0.3380)		
	1.0000	0.6857	0.8599	0.9811	195
	(—)		(0.1296)		
$\frac{w^{real}_{ijt}}{w^{real}_{i,j-1,t-1}}$	0.3175	0.8635	1.1368	1.4246	800
	(0.4658)		(0.3381)		
	0.0000	1.0309	1.2563	1.5498	546
	(—)		(0.3393)		
	1.0000	0.7164	0.8801	0.9910	254
	(—)		(0.1267)		
subjective worsening in wages	0.0950				800
	(0.2934)				

Standard deviations in parentheses

The share of workers who are mobile with wage markups, however, is very different from the workers who are mobile to lower wages. The average wage markup amounts to 24.88% (nominal) and 25.63% (real) for upwardly mobile individuals. Downwardly mobile workers, in turn, suffer an average wage cut of more than 10%. The wage markups and wage cuts presented here are comparable to the ones presented in Fitzenberger and Garloff (2007). Note that the subjective perception of declines (worsenings) in

wages is, by far, smaller than the number of wage cuts. Precisely, 9.50% of transitions are accompanied by subjective wage cuts while more than two in five transitions are to lower hourly wages. This suggests that the disutility introduced by monetary losses might be offset by other dimensions of the current job which directly adverts to trade-off reasoning in job mobility.

Figure 1 presents the share of wage cuts by the categories of subjective comparison of wages between two jobs. As expected, the share of workers with realized wage cuts increases with increasing subjective worsenings about the wage change. In other words, 68.42% (nominal) and 76.32% (real) of individuals who report subjective worsenings in wages indeed suffer wage cuts, whereas only 13.63% and 21.31% of individuals who report a subjective improvement in wages actually experience wage cuts. Figure 2 shows that the share of mobility with wage cuts within a certain period are rather unaffected by the business cycle. To be more precise, the period between 1996 and 2006 was especially characterized by a relatively stable share of transition to lower wages. Note that this does not imply that mobility is equally common across the different phases of the business cycle (see footnote 11). In sum, the descriptive statistics show that mobility to lower wages is frequent across different phases of the business cycle, which accentuates the importance of an analysis of the reasons for the acceptance of lower wages.

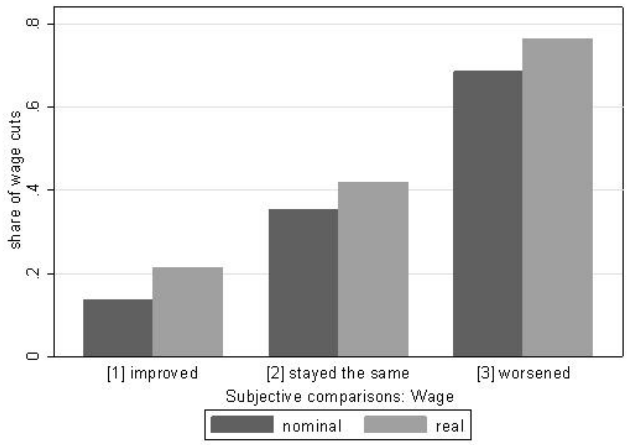

Figure 1: Share of wage cuts by subjective cognition about wage change
Number of observations: $N_{improved} = 521$, $N_{stayed\ the\ same} = 203$, $N_{worsened} = 76$

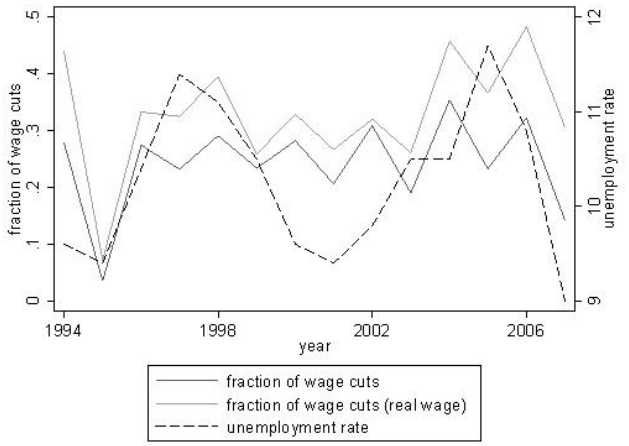

Figure 2: Share of wage cuts by year

3.3 Methods and Procedure

The research question on whether workers accept wage cuts in exchange for improvements in job amenities can directly be addressed in a probit model because the dependent variable on whether a wage cut was accepted or not is binary by construction. Literature recommends the analysis of binary dependent variables by application of binary choice models. Here, a probit model that relates to Equation (4) was utilized. Equation (7) shows the applied probit model, where X_{ijt} stands for dummy variables which describe improvements or worsenings between the previous and the current jobs, whereas S_{ijt} describes sociodemographic information and other determinants affecting mobility to lower wages. The corresponding descriptive statistics are presented in Table A2.

$$Pr(Wage\ Cut_{ijt} = 1) = \Phi(\alpha + \beta' X_{ijt} + \delta' S_{ijt}) \tag{7}$$

Individual characteristics include gender, age, education (in years), and whether or not individuals live with a partner. Regional mobility is included in the analysis because Yankow (2003) shows that changing locale affects wages. More specifically, I accounted for the federal state (Bundesland) in which an individual is working. If a worker changes to a job in a different federal state compared to the previous one, the corresponding dummy variable for regional mobility equals one. In addition, transitions from blue-collar to white-collar jobs are accounted for by a dummy variable. I also account for the economic environment in different years. Precisely, I include the growth of unemployment rate into the analysis.[9] The number of individual mobility describes the calculated number of quits on own initiative between 1985 and the year of the interview. Note that the minimum is one because the current quit is included.[10] In a next step, the marginal

[9] I apply the unemployment rate provided by the Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (Table 090). Unemployment growth is defined as $unemp_t - unemp_{t-1}$.

[10] Table A2 presents descriptive statistics for the control variables which are included in the subsequent multivariate analysis. Workers who voluntarily change jobs are, on average, about 35 years old. This finding can be interpreted with the hypothesis that middle-aged

willingness to pay for different amenities is estimated via application of OLS regression. The dependent variable describes the wage change while the set of control variables is identical to the one in the probit model discussed previously.

$$\frac{w_{ijt}^{(real)}}{w_{i,j-1,t-1}^{(real)}} = a + b'X_{ijt} + d'S_{ijt} + u_{ijt} \tag{8}$$

Finally, the corner solution (tobit) estimation approach is applied which combines aspects of the binomial probit for the distinction of $\frac{w_{ijt}^{(real)}}{w_{i,j-1,t-1}^{(real)}} \geq 1$ and $\frac{w_{ijt}^{(real)}}{w_{i,j-1,t-1}^{(real)}} < 1$ and the regression model for $E[\frac{w_{ijt}^{(real)}}{w_{i,j-1,t-1}^{(real)}} | X_{ijt}, S_{ijt}, \frac{w_{ijt}^{(real)}}{w_{i,j-1,t-1}^{(real)}} < 1]$.

$$\frac{w_{ijt}^{(real)}}{w_{i,j-1,t-1}^{(real)}}^{*} = e + f'X_{ijt} + g'S_{ijt} + v_{ijt} \tag{9}$$

workers assess their own aspiration levels best (Clark et al. (1996)). More than two in three mobile individuals are renters. The average education in years is between 12 and 13 years. Regional mobility plays a minor role by simple consideration of its frequency, since workers are shown to leave their federal state for a new job rarely. Only 4.75% of individuals perform cross-border transitions between federal states in Germany. A minority of mobile individuals life together with a partner (21.25%). About one in 20 transitions are from a blue-collar job to a white-collar job. It is also necessary to account for the workforce in the previous and the current firm (see, e.g., Brown and Medoff (1989)). 13.25% of individuals are leaving a firm with more than 2,000 employees while 17.13% of mobile workers are employed at a new firm with more than 2,000 employees. The following cross-table illustrates the number of observations by firm-size categories.

Number of observations by firm-size

Dummy variable for workforce$_{i,j-1,t-1} > 2{,}000$	Dummy variable for workforce$_{i,j,t} > 2{,}000$		
	0	1	Total
0	604	90	694
1	59	47	106
Total	663	137	800

$$\frac{w_{ijt}^{(real)}}{w_{i,j-1,t-1}^{(real)}} = \begin{cases} \frac{w_{ijt}^{(real)}}{w_{i,j-1,t-1}^{(real)}}^{*} & \text{if } \frac{w_{ijt}^{(real)}}{w_{i,j-1,t-1}^{(real)}} < 1 \\ 0 & \text{if } \frac{w_{ijt}^{(real)}}{w_{i,j-1,t-1}^{(real)}} \geq 1 \end{cases} \tag{10}$$

Estimation of the corner solution model, then, allows to compute the marginal willingness to pay for different amenities by wage cuts, given that the individual changes to lower wages.[11] As the data are set up as a panel, I am able to make effort to control for unobserved individual heterogeneity. All the tests do not reject the null hypothesis of no individual heterogeneity.[12]

Note that the analysis of this particular trade-off reasoning might be characterized by simultaneity in the acceptance of wage cuts and improvements in the new job. This problem might introduce problems regarding endogeneity. Note that one single endogenous regressor might seriously affect the results. One way to deal with this type of problem is to utilize a two-stage least square estimator, where I need to identify instrument variables. However, it is hard to find any variable which is partially correlated with subjective improvements between two jobs and exogenous in the decision to accept wage cuts. Given any simultaneity in trade-off reasoning, the following coefficients do not have a causal interpretation.

[11] The tobit approach can be viewed as a special case of the so-called Heckman sample selection model (Heckman (1979)) when the selection equation and the regression equation are identical. One reason to refer to the tobit model is that it is problematic to define a reasonable selection equation because of a lack of literature on the acceptance of wage cuts in voluntary mobility decisions.

[12] Precisely, different tests were conducted for the entire sample. A likelihood-ratio test was conducted in order to assess whether individual random-effects were evident in the probit model which explains whether a wage cut was accepted or not. The Breusch-Pagan Lagrange multiplier test (Breusch and Pagan (1980)) was applied to test for unobserved individual heterogeneity in the linear model on the wage change. Finally, a likelihood-ratio test was applied for the tobit model. The null hypothesis cannot be rejected in all cases.

3.4 Specification

This section concentrates on the choice of specification. As mentioned above, the data include a large set of dummy variables for subjective comparisons which can be included in X_{ijt}. Note that some of the dummy variables of subjective comparisons between jobs are highly correlated. Table A3 presents the correlation coefficients where Spearman's correlation and Tetrachoric correlations for binary variables are applied. Obvious problems regarding multicollinearity, however, are not revealed because of a maximum correlation coefficient of 0.6501 for a worsening in fringe benefits and a worsening in job security. Note that I abstract from Tetrachoric correlations of -1.000 between improvements and worsenings in job-specific amenities which are plausible because an improvement can never be associated of the same subjective comparison measure. Regarding the choice of specification, the match-specific component (comparison of use of skills) is included in all specifications because of its importance on the wage determination in economic literature. As discussed in the framework above, individual preferences about trade-off reasoning are also revealed when comparing flexible work schedules, strain, promotion chances, and perceived job security between the previous job and the current job. For this reason, these determinants are subject to the first ("preferred") specification.

In a further step, I extended the preferred specification by inclusion of dummy variables for subjective improvements and worsenings of fringe benefits, of commuting, and of the general job type. This specification, then, might be referred to as the full specification because all subjective comparisons (with exception of the subjective comparison of wages) are considered. Please note that subjective perceptions about the general job type and the use of skills are significantly correlated.[13] This suggests that both variables might describe the subjective change in the match quality when comparing the current job to the previous job. Fringe benefits might be

[13] The corresponding Tetrachoric correlation equals 0.6173 for an improvement in the general job type and and better use of skills and is the third highest correlation coefficient in Table A3. For worse jobs in general and less use of skills, the correlation is similar (0.6066) and significant.

monetary amenities which are paid by the firm. For this reason, this measure might reflect some redeployment of wages rather than trade-off reasoning. However, a serious concern emerges in case of endogeneity in the decision to accept wage cuts and the change in commuting expenses. As mentioned above, this pattern seriously might affect the results. Nevertheless, the full specification is expected to provide a valuable robustness check of the results obtained by the preferred specification.

