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Explaining Age and Gender Differences in Employment Rates: A Labor Supply Side Perspective

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Explaining Age and Gender Differences in Employment Rates: A Labor Supply Side Perspective

Abstract

This paper takes a labor supply perspective (neoclassical labor supply, job search) to explain the lower employment rates of older workers and women. The basic rationale is that workers choose non-employed if their reservation wages are larger than the offered wages. Whereas the offered wages depend on workers' productivity and firms' decisions, reservation wages are largely determined by workers' endowments and preferences for leisure. To shed some empirical light on this issue, we use German survey data to analyze age and gender differences in reservation and entry wages, preferred and actual working hours, and satisfaction with leisure and work.

Keywords: Age; Family gap; Gender; Job search; Labor supply; Reservation wages

JEL classification: J14, J22, J64

1. Introduction

An empirical observation in most labor markets is the lower (re-)employment probability of female and older workers. In Germany, employment rates decline with age after the maximum is reached at prime ages between 30 and 50 years for men and 40 to 50 years for women (see Table 1). It can also be seen that women in all age categories have lower employment rates than men and that this employment gap increases with age; this disadvantage may emerge during motherhood but still increases afterwards. Non-employment often leads to individual hardship (e.g., lower consumption standards) and is also associated with burdens for society, because taxpayers have to finance unemployment benefits or early retirement schemes. In times of demographic change, it is a challenge for policy and Human Resource Management to activate the resources of female and older persons in the labor market to maintain a sufficiently large labor supply. Furthermore, demographic change has brought financial problems for public retirement schemes, so that many countries have recently increased the mandatory retirement age (e.g., in Germany from 65 to 67 years). However, it seems questionable if older workers still have the necessary employment prospects. Most of the political discussion focuses on labor demand side factors, i.e., if the productivity of older workers is still large enough for the wages paid, and assumes that old workers still want to work. This assumption might not always be correct. For example, we can observe the active participation of workers in early retirement schemes. In this paper, we are going to explore age and gender differences in labor supply. More specifically, we analyze reservation and entry wages, preferred and actual working hours, and satisfaction with leisure and jobs.

- insert Table 1 about here

One stream of the literature in economics and industrial relations analyzes the labor demand side to explain age and gender specific employment gaps (e.g., discrimination, productivity and wages). Another stream of the literature looks at the labor supply side. The neoclassical standard textbook model of labor supply and the job search theory both assume that individuals only choose employment over non-employment if the offered wage is larger than the reservation wage. If women and older workers have on average a larger difference between reservation wages and offered wages compared with men and younger workers, the employment probability of women and older workers will be lower. For example, age might have a stronger positive effect on reservation wages (e.g., due to higher preference for leisure) than on offered wages (e.g., due to depreciation of human capital), which decreases the average employment probability of older workers. For women, one might expect that leisure preferences and reservation wages to increase during motherhood, whereas productivity and, consequently, offered wages are not positively affected. Because of human capital depreciation, employment interruptions may even lead to lower wage offers and therefore hamper the integration of women and especially mothers into the labor market.

We use large scale household panel data from Germany (SOEP: German Socio-Economic Panel) to analyze average age and gender differences in reservation wages, entry wages as proxy for offered wages, preferred and actual working hours, and leisure and job satisfaction. Our analyses focus primarily on the years 2007 and 2008, because these are the only years for which we can compute hourly reservation wages. For working hours and satisfaction we can further apply panel estimation techniques for data from 1997 to 2008 as robustness checks. Previous research has mostly used weekly or monthly reservation wages, which are not suitable to correctly analyze age and

gender differences. If, for example, female and older workers prefer to work fewer hours than men and younger workers, their weekly or monthly reservation income is, ceteris paribus, lower. This might even be the case if their hourly reservation wages are larger but not large enough to compensate for fewer working hours. In our empirical analysis, we find that older workers indeed have larger hourly reservation wages but lower monthly reservation wages due to their preference to work fewer hours. The estimated age effects are larger for women than men. We further find that the presence of children in the household increases reservation wages and reduces the supplied working hours of women, whereas no significant effects are detected for men. Although our econometric analysis is largely descriptive, we find consistent evidence that older workers and mothers have higher preferences for leisure and higher reservation wages, which might explain the observed gaps in employment rates.