In a next step, factor analysis is utilized in order to reduce the dimension from the multitude of dummy variables of subjective comparisons to a lower number of factors. Precisely, principal component factor analysis with orthogonal varimax rotation is conducted. The obtained factors are a set of independent and mutually orthogonal linear combinations of all of the subjective comparisons between the jobs. Because the choice of the number of factors is complex, one can rely on information criteria or one can search for solutions which are to be interpreted in an economically meaningful way. The Bayesian information criterion suggests considering six factors wherein the factor loadings can be meaningfully interpreted. The corresponding results are shown in Table 2.

Table 2: Factor analysis with six factors
Rotated factor loadings (pattern matrix) and unique variances

Variable *Interpretation of the factor*	Factor 1 *working conditions*	Factor 2 *job amenities improved*	Factor 3 *match improved*	Factor 4 *commuting*	Factor 5 *match worsened*	Factor 6 *job amenities worsened*	Uniqueness
Strain ↓	**0.7224**	0.0181	0.0862	0.0226	0.0176	0.0932	0.4609
Strain ↑	**-0.6747**	0.0571	0.2635	-0.0341	0.3162	-0.0612	0.3671
Work time ↓	**0.6259**	-0.1730	0.2254	0.1308	0.3259	0.0014	0.4042
Work time ↑	**-0.5616**	0.4256	0.1224	-0.1563	0.0467	0.1743	0.4315
Fringe benefits ↑	-0.1447	**0.7672**	0.0955	0.0173	0.0550	0.0103	0.3780
Job security ↑	-0.0057	**0.7061**	0.1845	-0.0010	0.0774	-0.0601	0.4578
General job ↑	-0.1250	0.0378	**0.7325**	-0.0086	-0.1662	0.0269	0.4179
Use of skills ↑	0.0808	0.1743	**0.6448**	0.0061	-0.4248	0.0557	0.3638
Promotion chances ↑	0.0718	0.1430	**0.6134**	0.0895	0.1598	-0.4008	0.4040
Commuting ↑	-0.0590	0.0495	0.0760	**-0.8640**	0.0749	0.0420	0.2345
Commuting ↓	0.0506	0.0533	0.1102	**0.8457**	0.0553	0.0812	0.2576
Use of skills ↓	-0.1225	0.0290	-0.1259	-0.0536	**0.7662**	0.0595	0.3748
General job ↓	0.2454	0.2133	-0.2175	0.0325	**0.5831**	0.2444	0.4462
Promotion chances ↓	0.0350	0.1279	-0.1654	0.0354	0.0489	**0.7731**	0.3537
Job security ↓	-0.0256	-0.3762	0.1573	0.0809	0.1791	**0.5987**	0.4359
Fringe benefits ↓	0.2331	-0.4429	0.2563	-0.0766	0.1395	**0.4473**	0.4584

Method: principal component factors with orthogonal varimax rotation.
Number of observations: 800.
↑ *describes improvements,* ↓ *refers to subjective worsenings.*

Table 2 presents the factor loadings which are used for interpretation of the six factors, where the bold numbers describe the highest loadings for the different factors. One can learn from the table that factor 1 is highly affected by subjective comparisons in strain and work time regulations. For this reason, these variables are used to assign the label to factor 1 because workload and work schedules are dimensions of job-specific working conditions. Analogously, factor 2 can be interpreted as an improvement in 'job amenities', as fringe benefits and the perceived job security against job loss exhibit the highest factor loadings. Note that, for example, the factor loadings for an improvement in work time also loads high on the factor two. For this reason, a more flexible work schedule is suggested to affect factor 2 as well but is not directly included in the following interpretation of this particular factor. The remaining factors are defined in a similar way. The next step calculates the factor scores as proposed by Thomson (1951) which are applied in the last specification. Workers who report improvements in strain and work time are likely to have a negative factor score for 'working condition', whereas workers who change to jobs with worse strain and worse work schedules are more likely to be associated with positive scores for factor 1. Workers who report an improvement in commuting never obtain a positive factor score for the factor 'commuting', whereas workers reporting a worsening never obtain a negative value. Interpretation of the remaining factors is straightforward. Note that the determination of a set of factors allows a reduction in the dimensionality of the analysis but it can also hide what is going on at the disaggregated level. Therefore, inclusion of the factor scores into the estimation framework should only be viewed as a further robustness check.[14]

In sum, the analysis concentrates on three different sets of variables included in X_{ijt}. The first specification refers to the variables mentioned in the framework. Precisely, subjective comparisons of the use of skills, flexible work schedules, strain, commuting, promotion chances, and perceived job security are subject to the first specification. The second specification

[14] The following table shows the factor scores which have a mean close to zero and a standard deviation of one.

additionally accounts for comparisons in fringe benefits and the general job type. The set of variables in third specification contains the factor scores which are described above.

4 Results

This section presents the results of the multivariate analysis. At first, I accounted for the specifications including the dummy variables for subjective comparisons between jobs. Table 3 presents the results for the probit estimation framework on whether workers accepted a wage cut when changing jobs. Note that the endogenous variable varies over specifications. Precisely, specifications (1) and (2) explain mobility to lower wages when accounting for gross wages, specifications (3) and (4) correspond to deflated gross wage cuts, and specifications (5) and (6) present the probit estimates for the subjective decline in wages. The link test for the corresponding probit models shows that the following specifications are satisfactory because $\hat{y}^2$ is insignificant in all the test equations (see Ramsey (1969) for a comparable test).

Regarding the above hypothesis of trade-off reasoning between subjective improvements in amenities and mobility decisions to lower wages, different specifications in Table 3 provide distinct insights. One can learn from specification (1) that individuals pay for an improvement in strain by lower wages. The coefficient is significant and positive, which implies that an improvement in strain compared to the previous job increases the

Descriptive statistics: Factor scores

Variable	Mean	Std. Deviation	Minimum	Maximum
Factor score 1	1.39e-09	1	-2.314253	2.998188
Factor score 2	6.73e-10	1	-2.629714	3.765187
Factor score 3	7.42e-11	1	-1.978934	2.801363
Factor score 4	3.31e-10	1	-1.594935	1.68852
Factor score 5	-1.41e-09	1	-1.771901	4.142451
Factor score 6	-1.38e-10	1	-1.640562	5.140013

Number of observations: 800.

probability for voluntary mobility to lower wages. The estimated coefficient in specification (1) equals 0.0650, which can be interpreted in that an improvement in strain increases the probability for mobility to lower wages by 0.0650 percentage points. As a result, trade-off reasoning is evident. The effect is relatively robust to the inclusion of the remaining dummy variables for subjective comparisons between jobs included in the data (see specification (2)). The subjective evaluation of promotion opportunities also have sizable impact by considering the size as well as significance of the coefficients. Workers changing to a job with subjectively improved opportunities to climb up the hierarchy are less likely to accept wage cuts, whereas workers who change to worse future career prospects are more likely to suffer earnings losses. This result contradicts the ones obtained by Pfeifer and Schneck (2010), who report that a change in relative wage positions is positively correlated to a change in wages. Accordingly, transitions to lower relative wage positions which, in turn, increase future career prospects are accompanied by lower wages. The results obtained here, however, suggest that workers who change to jobs with better promotion opportunities are less likely to change to lower wages. The differences might stem from the definition of the variables in both studies: This study utilizes subjective comparisons between jobs which can be evaluated in a completely different manner when compared to an objective measure (the change in the relative wage position) as utilized in Pfeifer and Schneck (2010). The results for mobility to lower wages are basically comparable when deflated wages are considered. Specifications (5) and (6) in Table 3 show that subjective improvements in strain are also paid for by perceived wage cuts whereas the coefficients are basically comparable to the ones presented in specifications (1) and (2). This result reveals that trade-off reasoning between improvements in strain and wages is evident.

Note that some of the coefficients for the subjective wage cut contradict the ones obtained for the objective measures for wage cuts. An interpretation for the different signs of the coefficient for a worsening in strain across specifications is that workers who are less satisfied with the current job have a higher probability to feel to be subjectively worse off in wages. A somewhat surprising result is that the match indicator variable does not

contribute any significant effect on the probability to accept wage cuts. Individuals, however, are less likely to suffer wage cuts when better use of skills is achieved in the new job compared to the previous one. For less use of skills, negative effects are found in specifications (1) to (4), while positive effects are revealed in specifications (5) and (6). An explanation for this result might be that workers who are not able to use all of their skills might feel bored, which possibly introduces dissatisfaction with wages or perceptions of earnings losses. The negative coefficients in specifications (1) to (4) are hardly to explain. It might be hypothesized that workers change to jobs where they are not able to use all of their skills, but instead apply one very special and highly paid skill. Thus, especially for highly qualified specialists, less use of skills also might reduce the probability of wage cuts.

The effect of less security against a job loss is not robust across specifications. Interpretation, thus, is hardly to justify. Table 3 shows that improvements in commuting are likely to increase the probability of wage cuts whereas this effect is only statistically significant in specification (2). But the size of the coefficients advert to economic significance and, thus, reveal trade-off reasoning. The effect of a worsening in commuting expenses is not robust across specifications. More fringe benefits in the current job compared to the previous one significantly decrease the probability that workers suffer wage cuts. Note that, however, fringe benefits can also be included in the monthly payments, and thus, might be interpreted as monetary job-specific amenities. Workers who change to less fringe benefits perceive significant wage losses. This might be explained by habit-persistence, where workers get used to different amenities and react with strong negative perceptions in case amenities disappear. For the growth in the unemployment rate, I do not find any significant impact that confirms the considerations above. Cyclical fluctuations only have low impact on the acceptance of voluntary wage cuts.