This paper is structured as follows. The next section summarizes theoretical background from labor supply and job search models as well as previous empirical studies. Section 3 describes the data, variables and methods. The empirical results are presented in Section 4. The paper concludes with a summary and discussion of the findings in Section 5.

2. Theory and Previous Research on Reservation Wages

2.1. Neoclassical Labor Supply Model

In this section we describe the standard neoclassical labor supply model (e.g., Borjas 2009, Chapter 2). Each individual faces the problem of deciding whether to work or not.

The decision to work is based on basic utility considerations. The individual optimizes the utility over consumption and leisure time. While more leisure raises the opportunity costs of losing income, more work raises the opportunity costs of leisure time. The utility $U = f(C, L)$ is a function of consumption C and leisure time L. The utility level U can be shown in an indifference curve. A curve far apart from the origin represents a higher utility. Here the slope of the curve is equal to the marginal rate of substitution $\Delta C / \Delta L = -\frac{\partial U}{\partial L} / \frac{\partial U}{\partial C}$. Budget constraint deals with the use of consumption. The opportunities of consuming goods are equal to income. Consumption ($C = w*h + z$) depends on income with constant hourly market wages w, working hours h and the non-working income z. Because of a time restriction, the time budget T is a sum of working time and leisure time ($T = h + L$). Bringing together the parts, the budget constraint is defined in equation (1). The slope of the budget line is the negative of the wage rate ($-w$).

$$C = (w*T + z) - w*L \qquad (1)$$

Solving the optimization problem, an interior solution and two corner solutions are possible. The corner solutions cover both extremes, to work all the time or not at all. Preferring leisure time with no hours of work, equation (2) defines the reservation wages w^R of the individual as the marginal rate of substitution at initial non-working income or wealth.

$$w^R = MRS \qquad (2)$$

In Figure 1 we show the point of intersection y of the budget line and the indifference curve for an individual who decides not to work. This is the endowment point, where

the indifference curve has the slope of the lowest wage an individual would accept to work. The absolute value of the slope is the hourly reservation wage w^R. Because of the non-working income z, there is still a base level of consumption. If the individual decides to give up one hour of leisure time, one can move up the budget line and get an income w for consumption. Working all hours without any leisure time is equal to a maximum value for consumption ($w*T+z$). We can see that a general increase in non-working income z would raise the level of reservation wages.

- insert Figure 1 about here

Although we focus here on non-employed individuals, there are different effects of increasing wages for employed and non-employed individuals. For a non-working individual an increase in wages has no income effect. While higher wages make leisure more expensive, only a substitution effect is given. For a working individual an increase in market wages w has two different effects. While an income effect lowers the hours to work, the substitution effect increases them. It is not clear from the theory which of the contrary effects will dominate.

In this paper, we assume that individuals are heterogeneous with respect to age and gender, which affects reservation wages and individual labor supply decisions. Following several authors such as Lazear (1979; 1986), Heckman (1974) and Chang (1991), we interpret reservation wages as the shadow price of leisure. Lazear (1979) assumes already in his deferred compensation model that reservation wages increase with age. Heckman (1974), Lazear (1986), and Chang (1991) discuss different shapes of reservation wage profiles in the context of life cycle models and retirement decisions.

Based on a traditional family model, men should offer more hours of working time than women. This may be explained by the necessity to earn additional household income for the family. For women we suppose differences between mothers and childless women. Non-mothers decide between leisure and working time, while mothers take additional time exposures into consideration to care for their children (Browning 1992). Therefore, mothers have a lower time budget they can allocate to market work. Moreover, mothers might have higher preferences for non-market work and leisure because they want to spend time with their children. Both considerations lead to a larger marginal rate of substitution between leisure time and consumption goods and, consequently, to higher reservation wages of mothers.