Table 3: Probit model on whether workers accepted a wage cut

Variables	(1) mobility to lower wages	(2) mobility to lower wages	(3) mobility to lower wages	(4) mobility to lower wages^{real}	(5) subjective perception of wage loss	(6) subjective perception of wage loss
Strain improved	0.0650*	0.0702*	0.0921**	0.0991**	0.0625**	0.0733***
	(0.0373)	(0.0375)	(0.0405)	(0.0405)	(0.0245)	(0.0240)
Strain worsened	-0.0310	-0.0312	-0.0601	-0.0624	0.0209	0.0132
	(0.0423)	(0.0423)	(0.0468)	(0.0466)	(0.0312)	(0.0262)
Work time improved	-0.0150	-0.0102	-0.0598	-0.0514	0.0206	0.0341
	(0.0341)	(0.0365)	(0.0374)	(0.0398)	(0.0212)	(0.0210)
Work time worsened	0.0201	0.0251	0.0289	0.0252	0.0300	0.00716
	(0.0510)	(0.0534)	(0.0541)	(0.0563)	(0.0353)	(0.0267)
Security against job loss improved	0.0270	0.0489	0.0211	0.0455	-0.00441	0.0138
	(0.0350)	(0.0377)	(0.0384)	(0.0409)	(0.0194)	(0.0186)
Security against job loss worsened	0.0566	0.0535	-0.0163	-0.0398	0.0121	-0.0281
	(0.0651)	(0.0701)	(0.0647)	(0.0671)	(0.0345)	(0.0202)
Use of skills improved	-0.0351	-0.0233	-0.0386	-0.0341	-0.0167	-0.0120
	(0.0336)	(0.0357)	(0.0372)	(0.0393)	(0.0183)	(0.0172)
Use of skills worsened	-0.0426	-0.0476	-0.0365	-0.0419	0.00217	0.00150
	(0.0451)	(0.0455)	(0.0518)	(0.0521)	(0.0244)	(0.0228)
Chances for promotion improved	-0.0781**	-0.0700**	-0.0729**	-0.0658*	-0.0850***	-0.0751***
	(0.0322)	(0.0327)	(0.0362)	(0.0369)	(0.0190)	(0.0174)
Chances for promotion worsened	0.194***	0.199**	0.252***	0.254***	0.163***	0.141**
	(0.0754)	(0.0775)	(0.0770)	(0.0777)	(0.0603)	(0.0582)
Commuting improved		0.0659*		0.0563		0.0101
		(0.0385)		(0.0422)		(0.0200)
Commuting worsened		-0.00415		0.00282		0.0128
		(0.0389)		(0.0420)		(0.0212)
Fringe benefits improved		-0.0591*		-0.0688*		-0.0402**
		(0.0354)		(0.0402)		(0.0169)
Fringe benefits worsened		-0.000826		0.0490		0.156***
		(0.0546)		(0.0624)		(0.0530)
Job improved		-0.0322		-0.0142		-0.0202
		(0.0354)		(0.0388)		(0.0178)
Job worsened		0.0209		0.0165		-0.00512
		(0.0872)		(0.0945)		(0.0349)
Homeowner	0.0554*	0.0626*	0.0380	0.0437	0.0104	0.0162
	(0.0332)	(0.0334)	(0.0363)	(0.0365)	(0.0197)	(0.0186)
Number of previous individual mobility	-0.00117	-0.00318	0.0134	0.0124	0.00177	0.00265
	(0.0168)	(0.0167)	(0.0187)	(0.0188)	(0.00873)	(0.00773)
Age	0.0339**	0.0352**	0.00842	0.0112	0.00872	0.0107
	(0.0153)	(0.0153)	(0.0166)	(0.0166)	(0.00803)	(0.00719)
Age^2	-0.000344*	-0.000358*	-1.65e-05	-4.96e-05	-8.35e-05	-0.000115
	(0.000203)	(0.000203)	(0.000220)	(0.000220)	(0.000104)	(9.43e-05)
Education in years	-0.0174***	-0.0188***	-0.0100	-0.0114	-0.00484	-0.00547
	(0.00672)	(0.00660)	(0.00732)	(0.00731)	(0.00387)	(0.00352)
Bluecollar to whitecollar transition	0.00507	0.00814	-0.0207	-0.0223	0.0259	0.0307
	(0.0649)	(0.0661)	(0.0705)	(0.0715)	(0.0410)	(0.0390)
Male	-0.00945	-0.00172	-0.0289	-0.0257	-0.0114	-0.0133
	(0.0340)	(0.0335)	(0.0378)	(0.0379)	(0.0182)	(0.0164)
Partner	0.0118	0.0142	0.00971	0.0142	0.0226	0.0211
	(0.0396)	(0.0400)	(0.0433)	(0.0440)	(0.0260)	(0.0234)
Firm more than 2,000 workers	0.0329	0.0516	0.0433	0.0667	-0.0145	-0.00529
	(0.0433)	(0.0451)	(0.0468)	(0.0486)	(0.0219)	(0.0213)
Previous firm more than 2,000 workers	-0.0170	-0.0226	0.00122	-0.00934	0.0631*	0.0413
	(0.0464)	(0.0455)	(0.0524)	(0.0517)	(0.0356)	(0.0295)
Regional mobility	-0.0603	-0.0748	-0.111	-0.128*	0.00281	-0.0169
	(0.0663)	(0.0624)	(0.0724)	(0.0699)	(0.0430)	(0.0303)
Growth in unemployment rate	0.0174	0.0189	0.00139	0.00409	-0.00503	-0.00195
	(0.0191)	(0.0190)	(0.0217)	(0.0217)	(0.0107)	(0.00928)
Number of observations				800		
Pseudo R^2	0.0698	0.0784	0.0519	0.0585	0.144	0.1939
Predicted Pr(y = 1 $\|\bar{x}$)	0.2276	0.2253	0.3093	0.3080	0.0663	0.0557

Marginal effects at $\bar{x}$ are presented.
All specifications are satisfactory by consideration of the link test because $\hat{y}^2$ is insignificant in all test equations.
*Robust standard errors clustered for 670 individuals in parentheses. *** p<0.01, ** p<0.05, * p<0.1*

Before turning the focus on the absolute and relative wage change, the six factors obtained via factor analysis described above are applied to check the robustness of the results. Table 4 shows that a better match quality significantly reduces the probability of the acceptance of earnings losses in all specifications. This might be explained by economic literature where the match quality is a main factor of wage determination. A worsening in job amenities is not suggested to be compensated for by higher wages. In fact, the reverse is true because individuals are significantly more likely to suffer lower wages at the new employer compared to the previous one. An interesting result is that the factors 'working conditions' and 'improved job amenities' significantly affect the subjective perception of wage cuts while insignificantly affecting the probability of an objective wage cut. The size of the coefficients, however, is comparable across specifications. It seems plausible that workers with improved job amenities are significantly less likely to perceive worsenings in wages because of general satisfaction with the job which also might result in more satisfaction with wages. Remember that it is not straightforward to interpret the factor score for working conditions because it includes subjective worsenings and improvements of strain and work time regulations. For this reason, I omit interpretation of this factor.

In sum, Tables 3 and 4 reveal that workers accept lower wages for improved strain. The remaining coefficients are, to the largest extent, imprecisely measured by consideration of the standard errors or are not consistent with the hypothesis of trade-off reasoning in mobility decisions. Promotion opportunities are shown to have a robust and highly significant effect on the probability of mobility to lower wages. The estimates, however, reveal no evidence in favor of trade-off reasoning as hypothesized above. The results, furthermore, contradict the ones presented in Pfeifer and Schneck (2010), which might be reasoned by different definitions of the measures for future career prospects. Pfeifer and Schneck (2010) use an objective measure for the change in promotion opportunities, whereas this study applies a subjective measure which depends on individual perceptions. Evidence on the basis of the factor scores (which potentially hide the mechanisms on the less aggregated level) do not support the hypothesis of trade-off reasoning between wages and job amenities in mobility decisions as well. In fact,

Table 4: Probit model on whether workers accepted a wage cut (factor scores)

Variables	(1) mobility to lower wages	(2) mobility to lower wages^{real}	(3) subjective perception of wage loss
Scores for factor 1	-0.0180	-0.0198	-0.0165*
(working conditions)	(0.0149)	(0.0168)	(0.00978)
Scores for factor 2	-0.0121	-0.0211	-0.0171**
(job amenities improved)	(0.0155)	(0.0177)	(0.00865)
Scores for factor 3	-0.0312**	-0.0288*	-0.0204**
(match improved)	(0.0158)	(0.0171)	(0.00940)
Scores for factor 4	-0.0262*	-0.0194	-0.0102
(commuting)	(0.0149)	(0.0165)	(0.00900)
Scores for factor 5	0.00930	0.0141	0.0113
(match worsened)	(0.0152)	(0.0170)	(0.00782)
Scores for factor 6	0.0491***	0.0470***	0.0444***
(job amenities worsened)	(0.0142)	(0.0165)	(0.00767)
Homeowner	0.0529	0.0292	0.0101
	(0.0329)	(0.0359)	(0.0210)
Number of previous individual mobility	-0.00139	0.0159	0.00300
	(0.0167)	(0.0188)	(0.00944)
Age	0.0324**	0.00664	0.00728
	(0.0153)	(0.0165)	(0.00862)
Age^2	-0.000330	-1.98e-06	-6.83e-05
	(0.000202)	(0.000218)	(0.000114)
Education in years	-0.0189***	-0.0120	-0.00659
	(0.00668)	(0.00729)	(0.00423)
Bluecollar to whitecollar transition	0.00723	-0.0184	0.0247
	(0.0646)	(0.0707)	(0.0410)
Male	-0.00160	-0.0222	-0.00871
	(0.0338)	(0.0376)	(0.0193)
Partner	0.00698	-0.00187	0.0185
	(0.0394)	(0.0430)	(0.0257)
Firm more than 2,000 workers	0.0393	0.0498	-0.0136
	(0.0439)	(0.0468)	(0.0241)
Previous firm more than 2,000 workers	-0.0256	-0.0104	0.0531
	(0.0456)	(0.0513)	(0.0344)
Regional mobility	-0.0688	-0.123*	-0.0154
	(0.0638)	(0.0694)	(0.0361)
Growth in unemployment rate	0.0188	0.00325	-0.00238
	(0.0189)	(0.0214)	(0.0117)
Number of observations		800	
Pseudo R^2	0.0635	0.0378	0.1270
Predicted Pr(y = 1 $\|\bar{x}$)	0.2288	0.3116	0.0725

Marginal effects at $\bar{x}$ are presented.
Specifications (1) and (3) are satisfactory because $\hat{y}^2$ is insignificant in the link test equations. The link test associates a p-value of 0.052 to the coefficient of $\hat{y}^2$ in specification (2). Robust standard errors clustered for 670 individuals in parentheses.
**** p<0.01, ** p<0.05, * p<0.1*

the coefficients for this particular factor score are estimated to be negative, which suggests that a worker who changes to a new job with better amenities compared to the previous one is less likely to accept wage cuts. As the probit model does not tell us something about the magnitude of a possible voluntary earnings loss, I conducted OLS estimation. Similar to the probit approaches, different dependent variables are applied in order to quantify the willingness to pay for an increase in amenities. Specifications (1) and (2) in Table 5 refer to the relative wage change, whereas specifications (3) and (4) correspond to the real relative wage change. Specifications (5) to (8) describe the absolute (real) wage change in Euros. None of the comparison variables of main interest (strain, work time, job security, and chances for promotion) are significant for the change in relative wages. Also the match indicator is imprecisely measured. The results obtained in the probit approaches above are not obviously supported because individuals do not significantly pay for an improvement in strain by significantly lower wages. The corresponding coefficients, however, are in line with lower wages if individuals change to jobs with better workload when compared to the previous job. Precisely, workers pay for better strain by an average of 1.65 to 1.71%. The estimated coefficients for the individual evaluation of the future career prospects also confirms the effects of the probit estimates. Although the average willingness to pay for an improvement in future prospects is of low economic interest, the negative effect of a worsening in promotion opportunities is quite sizable. More specifically, worse career prospects reduce the wage by more than 6.71% when compared to the previous one. Interpretation of the effects of an improvement in perceived job security are hardly to justify because the coefficients are not robust across specifications (1) and (2) as well as (3) and (4). Compensating wage differentials might be indicated by the positive sign of the coefficients for a worsening in security against a job loss and a worsening in work time because of the positive coefficients. In other words, workers are compensated for disamenities such as less job security and less flexible work schedules by higher wages. Note, however, that both effects are imprecisely measured by consideration of the corresponding standard errors.

Table 5 also refers to the absolute wage change of voluntarily mobile individuals in Euros (see specifications (5) to (8)). As in specifications (1) to (4), statistically insignificant effects are obtained for strain, security against a job loss, and the chances for promotion. The effect of an improvement in work schedules, however, is non robust by consideration of relative and absolute wage changes because the results for the absolute wage change and relative wage change of voluntarily mobile individuals contradict each other. Precisely, specifications (1) to (4) indicate that workers pay for better work time regulations while an average wage markup is obtained when referring to specifications (5) to (8). Another difference is that the match indicator reveals significant coefficients for the absolute wage change while being statistically insignificant in explaining the relative wage change. Note that, however, the effect is robust because improvements as well as worsenings of the match have a positive effect throughout all specifications in Table 5. The positive coefficient for an improvement in the match quality can be explained by economic theory, where an improvement in the match quality leads to an increase in wages. The positive effect of a worsening, in turn, is hardly to explain. It might be hypothesized that workers might change from a multi-task job to a highly specialized job where they perceive less use of their skills. Specialists, however, are to the largest extent paid for application of specific knowledge although specialists could also make use of a several different skills. The control variables in Table 5 reveal that homeowners are more likely to change to lower wages compared to renters. Precisely, homeowners, ceteris paribus, accept an average wage cut of at least 3.83% or a minimum of 58 Cents when compared to renters. The growth in unemployment does not significantly affect the wage change.

It might be argued that outliers affect the results presented in Table 5. For this reason, I excluded wage changes above the 90% percentile and below the 10% percentile. The exact values for the cutoff of the relative wage change are shown in Table 1.[15] The results for the trimmed sample are presented in Table 6, whereas it is to note that the specifications differ

[15] Descriptive statistics for the (real) absolute wage change are presented in this footnote. On average, workers gain about 1.41 to 1.54 Euros when changing jobs voluntarily.