Concerning age, we can propose the following considerations. Younger individuals are likely to have lower reservation wages than the older, because of a lower level of endowment with consumption goods. Older individuals, on the other hand, can lower their labor supply or even retire, because of a higher endowment with consumption goods. After a long duration of working time over the lifespan, they should have a higher level of non-market income or wealth and should have accumulated a stock of goods (e.g., savings, real estate, financial assets, greater unemployment benefit entitlement). These larger endowments should lead to a larger marginal rate of substitution between leisure time and consumption goods for older individuals. It also seems likely that older individuals have higher preference for leisure, because they might want to utilize their stock of accumulated goods and might be already exhausted from long working careers. Using the words of Gordon and Blinder (1980, p. 278), "(...) as people age, their preferences may shift in favor of leisure and against work".

Following these considerations, older individuals are likely to have higher reservation wages and, consequently, lower employment rates.

2.2. Job Search Models

Referring to the 2010 winners of the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, we present a basic of-the-job search model (e.g., Cahuc and Zylberberg 2004, chapter 3). Here we will follow the influential works of Mortensen (1970) and McCall (1970). Surveys like those by Mortensen and Pissarides (1999) or Rogerson et al. (2005) describe countless different model specific options like on-the-job-search models, matching theories or labor market policy implications. For the case of elderly and gender specific aspects, we include additional considerations concerning the tendency. Search theories are modeled in an environment of economic uncertainty. We assume stationarity and continuity of time. The typical neoclassical matching of a job searcher and a job opening in an infinitesimally short period of time is not a realistic assumption. Here we allow for imperfect information on the labor market, regarding search and information costs. The act of searching is sequential and unemployment benefits are paid over the whole duration of unemployment. A job searcher accepts the first offer when the offered wage is equal to or higher than his desired reservation wage w^R. However, there is only one job offer in one period of time and, once rejected, an offer is irreversibly lost. An non-employed job searcher is unsure of the exact wages that various firms offer. He only knows the wage distribution $F(w)$ of wages w. For the sake of simplicity, we assume a risk-neutral agent, so we are able to interpret the flows of income over time (dt) as an expected utility. Furthermore, we include the

possibility $q > 0$ of losing a job after recruitment and a rate of interest r. Both of them are exogenous and constant over time. To maximize utility over time we include a discount factor $1/(1+rdt)$. By bringing together these assumptions, we start with a Bellman equation, the discounted expected utility of an employed individual (U_e), considering the utility of remaining not employed (U_u).

$$U_e = \frac{1}{1+rdt}\left[wdt + (1-qdt)U_e + qdtU_u \right] \qquad (3)$$

By rearranging expression (3) and multiplying the denominator of the discount factor, we obtain equation (4). The discounted flow of income is added by a mean utility.

$$rU_e = w + q(U_u - U_e) \qquad (4)$$

We express the discounted expected utility of an employed individual as $U_e(w)$. We rewrite the term (5). The gap between both types of utilities rises with higher wages and falls with the discounted utility of a non-employed individual.

$$U_e(w) - U_u = \frac{w - rU_u}{r+q} \qquad (5)$$

Following the restriction that only a single wage job offer can be inspected in one period of time, equation (6) shows that the reservation wages are equal to the discounted utility of a job searcher.

$$w^R = rU_u \qquad (6)$$

We turn towards the utility of a job offer (U_λ). It is the addition of two integrals over different values of utilities for both, the employed and the non-employed. In a basic model λ reflects the exogenous and constant job offer rate.

$$U_{\lambda} = \int_0^{w^R} U_u dF(w) + \int_{w^R}^{\infty} U_e(w) dF(w) \qquad (7)$$

After the intermediate step, we present the utility of a non-employed job searcher U_u. The net non-working income z is the difference between unemployment compensation $b > 0$ and search costs $c > 0$. The utility depends on z and the possibility of receiving a new job offer as described in (8).

$$U_u = \tfrac{1}{1+rdt}[zdt + \lambda dt U_{\lambda} + (1 - \lambda dt) U_u] \qquad (8)$$

By rearranging the utility function, like equations (3) and (4), we get the discounted utility of a job searcher over time.

$$rU_u = z + \lambda \int_{w^R}^{\infty} [U_e(w) - U_u] dF(w) \qquad (9)$$

As we focus on reservation wages, equation (10) allows us to assume the theoretical directions of the relevant variables for age and gender aspects.

$$w^R = z + \tfrac{\lambda}{r+q} \int_{w^R}^{\infty} (w - w^R) dF(w) \qquad (10)$$

At first, public transfers b have positive effects on reservation wages w^R. Higher transfers raise the non-working income z and lead ceteris paribus to higher reservation wages. Unemployment benefits b depend on payoffs from the last job. While wages increase over the lifespan, older individuals receive higher unemployment benefits and non-working income z rises as well. The reservation wages of older individuals are higher and the duration of search is longer. Women face on average lower transfers than men, because of a higher share in part-time employment with lower income. Here non-working income z is smaller and female reservation wages are lower. Because mothers

get additional child-related public compensation transfers b, non-working income z and, consequently, reservation wages are higher. This leads to a longer duration of search for mothers.

Second, we assume that abilities to use modern information technologies and career networks can be different for older individuals and partly for women. Less access to formal and informal information concerning job offers reduces reservation wages. Men and women should have equal abilities for using information technologies. According to Schleife (2006), however, older people have poorer computer skills than younger people. They may face higher job search costs c. Higher costs reduce non-working income z and lead to declining reservation wages w^R.

Third, discrimination by firms may reduce the rate of job offers λ for older workers and women. This leads to fewer job offers and to lower reservation wages w^R. A fast sequence allows the job to search for longer, because of a high possibility of attracting higher wage offers, and vice versa. According to Hutchens (1988), older employees have a smaller range of career possibilities than younger people. Steiner (2001) shows that women may face discrimination because of maternity protections.

The quantity and the quality of career networks can be influential on the job offer rate λ. A larger network may lead to more contacts with firms and more job offers. A higher quality network should lead to better information concerning specific firms and their job openings and certain characteristics. Search costs should decline, because of a better matching quality and fewer contacts with firms. Cappellari and Tatsiramos (2010) show that both network effects exist. The number of employed friends increases the probability of re-employment. These jobs are better paid and have lower lay-off risks.

We assume that the career network increases in the early years of working life and shrinks near the retirement age. So, older job searchers should have smaller networks than younger people. Women may have smaller network groups among the working population, as well. This may be the case especially for mothers.

2.3. Previous Empirical Findings

A large part of the theoretical and empirical literature on reservation wages is concerned with macroeconomic aspects such as unemployment rates and public unemployment insurances (Feldstein and Poterba 1984; Shimer and Werning 2007; Ljungqvist and Sargent 2008), which are beyond the scope of this paper. Therefore, we summarize only selected empirical studies that are of special relevance for our paper (see Table 2).

- insert Table 2 about here

Using U.S. data, Kiefer and Neumann (1979) show that reservation wages decline with duration of unemployment. Gordon and Blinder (1980) analyze the U.S Longitudinal Retirement History Survey for older men concerning their retirement decisions. Here age and health play a central role for reservation wages. While reservation wages increase by about four percent each year from the age of 58 to 65, ill health increases reservation wages by about seven percent.

For data on Western German unemployment statistics, Franz (1982) presents a positive effect of public unemployment compensation concerning the duration of unemployment. Maani and Studenmund (1986) confirm a decline in reservation wages over unemployment duration for the case of unemployed Chilean men. Jones (1989)

presents for Great Britain a positive effect of the last paid wages on the levels of reservation wages. Women have lower reservation wages than men. Schmidt and Winkelmann (1993) use official unemployment data for Western Germany to show a positive effect on reservation wages for men, but no statistical significance for age and family aspects. Using the Dutch Socio-Economic Panel, Gorter and Gorter (1993) discuss for the Netherlands a positive relation between education levels and age on reservation wages. With the same dataset, Bloemen and Stancanelli (2001) show a positive effect of wealth on reservation wages. They assume a squared age function.