Table 5: OLS regression results on wage change

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	$\frac{w_{ijt}}{w_{i,j-1,t-1}}$		$\frac{w^{real}_{ijt}}{w^{real}_{i,j-1,t-1}}$		$w_{ijt} - w_{i,j-1,t-1}$		$w^{real}_{ijt} - w^{real}_{i,j-1,t-1}$	
Strain	-0.0165	-0.0168	-0.0168	-0.0171	-0.467	-0.489	-0.528	-0.550
	(0.0251)	(0.0247)	(0.0247)	(0.0243)	(0.326)	(0.327)	(0.348)	(0.348)
Strain worsened	-0.00443	-0.00287	-0.00557	-0.00399	-0.268	-0.241	-0.345	-0.318
	(0.0363)	(0.0366)	(0.0355)	(0.0358)	(0.516)	(0.522)	(0.545)	(0.552)
Work time improved	-0.0279	-0.0311	-0.0262	-0.0294	0.0854	0.115	0.114	0.137
	(0.0256)	(0.0248)	(0.0252)	(0.0244)	(0.330)	(0.371)	(0.351)	(0.389)
Work time worsened	0.0320	0.0312	0.0324	0.0318	0.814	0.846	0.928	0.960*
	(0.0446)	(0.0471)	(0.0436)	(0.0461)	(0.533)	(0.539)	(0.572)	(0.580)
Security against job loss improved	0.0157	-0.000429	0.0153	-0.000471	-0.109	-0.240	-0.117	-0.261
	(0.0246)	(0.0265)	(0.0241)	(0.0260)	(0.313)	(0.356)	(0.331)	(0.380)
Security against job loss worsened	0.0684	0.0771	0.0679	0.0770	0.650	0.837	0.706	0.899
	(0.0524)	(0.0619)	(0.0517)	(0.0609)	(0.633)	(0.665)	(0.671)	(0.711)
Use of skills improved	0.0383	0.0434	0.0373	0.0425	0.659*	0.657*	0.718*	0.722*
	(0.0265)	(0.0271)	(0.0260)	(0.0267)	(0.364)	(0.373)	(0.386)	(0.393)
Use of skills worsened	0.0282	0.0376	0.0280	0.0371	0.603	0.745*	0.643	0.791*
	(0.0323)	(0.0334)	(0.0318)	(0.0328)	(0.392)	(0.417)	(0.409)	(0.434)
Chances for promotion improved	0.0107	0.00590	0.0105	0.00588	0.285	0.220	0.246	0.178
	(0.0260)	(0.0264)	(0.0255)	(0.0259)	(0.378)	(0.384)	(0.399)	(0.406)
Chances for promotion worsened	-0.0685	-0.0682	-0.0676	-0.0671	-0.983	-0.913	-1.087	-1.017
	(0.0524)	(0.0552)	(0.0516)	(0.0544)	(0.628)	(0.622)	(0.667)	(0.665)
Commuting improved		-0.0485*		-0.0473*		-0.805*		-0.816*
		(0.0278)		(0.0273)		(0.452)		(0.475)
Commuting worsened		0.00634		0.00632		-0.0632		-0.0504
		(0.0348)		(0.0342)		(0.427)		(0.462)
Fringe benefits improved		0.0494*		0.0484*		0.383		0.428
		(0.0266)		(0.0262)		(0.400)		(0.423)
Fringe benefits worsened		-0.0147		-0.0158		-0.431		-0.435
		(0.0582)		(0.0568)		(0.562)		(0.608)
Job improved		-0.0122		-0.0124		0.0573		0.0381
		(0.0272)		(0.0268)		(0.365)		(0.384)
Job worsened		-0.0342		-0.0336		-0.511		-0.546
		(0.0750)		(0.0740)		(0.767)		(0.807)
Homeowner	-0.0397*	-0.0442**	-0.0383*	-0.0427*	-0.581	-0.635*	-0.653*	-0.710*
	(0.0220)	(0.0222)	(0.0217)	(0.0219)	(0.361)	(0.364)	(0.378)	(0.382)
Number of previous individual mobility	-0.0205*	-0.0192*	-0.0204*	-0.0191*	-0.105	-0.0895	-0.122	-0.107
	(0.0107)	(0.0108)	(0.0105)	(0.0106)	(0.160)	(0.165)	(0.168)	(0.173)
Age	-0.0190	-0.0208	-0.0184	-0.0202	-0.112	-0.120	-0.112	-0.123
	(0.0133)	(0.0137)	(0.0131)	(0.0135)	(0.174)	(0.179)	(0.181)	(0.187)
Age^2	0.000196	0.000218	0.000189	0.000210	0.00114	0.00122	0.00106	0.00117
	(0.000173)	(0.000177)	(0.000170)	(0.000174)	(0.00247)	(0.00253)	(0.00257)	(0.00264)
Education in years	0.00762	0.00860*	0.00746	0.00842*	0.246***	0.258***	0.248***	0.260***
	(0.00519)	(0.00504)	(0.00510)	(0.00496)	(0.0707)	(0.0704)	(0.0738)	(0.0733)
Bluecollar to whitecollar transition	-0.0353	-0.0281	-0.0336	-0.0264	-0.470	-0.443	-0.416	-0.382
	(0.0372)	(0.0376)	(0.0367)	(0.0371)	(0.419)	(0.422)	(0.444)	(0.449)
Male	0.00835	0.00577	0.00833	0.00590	0.410	0.366	0.399	0.355
	(0.0308)	(0.0316)	(0.0302)	(0.0310)	(0.333)	(0.341)	(0.361)	(0.369)
Partner	0.00273	-0.00180	0.00317	-0.00130	0.0488	0.0103	0.0653	0.0240
	(0.0373)	(0.0389)	(0.0365)	(0.0381)	(0.392)	(0.405)	(0.424)	(0.439)
Firm more than 2,000 workers	0.00247	-0.0140	0.00238	-0.0138	0.0443	-0.145	-0.00902	-0.209
	(0.0312)	(0.0316)	(0.0308)	(0.0312)	(0.529)	(0.534)	(0.554)	(0.559)
Previous firm more than 2,000 workers	-0.00408	0.00225	-0.00430	0.00208	-0.266	-0.206	-0.359	-0.293
	(0.0415)	(0.0441)	(0.0409)	(0.0435)	(0.606)	(0.600)	(0.645)	(0.640)
Regional mobility	0.0871	0.101	0.0862	0.0994	0.295	0.498	0.312	0.522
	(0.0751)	(0.0756)	(0.0736)	(0.0740)	(0.852)	(0.848)	(0.894)	(0.891)
Growth in unemployment rate	-0.0112	-0.0135	-0.0105	-0.0128	-0.233	-0.252	-0.209	-0.229
	(0.0143)	(0.0144)	(0.0141)	(0.0142)	(0.188)	(0.191)	(0.195)	(0.199)
Constant	1.492***	1.531***	1.466***	1.504***	0.581	0.902	0.623	0.980
	(0.244)	(0.253)	(0.240)	(0.249)	(2.803)	(2.887)	(2.948)	(3.042)
Number of observations				800				
R^2	0.0450	0.0542	0.0450	0.0542	0.0518	0.0608	0.0501	0.0587

Robust standard errors clustered for 670 individuals in parentheses.
**** p<0.01, ** p<0.05, * p<0.1*

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in the number of individuals. An interesting finding, which is robust across Tables 5 and 6 is that workers seem to be compensated for a worsening in perceived job security. In other words, workers get a wage markup in exchange for lower security against a job loss. This effect is robust but, however, it is statistically insignificant in most of the specifications. I also found that better application of individual skills in the current job compared to the previous one increases wages significantly. Workers changing to jobs with better promotion opportunities in the current job compared to the last one are suggested to earn, on average, (insignificantly) higher wages, whereas workers who change to jobs with fewer career prospects, in turn, suffer sizable wage cuts. A possible interpretation is that mobile individuals who accept fewer future career prospects in the new job are *double losers* who suffer not only lower wages but also fewer career prospects in the new job compared to the last one. Trade-off reasoning between strain and wages is shown to be non-robust in Table 7.

Table 7 presents the OLS results wherein the factor scores instead of dummy variables for subjective worsenings and improvements in job characteristics are considered. As expected, an improvement in the match quality increases wages, and this effect is not statistically significant in all of the specifications. The marginal effect of the factor score of commuting is highly significant in specifications (1) to (4) but statistically as well as economically insignificant in the remaining specifications. As discussed above, improvements in commuting lead to a reduction of the corresponding factor score. For this reason, better commuting decreases wages, whereas subjectively more commuting expenditures are compensated for by higher wages. Table 4 suggests that less job amenities are more likely to be

Descriptive statistics for absolute wage change

Variable	10% Percentile	Mean	90% Percentile	Observations
$w_{ijt} - w_{i,j-1,t-1}$	-1.7827	1.5411	5.4003	800
		(4.5613)		
$w^{real}_{ijt} - w^{real}_{i,j-1,t-1}$	-2.2389	1.4123	5.5858	800
		(4.8488)		

Standard deviations in parentheses

accompanied by wage cuts. This pattern is generally confirmed in Table 7 where the corresponding coefficient is negative but, however, it tends to be of small economic importance.

The OLS estimation results can be compared to ones obtained in Villanueva (2007) although the studies differ in some aspects. The most important differences between both studies are application of a different time horizon, consideration of a somewhat different set of regressors, and finally utilization of different wage definitions. More specifically, Villanueva (2007) applies net wages instead of gross wages and examines the time period from 1984 to 2001. The results, however, can be compared with each other because of the concentration on the effects of the same subjective comparison variables between jobs on the wage change of voluntary mobility in Germany. Similar to Villanueva (2007), this paper finds few evidence for compensating wage differentials because most effects are statistically insignificant. Also the negative impact reasoning of an improvement in strain is confirmed in this study although this coefficient is partly insignificant. For this reason, both studies suggest that trade-off reasoning between workload and wages is evident.

Further robustness checks are summarized in Table A4 in the appendix. The table presents OLS estimation results for different subsamples, taking into consideration the variables strain, work time, security against job loss, promotion chances, and the match indicator. The robustness checks divide the sample by gender, homeowners and renters, by age (below and above median age), and by different phases of the business cycle (growth of unemployment smaller or larger than zero). One major finding is that males seem to pay for improvements in strain by higher relative wage losses when compared to females. When turning the focus on absolute wage changes, females are shown to accept larger wage cuts for better workload. Opposed effects are shown for improvements in work schedules. More flexible work time, on average, increases wages for males while females trade off improvements in work schedules and wages. The positive effect of subjectively improved match quality remains highly robust for both genders, whereas the effect is, to the largest extent, imprecisely measured. For males, the coefficients for worse matches are non-robust across specifications. Note

that worse career prospects in the new job compared to the previous one enforce larger wage cuts in Euros for males than for females. Investigation of the relative wage change reveals the opposite because, on average, females pay for worse career prospects more than males. The dummy variable for homeowners in Table 5 suggests that homeowners are significantly worse off when compared to renters with identical characteristics. Distinction between homeowners and renters reveals that better workload is traded off by renters. For homeowners, the estimated coefficient of this particular measure is reverse. Precisely, homeowners are able to obtain (insignificant) wage markups for improvements in strain. When considering workers who are younger than the median age (younger than 34 years), improvements in strain are paid for by wage cuts. Older workers, in turn, are shown to be almost unaffected for better workload. An interesting result is that the coefficient for less job security in the sample of young workers is positive (and economically as well as statistically significant) while it is negative for older workers. Therefore, for workers below the median age, Table A4 indicates an especially pronounced compensating wage differential for low job security. During booms ($\Delta u \leq 0$), the effect of a subjective worsening of promotion opportunities in the current job compared with the previous one is economically as well as statistically significant. A possible interpretation of the negative coefficient might be that mobility to worse future career prospects during booms signals low own career ambitions, where employers impose a penalty for this type of signal. During recessions, voluntarily mobile workers who are able to improve the match quality achieve considerable wage markups.