Based on SOEP data for Western Germany, Prasad (2001) finds that higher education raises reservation wages. Being married or having children lowers reservation wages. Because of a squared function for age, reservation wages rise in early years and decline around the age of forty. With the same data set Prasad (2004) shows that married men have higher reservation wages than married women. Children have a positive effect on reservation wages only for men, and not for women. Furthermore, there is no statistical influence of regional or nationwide unemployment rates on reservation wages. Christensen (2005) uses SOEP data for Western Germany to show that average reservation wages are higher than the last market wages before non-employment. The results concerning age and gender are similar to Prasad (2004). Reservation wages do not decline with duration of unemployment. This finding is interpreted as a stationary level of reservation wages over time. Similar results are reported by Addison et al. (2009) by using the European Community Household Panel. Here cross-country information is used to investigate a positive relation between unemployment insurance and reservation wages in thirteen countries. Most of them have reservation wages that are constant over the duration of non-employment. Pannenberg (2010) finds that on

average unemployed individuals have higher risk aversion than the employed. By using SOEP data for Germany, he shows that risk aversion and reservation wages are negatively correlated.

Using the British Household Panel Survey, Brown et al. (2010a) compare for men weekly information about reservation wages and market wages. Both types of wages increase with age, but decline after the age of 55. With the same data, Brown et al. (2010b) find lower reservation wages among women, which is interpreted as a positive gender reservation wage gap. Effects of gender and family aspects such as motherhood explain parts of the gap. Constant et al. (2010) present an increase of hourly reservation wages between two generations of migrants in Germany. They use information from the IZA Evaluation Dataset to calculate a gap of 3.5 percent. Krueger and Mueller (2011) use a sample of unemployed individuals from the U.S. state of New Jersey to analyze job search. Here reservation wages are stable in younger and middle ages, but decline after the age of 50.

Chan and Stevens (2001) show for U.S. data that older individuals have low probabilities of being re-employed after job loss. They compute a gap in employment rates of about 20 percent between displaced and non-displaced workers. While younger employees have a wide range of job opportunities, Hutchens (1988) reports that older employees are clustered into only a few sectors or professional fields. Gielen (2009) analyzes British micro data and shows that older workers prefer to reduce their working time. While men reduce their working hours and remain employed, women leave the labor market completely. This is interpreted as a need for more working time flexibility especially for women.

Hunt (1995) and Steiner (2001) calculate hazard rates for Western Germany based on SOEP data. Hunt shows that an increase in entitlement to unemployment compensation increases the duration of unemployment. Steiner argues that the older non-employed and women with young children have lower probabilities of being employed than young men or childless women. Fitzenberger and Wilke (2010) confirm the findings of Hunt and Steiner by using German employment data. They show an overall increase in duration of non-employment, but not for job searcher between two jobs.

A review of the literature reveals that most authors use monthly information concerning reservation wages. We prefer the use of hourly information, because of a possible bias in the monthly variable. Unfortunately, only a few sources offer this information from the data. Gordon and Blinder (1980) calculate hourly reservation wages using wage information out of the Longitudinal Retirement History Survey (LRHS) for their analyses. As far as we know, only newer papers use hourly information. Bloemen and Stancanelli (2001) use data from the Dutch Socio-Economic Panel (SEP) for the years 1987 to 1990. Addison et al. (2009) use data of the European Community Household Panel (ECHP) for the years 1994 to 1999. Information concerning reservation wages is not always included for every country and every year. The German data, for example, are taken from special administrative data only for the years 1994 to 1996. Brown at al. (2010b) use hourly data from the British Household Panel Survey (BHPS) for the years 1991 to 2007. A new source, the IZA Evaluation Dataset, is used by Constant et al. (2010). Here information is included concerning migration aspects. Krueger and Mueller (2011) use hourly reservation wages from weekly interviews based on detailed administrative unemployment information from New Jersey. The survey covers the

period of 24 weeks from fall 2009 to spring 2010. The sources using the SOEP data discussed above have used monthly information, whereas we focus on hourly information.