Table 6: OLS regression results on wage change (trimmed sample)

Variables	(1) $\frac{w_{ijt}}{w_{i,j-1,t-1}}$	(2) $\frac{w_{ijt}}{w_{i,j-1,t-1}}$	(3) $\frac{w^{real}_{ijt}}{w^{real}_{i,j-1,t-1}}$	(4) $\frac{w^{real}_{ijt}}{w^{real}_{i,j-1,t-1}}$	(5) $w_{ijt} - w_{i,j-1,t-1}$	(6) $w_{ijt} - w_{i,j-1,t-1}$	(7) $w^{real}_{ijt} - w^{real}_{i,j-1,t-1}$	(8) $w^{real}_{ijt} - w^{real}_{i,j-1,t-1}$
Strain improved	-0.00537	-0.00753	-0.00774	-0.01000	0.00596	-0.0186	-0.0435	-0.0684
	(0.0125)	(0.0126)	(0.0123)	(0.0125)	(0.145)	(0.149)	(0.156)	(0.160)
Strain worsened	0.00819	0.0102	0.0118	0.0136	0.119	0.144	0.145	0.171
	(0.0154)	(0.0153)	(0.0154)	(0.0154)	(0.175)	(0.175)	(0.189)	(0.189)
Work time improved	0.0146	0.0161	0.0140	0.0148	-0.0471	-0.0337	0.0809	0.0957
	(0.0122)	(0.0129)	(0.0121)	(0.0128)	(0.146)	(0.154)	(0.155)	(0.164)
Work time worsened	-0.00464	0.00106	-0.00657	-0.000587	-0.183	-0.126	-0.0929	-0.0314
	(0.0157)	(0.0166)	(0.0157)	(0.0166)	(0.189)	(0.199)	(0.199)	(0.210)
Security against job loss improved	0.00977	0.00640	0.00794	0.00409	0.172	0.132	0.139	0.100
	(0.0119)	(0.0124)	(0.0118)	(0.0123)	(0.142)	(0.149)	(0.151)	(0.157)
Security against job loss worsened	0.0165	0.0322	0.0149	0.0310	0.514*	0.678**	0.417	0.586*
	(0.0256)	(0.0266)	(0.0251)	(0.0262)	(0.293)	(0.311)	(0.316)	(0.338)
Use of skills improved	0.0279**	0.0276**	0.0246**	0.0249**	0.317**	0.320**	0.319**	0.318*
	(0.0118)	(0.0125)	(0.0116)	(0.0123)	(0.138)	(0.152)	(0.149)	(0.164)
Use of skills worsened	0.00804	0.0156	0.00801	0.0151	0.0249	0.0656	0.0254	0.0713
	(0.0172)	(0.0183)	(0.0170)	(0.0180)	(0.197)	(0.206)	(0.212)	(0.221)
Chances for promotion improved	0.0140	0.0136	0.0165	0.0161	0.145	0.148	0.0820	0.0834
	(0.0123)	(0.0123)	(0.0120)	(0.0120)	(0.145)	(0.146)	(0.155)	(0.156)
Chances for promotion worsened	-0.0542**	-0.0476**	-0.0550**	-0.0486**	-0.660**	-0.615**	-0.759**	-0.707**
	(0.0230)	(0.0227)	(0.0225)	(0.0224)	(0.307)	(0.310)	(0.327)	(0.331)
Commuting improved		-0.0331**		-0.0296**		-0.310*		-0.318*
		(0.0141)		(0.0139)		(0.161)		(0.171)
Commuting worsened		-0.0186		-0.0164		-0.245		-0.215
		(0.0138)		(0.0137)		(0.160)		(0.175)
Fringe benefits improved		0.00947		0.0114		0.0907		0.0891
		(0.0139)		(0.0139)		(0.166)		(0.176)
Fringe benefits worsened		-0.0307		-0.0314*		-0.292		-0.312
		(0.0191)		(0.0189)		(0.238)		(0.259)
Job improved		0.00635		0.00455		0.0753		0.0728
		(0.0118)		(0.0117)		(0.150)		(0.160)
Job worsened		-0.0295		-0.0284		-0.0933		-0.131
		(0.0335)		(0.0330)		(0.382)		(0.418)
Homeowner	-0.00680	-0.00691	-0.00522	-0.00542	-0.0934	-0.0994	-0.0558	-0.0615
	(0.0119)	(0.0118)	(0.0117)	(0.0117)	(0.136)	(0.136)	(0.149)	(0.150)
Number of previous individual mobility	-0.00213	-0.00189	-0.000310	-0.000297	0.0130	0.0123	-0.00656	-0.00730
	(0.00553)	(0.00549)	(0.00530)	(0.00535)	(0.0723)	(0.0733)	(0.0773)	(0.0782)
Age	-0.00733	-0.00792	-0.00766	-0.00840	-0.0438	-0.0476	-0.0484	-0.0522
	(0.00552)	(0.00545)	(0.00546)	(0.00539)	(0.0643)	(0.0651)	(0.0690)	(0.0695)
Age^2	8.17e-05	8.82e-05	8.83e-05	9.69e-05	4.98e-04	5.39e-04	5.18e-04	5.59e-04
	(7.46e-05)	(7.40e-05)	(7.37e-05)	(7.31e-05)	(8.82e-04)	(8.94e-04)	(9.48e-04)	(9.56e-04)
Education in years	0.000233	0.000637	0.000533	0.000920	0.0369	0.0392	0.0274	0.0297
	(0.00245)	(0.00244)	(0.00241)	(0.00240)	(0.0294)	(0.0294)	(0.0316)	(0.0316)
Bluecollar to whitecollar transition	0.00874	0.00418	0.0107	0.00679	0.241	0.203	0.309	0.274
	(0.0224)	(0.0224)	(0.0219)	(0.0219)	(0.260)	(0.265)	(0.282)	(0.287)
Male	0.0182	0.0184	0.0174	0.0180	0.355***	0.356***	0.422***	0.422***
	(0.0116)	(0.0116)	(0.0114)	(0.0115)	(0.130)	(0.132)	(0.139)	(0.142)
Partner	-0.00315	-0.00276	-0.00149	-0.00120	-0.0397	-0.0366	-0.0389	-0.0343
	(0.0136)	(0.0133)	(0.0135)	(0.0132)	(0.156)	(0.156)	(0.167)	(0.167)
Firm more than 2,000 workers	0.0159	0.00882	0.0113	0.00423	0.310	0.231	0.323	0.243
	(0.0165)	(0.0166)	(0.0161)	(0.0162)	(0.202)	(0.205)	(0.220)	(0.224)
Previous firm more than 2,000 workers	0.00393	0.00588	0.00379	0.00631	0.0136	0.0357	0.0582	0.0791
	(0.0171)	(0.0170)	(0.0168)	(0.0167)	(0.200)	(0.200)	(0.219)	(0.219)
Regional mobility	0.0401	0.0514*	0.0399	0.0511*	1.073***	1.141***	1.097***	1.170***
	(0.0291)	(0.0287)	(0.0291)	(0.0288)	(0.375)	(0.370)	(0.389)	(0.385)
Growth in unemployment rate	-0.00643	-0.00635	-0.00592	-0.00598	-0.0725	-0.0731	-0.0370	-0.0382
	(0.00677)	(0.00669)	(0.00675)	(0.00668)	(0.0810)	(0.0821)	(0.0864)	(0.0876)
Constant	1.229***	1.249***	1.210***	1.232***	1.246	1.436	1.340	1.525
	(0.0960)	(0.0948)	(0.0951)	(0.0937)	(1.106)	(1.123)	(1.175)	(1.189)
Number of observations	640							
Number of individuals	544		545		551		550	
R^2	0.0508	0.0678	0.0479	0.0638	0.0781	0.0884	0.0707	0.0802

Robust standard errors clustered for individuals in parentheses.
**** p<0.01, ** p<0.05, * p<0.1*

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Table 7: OLS regression results on wage change (factor scores)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	complete sample				trimmed sample			
	$\frac{w_{ijt}}{w_{i,j-1,t-1}}$	$\frac{w^{real}_{ijt}}{w^{real}_{i,j-1,t-1}}$	$w_{ijt}-$ $w_{i,j-1,t-1}$	$w^{real}_{ijt}-$ $w^{real}_{i,j-1,t-1}$	$\frac{w_{ijt}}{w_{i,j-1,t-1}}$	$\frac{w^{real}_{ijt}}{w^{real}_{i,j-1,t-1}}$	$w_{ijt}-$ $w_{i,j-1,t-1}$	$w^{real}_{ijt}-$ $w^{real}_{i,j-1,t-1}$
Scores for factor 1	0.0155	0.0149	0.175	0.187	-0.00264	-0.00101	0.00347	0.00676
(working conditions)	(0.0131)	(0.0129)	(0.157)	(0.165)	(0.00545)	(0.00539)	(0.0657)	(0.0696)
Scores for factor 2	0.00322	0.00330	0.00497	0.00203	0.0103*	0.0102*	0.0646	0.0762
(job amenities improved)	(0.0127)	(0.0124)	(0.144)	(0.154)	(0.00607)	(0.00599)	(0.0714)	(0.0766)
Scores for factor 3	0.0150	0.0146	0.296*	0.304	0.0157***	0.0146***	0.182***	0.170**
(match improved)	(0.0147)	(0.0144)	(0.178)	(0.192)	(0.00566)	(0.00560)	(0.0669)	(0.0721)
Scores for factor 4	0.0275*	0.0269*	0.358**	0.370**	0.00593	0.00556	0.0394	0.0465
(commuting)	(0.0141)	(0.0138)	(0.175)	(0.188)	(0.00518)	(0.00513)	(0.0617)	(0.0665)
Scores for factor 5	-2.35e-05	0.000165	0.0113	0.00915	-0.00693	-0.00655	-0.0734	-0.0812
(match worsened)	(0.0118)	(0.0116)	(0.138)	(0.145)	(0.00573)	(0.00567)	(0.0658)	(0.0718)
Scores for factor 6	-0.00717	-0.00702	-0.136	-0.136	-0.0102*	-0.0108*	-0.0880	-0.0935
(job amenities worsened)	(0.0143)	(0.0141)	(0.167)	(0.178)	(0.00564)	(0.00555)	(0.0706)	(0.0759)
Homeowner	-0.0442**	-0.0427*	-0.623*	-0.699*	-0.00551	-0.00371	-0.0716	-0.0322
	(0.0224)	(0.0220)	(0.364)	(0.382)	(0.0118)	(0.0117)	(0.137)	(0.149)
Number of previous	-0.0207*	-0.0205**	-0.104	-0.123	-0.00334	-0.00163	-0.0120	-0.0319
individual mobility	(0.0105)	(0.0104)	(0.160)	(0.167)	(0.00548)	(0.00537)	(0.0731)	(0.0785)
Age	-0.0185	-0.0180	-0.110	-0.112	-0.00643	-0.00666	-0.0265	-0.0326
	(0.0135)	(0.0133)	(0.176)	(0.184)	(0.00549)	(0.00545)	(0.0657)	(0.0710)
Age^2	0.000190	0.000183	0.00112	0.00106	6.99e-05	7.53e-05	0.000279	0.000316
	(0.000175)	(0.000172)	(0.00250)	(0.00260)	(7.43e-05)	(7.37e-05)	(0.000902)	(0.000976)
Education in years	0.00877*	0.00860*	0.259***	0.260***	0.000618	0.000939	0.0405	0.0301
	(0.00501)	(0.00493)	(0.0708)	(0.0737)	(0.00240)	(0.00237)	(0.0293)	(0.0315)
Bluecollar to whitecollar	-0.0311	-0.0294	-0.436	-0.378	0.00554	0.00746	0.204	0.279
transition	(0.0374)	(0.0369)	(0.422)	(0.448)	(0.0222)	(0.0218)	(0.263)	(0.287)
Male	-0.000506	-0.000380	0.278	0.255	0.0165	0.0162	0.321**	0.386***
	(0.0301)	(0.0295)	(0.332)	(0.359)	(0.0115)	(0.0114)	(0.130)	(0.139)
Partner	-0.00375	-0.00321	-0.00659	0.00266	-0.00163	0.000418	-0.0298	-0.0212
	(0.0378)	(0.0370)	(0.400)	(0.433)	(0.0136)	(0.0135)	(0.156)	(0.166)
Firm more than 2,000	-0.00470	-0.00468	-0.0469	-0.103	0.0123	0.00796	0.304	0.296
workers	(0.0311)	(0.0307)	(0.544)	(0.569)	(0.0164)	(0.0160)	(0.202)	(0.219)
Previous firm more than	0.00208	0.00180	-0.194	-0.283	0.00644	0.00678	0.0151	0.0616
2,000 workers	(0.0434)	(0.0428)	(0.606)	(0.647)	(0.0171)	(0.0168)	(0.198)	(0.218)
Regional mobility	0.0985	0.0975	0.406	0.432	0.0478*	0.0473	1.151***	1.177***
	(0.0749)	(0.0733)	(0.840)	(0.882)	(0.0290)	(0.0289)	(0.372)	(0.389)
Growth in unemployment	-0.0121	-0.0114	-0.237	-0.211	-0.00641	-0.00589	-0.0691	-0.0320
rate	(0.0145)	(0.0142)	(0.189)	(0.196)	(0.00672)	(0.00671)	(0.0809)	(0.0867)
Constant	1.493***	1.467***	0.887	0.980	1.236***	1.213***	1.162	1.309
	(0.245)	(0.241)	(2.796)	(2.936)	(0.0958)	(0.0950)	(1.129)	(1.202)
Number of observations	800				640			
Number of individuals	670				544	545	551	550
R^2	0.0439	0.0439	0.0485	0.0456	0.0476	0.0434	0.0669	0.0615

Robust standard errors clustered for individuals in parentheses.
**** p<0.01, ** p<0.05, * p<0.1*

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Finally, I conducted tobit (corner solution) estimation in order to explain the willingness to pay for improvements in job-specific amenities, given the probability that the individual changes to lower wages. As a consequence, interpretation of the marginal effects in Table 8 is based on the condition that workers voluntarily changed to lower wages. The table reveals that workers significantly pay for improvements in strain. The corresponding marginal effects suggest that workers with wage cuts pay for better workload by an average of about 1.2% or 30 to 36 Cent, respectively. For worse strain, a statistically insignificant as well as economically small moderating effect on the wage cut is estimated. As above, the tobit model confirms positive effects for both indicators of the match quality. This implies that subjectively better or worse matches do not reduce wages when changing jobs. The effects of promotion opportunities are also robust to the results in the OLS regressions. Better promotion opportunities mitigate wage cuts while worse career prospects in the new job compared to the previous one increase wage cuts. It is also confirmed that workers seem to pay for less commuting expenses by earnings losses whereas the effect is comparable to the one of better workload. Inconsistencies can be found for the effects of subjective perceptions about job security.