3. Data and Variables

We use representative German household data from the German Socio-Economic Panel (SOEP) (Wagner et al. 2007). Because of missing variables in some waves, the data set is limited to the waves from 1997 to 2008 with a special focus on the years 2007 and 2008. The distinction between these samples is required because our main interest is in hourly reservation wages, which can only be computed for the years 2007 and 2008. As we are interested in non-employed and employed individuals, all pensioners, individuals in military or community service, individuals in apprenticeships or trainings, self-employed or freelancers, and individuals working in family businesses have been excluded from the data. Two estimation samples are used: a cross-section for the two years of 2007 and 2008 and a longer unbalanced panel from 1997 to 2008, for which panel estimates are performed as robustness checks to reduce time invariant unobserved heterogeneity. The short sample includes 3812 observations of 3022 individuals, with 1905 observations of 1522 non-employed individuals concerning reservation wages (617 men and 905 women) and 1907 observations of 1757 employed individuals concerning entry wages (819 men and 938 women). The long sample includes a total of 101500 observations of 20712 individuals (10733 men and 9979 women).

In our empirical analysis we are going to compare the results from regressions for log hourly reservation wages and log hourly entry wages to obtain insights into age and

gender differences as potential explanations for differences in observed employment rates. We further compare these results with estimates for log monthly reservation and entry wages in order to evaluate a potential specification bias that might lead to wrong conclusions. Additional regressions for preferred and actual working hours, leisure and job satisfaction are estimated to analyze if differences in preferences for leisure relative to work might be the reason for age and gender differences in reservation wages. Equation (11) presents the basic estimation framework, in which Y_{it} represents the different dependent variables, mentioned above, for individual i in year t. The main explanatory variables of interest are age groups (18-25 as reference, 26-35, 36-45, 46-55, 56-65) with coefficients α. X_{it} denotes a vector of additional explanatory variables with the coefficients β. ε_{it} is the usual remaining error term. A list of the variables and short descriptions are displayed in Table 3. Descriptive statistics for all sub-samples can be found in Appendix A (Tables A.1 to A.12).

$$Y_{it} = \alpha_1 + \alpha_2 Age_{2,it} + \alpha_3 Age_{3,it} + \alpha_4 Age_{4,it} + \alpha_5 Age_{5,it} + X_{it}\beta + \varepsilon_{it} \qquad (11)$$

- insert Table 3 about here

Reservation wages are asked about in the SOEP questionnaire in this way: "How high would your net income or salary have to be for you to take a position offered to you?". This question is asked to individuals without paid employment, but who intend to be engaged in paid employment in the near future. To get hourly information we use a question concerning the desired working hours of the unemployed, which is included in the survey since 2007: "In your opinion how many hours a week would you have to work to earn this net income?". Entry wages are calculated only for employed individuals with less than one year of tenure. For all wage variables we take the

logarithm. Because of implausible interpretation, we drop all observations with wages below one Euro.

Concerning the working time aspects, we compare desired and actual working hours. For job searchers we have information about their desired hours only in 2007 and 2008, while we know these for employed individuals over the long sample as well. For employed individuals we are able to compare the desired with the actual working time. To analyze possible effects of shifting preferences, we perform regressions for satisfaction with leisure and job. While job satisfaction is only given for employed individuals, satisfaction with leisure is available for everyone. All types of satisfaction variables use a likert scale of ascending order from 0 to 10.

As explanatory variables we use a set of socioeconomic determinants. We focus on age and gender aspects and the influence of children on labor supply. Additionally we control for household income, education, state of health, German citizenship, regional unemployment rate, years, and federal states. The sample is limited to observations between 18 and 65 years. The age of 18 is the German age of legal majority and 65 is the legal retirement age. We use five age groups (18-25, 26-35, 36-45, 46-55, 56-65) to allow for non-linear age effects. The variable “female” is a dummy for women. Another dummy variable controls for the presence of children under the age of sixteen in a household. The household income is used as the logarithm of the adjusted monthly net household income. This is a proxy for non-working income and wealth. To control for education we include secondary schooling degrees, vocational and college degrees. “Schooling” is encoded into three characteristics of lowest, intermediate, and upper school degree. “Vocational” and “university” are dummy variables for the respective degrees. The subjective state of health is measured in the variable “health” with three

categories: good, normal, and bad. The variable "German" controls for German citizenship. In the regressions concerning satisfaction with leisure and work, we control additionally for the overall life satisfaction.