Table 9 presents the results for the tobit model when considering the factor scores. Workers changing to lower wages, on average, pay for less commuting expenses by lower wages. The factor score, however, reveals an economically small effect because, on average, less than 0.55% or an average maximum of 15 Cent are paid for the improvement in commuting. This effect is considerably smaller compared to the one presented in Table 7 but reveals robustness of this particular coefficient. A further similarity to the results in the OLS regressions is the moderating effect on wage cuts if the match quality in the current job is better than in the previous job. A worsening in job amenities is paid for by lower wages. This result is highly robust when compared to Table 7. Albeit highly statistically significant, the effect is of small economic significance. It might be argued that workers changing to worse job amenities are changing to some sort of low-pay sector with dead-end jobs, low job stability (or low job security), and low (or inexistent) fringe benefits. This result is also consistent with the "segmented

Table 9: Tobit regression results for wage cut, given that individuals change to lower wages (factor scores)

Variables	(1) $\frac{w_{ijt}}{w_{i,j-1,t-1}}$	(2) $\frac{w^{real}_{ijt}}{w^{real}_{i,j-1,t-1}}$	(3) $w_{ijt} - w_{i,j-1,t-1}$	(4) $w^{real}_{ijt} - w^{real}_{i,j-1,t-1}$
Scores for factor 1	0.00352	0.00297	0.0575	0.0478
(working conditions)	(0.00242)	(0.00225)	(0.0569)	(0.0555)
Scores for factor 2	4.03e-05	0.000575	0.0272	0.0446
(job amenities improved)	(0.00249)	(0.00237)	(0.0592)	(0.0589)
Scores for factor 3	0.00512*	0.00425*	0.151**	0.132*
(match improved)	(0.00267)	(0.00238)	(0.0752)	(0.0690)
Scores for factor 4	0.00533**	0.00402*	0.121*	0.0905
(commuting)	(0.00251)	(0.00230)	(0.0716)	(0.0668)
Scores for factor 5	-0.000386	-0.000560	-0.0128	-0.0138
(match worsened)	(0.00236)	(0.00217)	(0.0540)	(0.0514)
Scores for factor 6	-0.00662***	-0.00551***	-0.129**	-0.102**
(job amenities worsened)	(0.00215)	(0.00206)	(0.0507)	(0.0509)
Homeowner	-0.00843	-0.00536	-0.292*	-0.222
	(0.00545)	(0.00500)	(0.158)	(0.147)
Number of previous individual mobility	-0.00139	-0.00261	-0.0248	-0.0629
	(0.00286)	(0.00267)	(0.0714)	(0.0682)
Age	-0.00418	-0.00113	-0.115*	-0.0386
	(0.00260)	(0.00228)	(0.0589)	(0.0516)
Age^2	3.82e-05	1.41e-06	0.00110	0.000176
	(3.48e-05)	(3.07e-05)	(0.000767)	(0.000693)
Education in years	0.00357***	0.00245**	0.0606**	0.0350
	(0.00115)	(0.00102)	(0.0280)	(0.0262)
Blue-collar to white-collar transition	-0.00414	-0.00234	-0.0135	0.0505
	(0.0117)	(0.0111)	(0.251)	(0.243)
Male	-0.000965	0.00102	-0.0698	-0.0236
	(0.00538)	(0.00487)	(0.133)	(0.125)
Partner	0.000133	0.00122	0.00757	0.0351
	(0.00643)	(0.00572)	(0.154)	(0.143)
Firm more than 2,000 workers	-0.00473	-0.00490	-0.179	-0.196
	(0.00746)	(0.00674)	(0.234)	(0.228)
Previous firm more than 2,000 workers	-0.00263	-0.00428	-0.140	-0.205
	(0.00891)	(0.00802)	(0.261)	(0.253)
Regional mobility	-0.00215	0.00176	0.0255	0.138
	(0.0157)	(0.0148)	(0.359)	(0.350)
Growth in unemployment rate	-0.00320	-0.00127	-0.0705	-0.0260
	(0.00319)	(0.00283)	(0.0771)	(0.0710)
Number of observations			800	
Uncensored observations	195	254	195	254
Censored observations	605	546	605	546
Pseudo R^2	0.1071	0.0939	0.0270	0.0169
Log-likelihood	-229.8	-208.5	-852.7	-1037.3

Marginal effects after tobit regression.
Robust standard errors clustered for 670 individuals in parentheses.
**** p<0.01, ** p<0.05, * p<0.1*

Table 8: Tobit regression results for wage cut, given that individuals change to lower wages

Variables	(1) $\frac{w_{ijt}}{w_{i,j-1,t-1}}$	(2)	(3) $\frac{w^{real}_{ijt}}{w^{real}_{i,j-1,t-1}}$	(4)	(5) $w_{ijt} - w_{i,j-1,t-1}$	(6)	(7) $w^{real}_{ijt} - w^{real}_{i,j-1,t-1}$	(8)
Strain improved	-0.0122*	-0.0128**	-0.0128**	-0.0136**	-0.297*	-0.318**	-0.327**	-0.355**
	(0.00638)	(0.00636)	(0.00565)	(0.00563)	(0.152)	(0.153)	(0.142)	(0.142)
Strain worsened	0.00240	0.00261	0.00395	0.00426	0.0178	0.0223	0.0553	0.0624
	(0.00742)	(0.00734)	(0.00684)	(0.00676)	(0.207)	(0.206)	(0.204)	(0.203)
Work time improved	0.00175	0.00154	0.00515	0.00467	0.142	0.146	0.237	0.231
	(0.00593)	(0.00621)	(0.00535)	(0.00555)	(0.147)	(0.164)	(0.146)	(0.161)
Work time worsened	0.00117	0.00109	0.000170	0.00108	0.0893	0.0715	0.0702	0.0787
	(0.00770)	(0.00783)	(0.00669)	(0.00671)	(0.193)	(0.195)	(0.175)	(0.176)
Security against job loss improved	-0.00664	-0.00964	-0.00600	-0.00886	-0.113	-0.180	-0.100	-0.170
	(0.00580)	(0.00631)	(0.00526)	(0.00569)	(0.138)	(0.155)	(0.132)	(0.149)
Security against job loss worsened	-0.00132	-0.000167	0.00540	0.00808	-0.0284	-0.0213	0.153	0.207
	(0.00861)	(0.00922)	(0.00775)	(0.00802)	(0.214)	(0.224)	(0.205)	(0.207)
Use of skills improved	0.00784	0.00594	0.00734	0.00618	0.279*	0.210	0.278*	0.227
	(0.00577)	(0.00590)	(0.00521)	(0.00540)	(0.155)	(0.150)	(0.146)	(0.144)
Use of skills worsened	0.0119*	0.0132*	0.0109*	0.0123**	0.318*	0.333**	0.316**	0.334**
	(0.00691)	(0.00688)	(0.00615)	(0.00613)	(0.164)	(0.166)	(0.150)	(0.151)
Chances for promotion improved	0.0117**	0.0105*	0.0101*	0.00908*	0.185	0.148	0.148	0.117
	(0.00571)	(0.00573)	(0.00521)	(0.00526)	(0.149)	(0.150)	(0.143)	(0.144)
Chances for promotion worsened	-0.0303**	-0.0291**	-0.0315***	-0.0297***	-0.709**	-0.696**	-0.765***	-0.738***
	(0.0118)	(0.0119)	(0.0112)	(0.0113)	(0.288)	(0.289)	(0.279)	(0.276)
Commuting improved		-0.0117*		-0.00967*		-0.306		-0.264
		(0.00634)		(0.00568)		(0.196)		(0.182)
Commuting worsened		0.00126		9.43e-05		0.0112		-0.0210
		(0.00615)		(0.00552)		(0.156)		(0.147)
Fringe benefits improved		0.00880		0.00849		0.178		0.186
		(0.00608)		(0.00559)		(0.155)		(0.152)
Fringe benefits worsened		-0.000998		-0.00540		0.0100		-0.116
		(0.00851)		(0.00762)		(0.202)		(0.190)
Job improved		0.00412		0.00215		0.184		0.133
		(0.00560)		(0.00516)		(0.150)		(0.141)
Job worsened		-0.00778		-0.00790		-0.0816		-0.0718
		(0.0134)		(0.0127)		(0.293)		(0.281)
Homeowner	-0.00851	-0.00974*	-0.00601	-0.00687	-0.294*	-0.323**	-0.241	-0.262*
	(0.00544)	(0.00543)	(0.00499)	(0.00499)	(0.156)	(0.160)	(0.147)	(0.150)
Number of previous individual mobility	-0.00149	-0.00114	-0.00240	-0.00215	-0.0246	-0.0158	-0.0544	-0.0477
	(0.00284)	(0.00281)	(0.00265)	(0.00265)	(0.0704)	(0.0709)	(0.0673)	(0.0683)
Age	-0.00438*	-0.00456*	-0.00150	-0.00183	-0.118**	-0.118**	-0.0446	-0.0500
	(0.00258)	(0.00257)	(0.00228)	(0.00228)	(0.0584)	(0.0576)	(0.0519)	(0.0522)
Age^2	4.00e-05	4.20e-05	5.30e-06	9.31e-06	0.00112	0.00112	0.000234	0.000293
	(3.46e-05)	(3.44e-05)	(3.07e-05)	(3.08e-05)	(0.000764)	(0.000760)	(0.000699)	(0.000709)
Education in years	0.00330***	0.00354***	0.00223**	0.00245**	0.0575**	0.0628**	0.0328	0.0377
	(0.00114)	(0.00111)	(0.00100)	(0.000988)	(0.0277)	(0.0272)	(0.0257)	(0.0254)
Bluecollar to whitecollar transition	-0.00360	-0.00388	-0.00177	-0.00177	0.0170	-0.0138	0.0817	0.0589
	(0.0117)	(0.0117)	(0.0110)	(0.0110)	(0.249)	(0.253)	(0.238)	(0.241)
Male	0.00104	-0.000409	0.00282	0.00193	-0.0123	-0.0537	0.0306	0.00300
	(0.00536)	(0.00528)	(0.00485)	(0.00484)	(0.132)	(0.131)	(0.125)	(0.126)
Partner	-6.26e-05	-0.000431	0.000465	-6.04e-05	0.0106	0.000696	0.0231	0.00743
	(0.00636)	(0.00636)	(0.00565)	(0.00568)	(0.152)	(0.153)	(0.141)	(0.143)
Firm more than 2,000 workers	-0.00409	-0.00682	-0.00427	-0.00701	-0.159	-0.220	-0.171	-0.236
	(0.00734)	(0.00736)	(0.00665)	(0.00667)	(0.226)	(0.229)	(0.219)	(0.221)
Previous firm more than 2,000 workers	-0.00370	-0.00260	-0.00544	-0.00401	-0.159	-0.146	-0.227	-0.204
	(0.00888)	(0.00861)	(0.00799)	(0.00780)	(0.263)	(0.254)	(0.254)	(0.247)
Regional mobility	-0.00440	-0.00116	-0.000589	0.00243	-0.0383	0.0388	0.0745	0.149
	(0.0163)	(0.0156)	(0.0154)	(0.0148)	(0.370)	(0.356)	(0.363)	(0.350)
Growth in unemployment rate	-0.00297	-0.00322	-0.00111	-0.00147	-0.0704	-0.0746	-0.0262	-0.0337
	(0.00320)	(0.00316)	(0.00285)	(0.00284)	(0.0775)	(0.0770)	(0.0714)	(0.0718)
Number of observations	800							
Uncensored observations	195		254		195		254	
Censored observations	605		546		605		546	
Pseudo R^2	0.1199	0.1354	0.1217	0.1380	0.0305	0.0350	0.0230	0.0262
Log-likelihood	-226.5	-222.5	-202.1	-198.4	-849.6	-845.7	-1030.9	-1027.5498

Marginal effects after tobit regression.
*Robust standard errors clustered for 670 individuals in parentheses. *** p<0.01, ** p<0.05, * p<0.1*

labor market" in Villanueva (2007), where wage penalties are attached to job-specific disamenities.

To sum up, trade-off reasoning, as hypothesized above, is a key feature of the acceptance of wage cuts. The results show that subjectively better workload is paid for by lower wages. I am, however, not able to find distinct support for the hypothesis that workers trade off improvements in work time arrangements, better security against job loss, and the acceptance of lower wages. There is weak (mostly statistically insignificant) evidence in favor of compensating wage differentials for worse strain and for less security against a job loss. In addition, the hypothesis that workers pay for better career prospects by wage cuts cannot be supported in this paper. In fact, the reverse is suggested because better promotion opportunities are accompanied by higher wages. For worse promotion opportunities, individuals are not compensated for by higher wages. The findings on some of the job-specific amenities differ when considering subjective perceptions about worsenings in wages instead of using objective measures for wage cuts. This might be driven by cognitive dissonance reduction where workers adjust their perceptions about the job in a positive way to resolve cognitive dissonance introduced by mobility to lower wages.

5 Discussion

This paper investigates the relationship between subjective improvements between two jobs and voluntary mobility to lower wages. This allows to assess the impact of trade-off reasoning on individual labor market decisions. The results suggest that job-specific (non-wage) amenities affect the job choice. More specifically, workers are shown to voluntarily accept wage cuts when improvements in strain can be achieved. The loss of utility through decreasing wages is, thus, compensated for by an increase in utility through improvements in job-specific amenities in the new job. Besides, the paper reveals evidence in favor of compensating wage differentials for less security against job loss.

The results also have important implications for employers. Offering non-wage amenities can attract workers of competitors who pay higher wages. This implies that those employers who offer, for example, activities to decrease job-specific strain are suggested to attract employees of competitors despite lower wages. Since Schneck (2010) showed that transitions to permanently lower wages are common, it might be hypothesized that workers trade off permanent lower wages with subjective improvements in certain job-specific characteristics. This study shows that less strain is a potential candidate for the acceptance of downward mobility.

Appendix

Table A1: Frequencies of subjective comparisons between old and new job

How would you judge your present position compared to your last one? In what ways has it improved, stayed the same, or worsened			
Variable	improved	stayed the same	worsened
Length of commute to and from work	280	274	246
Work load (strain)	269	367	164
Work schedule regulations (work time)	349	324	127
Security against job loss	276	471	53
Chances for promotion	348	402	50
General Job type	461	306	33
Fringe benefits	280	428	92
Wages	521	203	76
Are you able to use your professional skills and abilities today more, about the same, or less than in your previous position?			
	more (improved)	about the same (stayed the same)	less (worsened)
Use of skills	328	370	102
Number of observations		800	

Table A2: Descriptive statistics of the control variables

	Mean	Standard Deviation
Subjective improvement in		
Work load (strain)	0.3363	0.4727
Work schedule regulations (work time)	0.4363	0.4962
Security against job loss	0.3450	0.4757
Use of skills	0.4100	0.4921
Commuting	0.3500	0.4773
Chances for promotion	0.4350	0.4961
Fringe benefits	0.3500	0.4773
Job type	0.5763	0.4945
Subjective worsening in		
Work load (strain)	0.2050	0.4040
Work schedule regulations (work time)	0.1588	0.3657
Security against job loss	0.0663	0.2489
Use of skills	0.1275	0.3337
Commuting	0.3075	0.4617
Chances for promotion	0.0625	0.2422
Fringe benefits	0.1150	0.3192
Job type	0.0413	0.1990
Dummy variable for homeowners	0.3063	0.4612
Number of individual quits	1.7500	0.8992
Age	35.0725	7.9551
Age^2	1293.2850	593.8163
Education (in years of schooling)	12.7719	2.5192
Dummy variable for blue-collar to white-collar	0.0575	0.2329
Dummy variable for males	0.6475	0.4780
Dummy variable for partner	0.2125	0.4093
Dummy variable for workforce_{ijt}>2,000	0.1713	0.3770
Dummy variable for $\text{workforce}_{i,j-1,t-1}$>2,000	0.1325	0.3392
Dummy variable for regional mobility	0.0475	0.2128
Growth in unemployment rate	-0.0571	0.7854
Number of observations	800	
Number of individuals	670	

Table A3: Spearman's correlation and Tetrachoric correlations for binary variables

	strain		work time		job security		use of skills		commuting		promotion possibilities	
	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓
strain ↑	1.000											
strain ↓	-0.361*	1.000										
	-1.000*											
work time ↑	0.334*	-0.197*	1.000									
	0.514*	-0.359*										
work time ↓	-0.150*	0.313*	-0.382*	1.000								
	-0.315*	0.537*	-1.000*									
job security ↑	0.140*	-0.082*	0.199*	-0.063	1.000							
	0.228*	-0.154*	0.316*	-0.127								
job security ↓	-0.019	0.089*	-0.052	0.104*	-0.193*	1.000						
	-0.049	0.216*	-0.129	0.255*	-1.000*							
use of	0.031	0.030	0.061	0.041	0.122*	-0.059	1.000					
skills ↑	0.050	0.054	0.097	0.078	0.197*	-0.148						
use of	0.117*	-0.008	0.117*	0.029	0.030	0.079*	-0.319*	1.000				
skills ↓	0.229*	-0.019	0.231*	0.067	0.061	0.207*	-1.000*					
commuting ↑	0.099*	-0.061	0.195*	-0.118*	0.019	-0.016	0.022	0.081*	1.000			
	0.162*	-0.114	0.308*	-0.241*	0.031	-0.041	0.036	0.161*				
commuting ↓	-0.062	0.118*	-0.045	0.133*	0.029	0.084*	0.072*	0.005	-0.489*	1.000		
	-0.106	0.210*	-0.075	0.248*	0.049	0.199*	0.119*	0.011	-1.000*			
promotion	0.091*	0.054	0.047	0.060	0.164*	-0.102*	0.268*	-0.063	-0.025	0.104*	1.000	
possibilities ↑	0.147*	0.096	0.074	0.114	0.262*	-0.260*	0.412*	-0.129	-0.041	0.170*		
promotion	-0.020	0.022	0.023	0.043	-0.046	0.201*	-0.068	0.134*	-0.005	0.041	-0.227*	1.000
possibilities ↓	-0.051	0.060	0.056	0.118	-0.122	0.471*	-0.177	0.324*	-0.014	0.101	-1.000*	
fringe	0.177*	-0.100*	0.337*	-0.125*	0.416*	-0.122*	0.076*	0.042	0.022	0.011	0.154*	-0.005
benefits ↑	0.285*	-0.188*	0.516*	-0.256*	0.618*	-0.346*	0.122*	0.084	0.036	0.018	0.246*	-0.014
fringe	-0.124*	0.157*	-0.151*	0.240*	-0.122*	0.345*	-0.014	0.015	0.007	-0.003	-0.048	0.150*
benefits ↓	-0.287*	0.316*	-0.326*	0.460*	-0.278*	0.650*	-0.029	0.038	0.014	-0.005	-0.010	0.359*
job type ↑	0.134*	-0.003	0.117*	0.006	0.112*	-0.016	0.406*	-0.074*	0.030	0.045	0.252*	-0.061
	0.219*	-0.006	0.185*	0.011	0.182*	-0.038	0.617*	-0.147*	0.049	0.075	0.394*	-0.148
job type ↓	-0.015	0.082*	-0.018	0.185*	0.035	0.096*	-0.160*	0.279*	0.006	0.066	-0.068	0.232*
	-0.043	0.226*	-0.051	0.451*	0.097	0.295*	-0.610*	0.607*	0.017	0.182	-0.201	0.544*
wage ↑	-0.051	0.047	-0.002	0.045	0.079*	-0.058	0.071*	-0.035	-0.057	0.016	0.171*	-0.125*
	-0.084	0.087	-0.003	0.089	0.132*	-0.140	0.117*	-0.071	-0.094	0.027	0.277*	-0.296*
wage ↓	0.085*	-0.017	0.042	0.011	-0.047	0.085*	-0.088*	0.081*	0.030	-0.013	-0.190*	0.233*
	0.183*	-0.042	0.090	0.028	-0.108	0.231*	-0.200*	0.195*	0.067	-0.029	-0.450*	0.506*

Continued on next page.

Table A3 (continued): Spearman's correlation and Tetrachoric correlations for binary variables

	fringe benefits		job type		wage	
	↑	↓	↑	↓	↑	↓
fringe benefits ↑	1.000					
fringe benefits ↑	-0.265*	1.000				
benefits ↓	-1.000*					
job type ↑	0.078*	0.016	1.000			
	0.127*	0.033				
job type ↓	0.032	0.043	-0.242*	1.000		
	0.091	0.140	-1.000*			
wage ↑	0.130*	-0.123*	0.121*	-0.033	1.000	
	0.218*	-0.246*	0.194*	-0.093		
wage ↓	-0.086*	0.191*	-0.067	0.061	-0.443*	1.000
	-0.203*	0.405*	-0.145	0.195	-1.000*	
Number of observations:		800				

Spearman's correlation and Tetrachoric correlations for binary variables (below).
↑ describes improvements, ↓ refers to subjective worsenings.
** $p<0.05$*