The regional unemployment rate[1] in the month of the interview is included to control for state and month specific differences in labor market conditions. Because of regional aggregations in the SOEP data, Rhineland-Palatinate and Saarland is treated as one state. Here we use information in the regional directorate of the Federal Employment Agency. To control for further regional differences, we include dummy variables for all German federal states.

4. Empirical Results

4.1. Reservation and Entry Wages

In the first part of our empirical analysis, we estimate log-linear earnings functions in order to evaluate age and gender differences in reservation and entry wages. Since information about working hours for stated monthly reservation income is not available before the year 2007, we can only make use of the waves 2007 and 2008. Due to the fact that reservation wages are only reported in the case of non-employment and that entry wages (wages if tenure is less than one year) only occur at the start of an employment relationship, we estimate cross section OLS regressions. At first, we will turn to our main results for hourly reservation and entry wages. Afterwards, we will

[1] This information is taken from a long time-series of German federal unemployment statistics, which is published on the homepages of the German Federal Statistical Office.

estimate further regressions for monthly reservation and entry wages to show that the monthly information is unsuitable for many topics, as the results can lead to wrong conclusions.

The regression results for log hourly reservation and entry wages are displayed in Table 4. The first two columns comprise the results for the complete sample. It can be seen that hourly reservation and entry wages increase with age, but that the age effect on reservation wages is greater than on entry wages. This finding is consistent with our consideration that older workers may remain voluntarily non-employed because their reservation wages are larger than the potential offered wages for which our entry wages serve as proxies. Women have on average about 6 percent lower reservation wages than men. As the entry wages of women are even lower (by approximately 13 percent), the gap between reservation and entry wages is larger for women, which might partly explain the gender gap in employment rates. The results further indicate a positive correlation between reservation and entry wages, on the one side, and the presence of children in the household, education, good health, and household income, on the other side.

- insert Table 4 about here

Due to significant gender differences in the determinants of reservation and entry wages, our further discussion focuses on separate estimates for men and women. Columns three and four include the results for men and columns five and six for women. The reservation wages of men do not significantly differ between age groups from 26 to 55 years but are significantly larger for men older than 55 years. Entry wages for older male workers increase by about the same amount. The results for women are

quite different. Whereas their reservation wages strongly increase with age, their entry wages do not. An explanation for this finding may be that the age effects on preferences towards leisure and consumption do not significantly differ between men and women, which will lead to small differences in the age effects on reservation wages. Entry wages, on the other hand, depend strongly on productivity, which is positively affected by on-the-job training and negatively by employment interruptions (depreciation of human capital). Since women have more frequently interrupted employment biographies than men (due to, e.g., family responsibilities), their entry wages on average do not increase with age as is the case for men. From our findings, it follows that the increasing with age gender gap in employment rates might be a result of the increasing with age gender gap in the difference between reservation and entry wages.

Another interesting gender difference in the determinants of reservation and entry wages is the effect of the presence of children in the household. Whereas children have no effect on the reservation wages of men, they have significant positive effects on the reservation wages of women. This finding is consistent with our theoretical consideration that mothers have a lower time budget, from which time can be allocated to market work, and higher preferences for leisure in order to care for their children. From both arguments, there follows a larger marginal rate of substitution between leisure and consumption and, hence, larger reservation wages for mothers. Fathers are also likely to have preferences for spending time with their children, which will increase their reservation wages. But to compensate the potential losses of mothers' income and to generate additional income for the children, fathers may have to search for jobs with higher intensity and reduce their reservation wages (Browning 1992, p. 1452). We further find that children have a positive effect on male entry wages but not on female

entry wages. Although this finding might seem interesting at first glance, we attribute it largely to institutional arrangements of tax reductions and family subsidies, which are usually accounted for on the primary household earner's payroll. The overall results point to the dominance of the conservative family model, where the mother is concerned with family work and the father with market work.

To sum up our first piece of empirical evidence, the overall results indicate that women and especially mothers and older women have higher reservation wages but not higher entry wages. From this it follows that these groups have lower probabilities of choosing employment over non-employment, which might explain their lower employment rates.