Table A4: OLS regression results on wage change by groups

Variables	(1) $\frac{w_{ijt}}{w_{i,j-1,t-1}}$ male	(2) $\frac{w_{ijt}}{w_{i,j-1,t-1}}$ female	(3) $\frac{w^{real}_{ijt}}{w^{real}_{i,j-1,t-1}}$ male	(4) $\frac{w^{real}_{ijt}}{w^{real}_{i,j-1,t-1}}$ female	(5) $w_{ijt} - w_{i,j-1,t-1}$ male	(6) $w_{ijt} - w_{i,j-1,t-1}$ female	(7) $w^{real}_{ijt} - w^{real}_{i,j-1,t-1}$ male	(8) $w^{real}_{ijt} - w^{real}_{i,j-1,t-1}$ female
Strain improved	-0.0225	-0.00491	-0.0218	-0.00662	-0.372	-0.573	-0.436	-0.625
	(0.0306)	(0.0429)	(0.0301)	(0.0421)	(0.455)	(0.408)	(0.485)	(0.437)
Strain worsened	-0.0241	0.0172	-0.0242	0.0147	-0.0648	-0.899	-0.152	-0.967
	(0.0408)	(0.0653)	(0.0399)	(0.0639)	(0.633)	(0.993)	(0.662)	(1.074)
Work time improved	0.0466*	-0.163***	0.0463*	-0.158***	0.745*	-1.093**	0.812*	-1.133**
	(0.0257)	(0.0557)	(0.0253)	(0.0546)	(0.443)	(0.449)	(0.470)	(0.487)
Work time worsened	0.123**	-0.142**	0.121**	-0.139**	1.686**	-0.600	1.865**	-0.622
	(0.0568)	(0.0692)	(0.0555)	(0.0678)	(0.729)	(0.723)	(0.784)	(0.783)
Security against job loss improved	0.0106	0.0288	0.0108	0.0276	0.163	-0.366	0.164	-0.394
	(0.0277)	(0.0492)	(0.0273)	(0.0481)	(0.457)	(0.387)	(0.482)	(0.418)
Security against job loss worsened	0.0834	0.0514	0.0820	0.0513	1.282	-0.0290	1.378	-0.0269
	(0.0833)	(0.0584)	(0.0822)	(0.0577)	(0.871)	(0.871)	(0.928)	(0.923)
Use of skills improved	0.0324	0.0569	0.0318	0.0550	0.785	0.502	0.860*	0.535
	(0.0323)	(0.0459)	(0.0317)	(0.0452)	(0.482)	(0.480)	(0.508)	(0.520)
Use of skills worsened	-0.0140	0.123**	-0.0137	0.121**	0.365	1.159*	0.413	1.209*
	(0.0380)	(0.0556)	(0.0374)	(0.0549)	(0.541)	(0.608)	(0.558)	(0.646)
Chances for promotion improved	-0.0129	0.0385	-0.0125	0.0377	0.0332	0.554	-0.0276	0.542
	(0.0322)	(0.0431)	(0.0316)	(0.0423)	(0.530)	(0.401)	(0.558)	(0.429)
Chances for promotion worsened	-0.0774	-0.117*	-0.0777	-0.113*	-1.671**	-0.658	-1.814**	-0.724
	(0.0715)	(0.0691)	(0.0703)	(0.0686)	(0.842)	(0.948)	(0.892)	(1.014)
Additional control variables (as in Table 5)	yes	yes	yes	yes	yes	yes	yes	yes
Number of observations	518	282	518	282	518	282	518	282
R^2	0.0597	0.1120	0.0601	0.1112	0.0704	0.0862	0.0696	0.0803

Variables	(1) $\frac{w_{ijt}}{w_{i,j-1,t-1}}$ homeowner	(2) $\frac{w_{ijt}}{w_{i,j-1,t-1}}$ renter	(3) $\frac{w^{real}_{ijt}}{w^{real}_{i,j-1,t-1}}$ homeowner	(4) $\frac{w^{real}_{ijt}}{w^{real}_{i,j-1,t-1}}$ renter	(5) $w_{ijt} - w_{i,j-1,t-1}$ homeowner	(6) $w_{ijt} - w_{i,j-1,t-1}$ renter	(7) $w^{real}_{ijt} - w^{real}_{i,j-1,t-1}$ homeowner	(8) $w^{real}_{ijt} - w^{real}_{i,j-1,t-1}$ renter
Strain improved	0.0101	-0.0319	0.0102	-0.0320	0.0223	-0.672*	0.0379	-0.760*
	(0.0372)	(0.0324)	(0.0367)	(0.0318)	(0.658)	(0.390)	(0.675)	(0.423)
Strain worsened	0.0609	-0.0378	0.0595	-0.0388	0.930	-0.768	0.888	-0.860
	(0.0443)	(0.0485)	(0.0436)	(0.0474)	(1.174)	(0.530)	(1.224)	(0.565)
Work time improved	0.0162	-0.0552	0.0166	-0.0530	0.419	-0.237	0.468	-0.230
	(0.0353)	(0.0337)	(0.0347)	(0.0331)	(0.661)	(0.388)	(0.680)	(0.421)
Work time worsened	0.0177	0.0368	0.0182	0.0369	1.225	0.702	1.332	0.807
	(0.0537)	(0.0560)	(0.0530)	(0.0547)	(1.286)	(0.576)	(1.344)	(0.627)
Security against job loss improved	0.0154	0.0207	0.0148	0.0202	0.482	-0.298	0.475	-0.308
	(0.0350)	(0.0323)	(0.0345)	(0.0316)	(0.770)	(0.351)	(0.784)	(0.380)
Security against job loss worsened	0.0385	0.0840	0.0377	0.0839	1.075	0.599	1.184	0.624
	(0.0705)	(0.0657)	(0.0692)	(0.0647)	(1.032)	(0.795)	(1.066)	(0.844)
Use of skills improved	0.0593*	0.0331	0.0585*	0.0321	1.665**	0.268	1.785**	0.306
	(0.0308)	(0.0357)	(0.0304)	(0.0350)	(0.747)	(0.415)	(0.769)	(0.447)
Use of skills worsened	0.0934	0.00462	0.0937	0.00411	2.050**	0.0278	2.172**	0.0337
	(0.0724)	(0.0365)	(0.0717)	(0.0359)	(0.986)	(0.395)	(0.992)	(0.423)
Chances for promotion improved	0.0107	0.0114	0.00967	0.0117	0.118	0.376	0.0826	0.338
	(0.0378)	(0.0339)	(0.0372)	(0.0332)	(0.822)	(0.387)	(0.846)	(0.418)
Chances for promotion worsened	-0.116	-0.0275	-0.116	-0.0259	-2.126*	-0.284	-2.265*	-0.344
	(0.0760)	(0.0707)	(0.0748)	(0.0696)	(1.132)	(0.769)	(1.157)	(0.833)
Additional control variables (as in Table 5)	yes	yes	yes	yes	yes	yes	yes	yes
Number of observations	245	555	245	555	245	555	245	555
R^2	0.0978	0.0428	0.0988	0.0431	0.0759	0.0595	0.0771	0.0550

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Table A4 (continued): OLS results on wage change by groups

Variables	(1) $\frac{w_{ijt}}{w_{i,j-1,t-1}}$	(2)	(3) $\frac{w^{real}_{ijt}}{w^{real}_{i,j-1,t-1}}$	(4)	(5) $w_{ijt} - w_{i,j-1,t-1}$	(6)	(7) $w^{real}_{ijt} - w^{real}_{i,j-1,t-1}$	(8)
	$age \leq 34$	$age > 34$	$age \leq 34$	$age > 34$	$age \leq 34$	$age > 34$	$age \leq 34$	$age > 34$
Strain improved	-0.0329	0.00792	-0.0329	0.00695	-0.993**	0.0659	-1.077**	0.0303
	(0.0396)	(0.0348)	(0.0389)	(0.0343)	(0.420)	(0.524)	(0.457)	(0.550)
Strain worsened	-0.0816*	0.0293	-0.0820*	0.0278	-1.847**	0.692	-1.970**	0.636
	(0.0473)	(0.0521)	(0.0466)	(0.0507)	(0.755)	(0.746)	(0.813)	(0.776)
Work time improved	-0.0613	-0.0199	-0.0601	-0.0173	-0.193	0.00831	-0.190	0.0485
	(0.0421)	(0.0334)	(0.0413)	(0.0327)	(0.407)	(0.510)	(0.446)	(0.533)
Work time worsened	0.0245	0.0466	0.0244	0.0472	0.856	0.774	0.924	0.933
	(0.0613)	(0.0691)	(0.0604)	(0.0672)	(0.632)	(0.853)	(0.692)	(0.912)
Security against job loss improved	0.0177	0.0266	0.0173	0.0260	-0.146	0.270	-0.187	0.304
	(0.0349)	(0.0371)	(0.0343)	(0.0362)	(0.357)	(0.562)	(0.389)	(0.584)
Security against job loss worsened	0.209**	-0.0243	0.207**	-0.0241	2.596***	-0.375	2.781***	-0.405
	(0.0976)	(0.0574)	(0.0962)	(0.0565)	(0.942)	(0.863)	(1.024)	(0.901)
Use of skills improved	0.0582	0.0179	0.0571	0.0173	0.733	0.676	0.782	0.741
	(0.0383)	(0.0349)	(0.0377)	(0.0342)	(0.450)	(0.582)	(0.493)	(0.603)
Use of skills worsened	0.0297	0.0384	0.0293	0.0383	0.502	0.828	0.541	0.895
	(0.0533)	(0.0411)	(0.0527)	(0.0404)	(0.550)	(0.597)	(0.596)	(0.609)
Chances for promotion improved	-0.00559	0.0189	-0.00532	0.0182	0.161	0.223	0.135	0.158
	(0.0388)	(0.0346)	(0.0382)	(0.0339)	(0.426)	(0.640)	(0.463)	(0.664)
Chances for promotion worsened	-0.00370	-0.0827*	-0.00442	-0.0810*	-0.598	-0.984	-0.676	-1.083
	(0.106)	(0.0497)	(0.105)	(0.0491)	(0.985)	(0.774)	(1.081)	(0.804)
Additional control variables (as in Table 5)	yes	yes	yes	yes	yes	yes	yes	yes
Number of observations	370	430	370	430	370	430	370	430
R^2	0.0735	0.0604	0.0733	0.0602	0.0963	0.0722	0.0899	0.0713

Variables	(1) $\frac{w_{ijt}}{w_{i,j-1,t-1}}$	(2)	(3) $\frac{w^{real}_{ijt}}{w^{real}_{i,j-1,t-1}}$	(4)	(5) $w_{ijt} - w_{i,j-1,t-1}$	(6)	(7) $w^{real}_{ijt} - w^{real}_{i,j-1,t-1}$	(8)
	$\Delta u \leq 0$	$\Delta u > 0$	$\Delta u \leq 0$	$\Delta u > 0$	$\Delta u \leq 0$	$\Delta u > 0$	$\Delta u \leq 0$	$\Delta u > 0$
Strain improved	-7.63e-05	-0.0327	-0.000736	-0.0323	-0.208	-0.782	-0.251	-0.877
	(0.0322)	(0.0397)	(0.0317)	(0.0390)	(0.421)	(0.512)	(0.445)	(0.564)
Strain worsened	0.0137	-0.0381	0.0128	-0.0393	0.200	-1.084*	0.161	-1.211*
	(0.0356)	(0.0674)	(0.0350)	(0.0657)	(0.732)	(0.644)	(0.764)	(0.702)
Work time improved	-0.0200	-0.0284	-0.0186	-0.0262	0.477	-0.251	0.510	-0.220
	(0.0335)	(0.0407)	(0.0329)	(0.0399)	(0.438)	(0.513)	(0.461)	(0.561)
Work time worsened	-0.00410	0.129	-0.00279	0.128	0.700	1.533	0.777	1.723
	(0.0423)	(0.0949)	(0.0416)	(0.0925)	(0.605)	(0.992)	(0.643)	(1.083)
Security against job loss improved	0.00714	0.0243	0.00697	0.0234	-0.0288	-0.342	-0.0416	-0.362
	(0.0296)	(0.0479)	(0.0291)	(0.0469)	(0.392)	(0.552)	(0.408)	(0.602)
Security against job loss worsened	0.0347	0.167	0.0335	0.167	0.367	1.530	0.387	1.651
	(0.0479)	(0.151)	(0.0470)	(0.149)	(0.753)	(1.300)	(0.790)	(1.415)
Use of skills improved	-0.00211	0.114**	-0.00215	0.112**	0.245	1.495***	0.254	1.642***
	(0.0286)	(0.0494)	(0.0282)	(0.0484)	(0.481)	(0.544)	(0.498)	(0.592)
Use of skills worsened	0.00280	0.0718	0.00294	0.0704	0.393	0.989	0.408	1.068
	(0.0398)	(0.0684)	(0.0392)	(0.0677)	(0.539)	(0.668)	(0.558)	(0.723)
Chances for promotion improved	0.00937	0.0157	0.00858	0.0164	0.0195	0.685	-0.0240	0.657
	(0.0292)	(0.0447)	(0.0288)	(0.0438)	(0.536)	(0.536)	(0.555)	(0.580)
Chances for promotion worsened	-0.121**	-0.0254	-0.119**	-0.0247	-1.848**	-0.0449	-2.028**	-0.0327
	(0.0498)	(0.0988)	(0.0489)	(0.0976)	(0.851)	(0.895)	(0.892)	(0.970)
Additional control variables (as in Table 5)	yes	yes	yes	yes	yes	yes	yes	yes
Number of observations	486	314	486	314	486	314	486	314
R^2	0.0751	0.0909	0.0751	0.0914	0.0715	0.1081	0.0687	0.1059

Robust standard errors clustered for individuals in parentheses.
**** p<0.01, ** p<0.05, * p<0.1*
'Δu': Growth in unemployment rate

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