In the next step, we re-estimate the previous regressions using log monthly reservation and entry wages instead of hourly wages. Although most previous studies have used monthly reservation wages instead of hourly reservation wages, a conceptual problem arises. Because monthly reservation wages include also the preferred number of working hours which are likely to be influenced by the same variables but not necessarily in the same direction, estimates are likely to be systematically biased leading to wrong conclusions and policy recommendations. If compared to the results for hourly wages in Table 4, the results for monthly reservation and entry wages in Table 5 illustrate such wrong conclusions. For example, age has negative effects on monthly reservation and entry wages and the presence of children reduces women's monthly reservation wages. The reason for these findings are, however, not negative effects on hourly reservation and entry wages but negative effects on working hours. Moreover, the gender gaps in reservation and entry wages are substantially larger for monthly than hourly data because women prefer to work on average fewer hours. That

such biased results are the outcome of systematic effects on working hours will be illustrated in the next section.

- insert Table 5 about here

4.2. Preferred and Actual Working Hours

In order to validate our statements from the previous section about the effects of age, gender, and presence of children on working hours, we estimate linear regressions for three outcome variables in the years 2007 and 2008: (1) preferred weekly working hours by non-employed job searchers, (2) preferred weekly working hours by those who have started a new job within the last year, and (3) actual weekly working hours by those who have started a new job within the last year. The results in Table 6 show that preferred and actual working hours decrease with age and that the age effect is stronger for women than men. We further find that women prefer on average to work fewer hours and actually work fewer hours than men. Women with children in the household prefer to work fewer hours and actually do so, whereas the presence of children does not significantly affect the labor supply of men (Browning 1992).

- insert Table 6 about here

For preferred weekly working hours and actual weekly working hours by those who are employed, we have longitudinal information and can apply panel estimates for the observation period 1997 to 2008 to reduce problems stemming from unobserved heterogeneity. We have estimated random effects and fixed effects linear models, in which the individual effects are jointly significant. Although the results between the

models do not differ qualitatively, Hausman specification tests reject the null hypothesis of no systematic differences between random and fixed models. As the results from the panel estimates support in general our previous results from the cross-sections for 2007 and 2008, the estimation output is only displayed in Appendix B (Tables B.1 and B.2). The overall findings in this section indicate that women, and especially mothers as well as older workers, voluntarily reduce their labor supply, which might be interpreted as the outcome of greater preferences for leisure.

4.3. Satisfaction with Leisure and Job

According to the labor supply model discussed in the theory section, differences in reservation wages as well as in preferred and actual working hours might be an outcome of leisure preferences. Therefore, we analyze the effect of age on satisfaction with leisure and job satisfaction. Happiness research in economics has received increasing attention in recent years. Frey and Stutzer (2002) found that satisfaction is at least somehow related to the utility concept. Our purpose is to use the information about satisfaction in the for us relevant domains of leisure and work in order to analyze if systematic age differences exists. From a ceteris paribus perspective, such systematic differences are likely to indicate preference changes with age, because we control for household income as proxy for the endowment with wealth. In order to reduce further individual heterogeneity in the estimates, we include a control variable for general life satisfaction. We again use linear regressions for the cross-sections for 2007 and 2008 (see Table 7) and random and fixed effects linear models for the years 1997 to 2008 (see Table B.3 and Table B.4 in Appendix B).

The main consistently estimated result is that older individuals are on average happier with their leisure but not with their jobs; and that this age effect is stronger for women than men. Our finding can be interpreted as an increasing with age preference for leisure relative to work (e.g., Gordon and Blinder 1980), which may explain the higher reservation wages and lower labor supply that result in the lower employment rates of older workers - especially older women.

- insert Table 7 about here

5. Conclusion

In times of demographic change, it is a challenge for policy and Human Resource Management to activate the resources of female and older persons in the labor market to maintain a sufficiently large labor supply and to reduce financial problems in retirement schemes. Such an activation strategy is motivated by the empirical observation that employment rates decrease with age among the elderly and are lower for women than for men. Much political concern focuses on the employer side and leads to appeals to recruit more women and older workers. Without neglecting the fact that discrimination is an important issue, our paper has taken the opposite view and has found empirical support for labor supply side explanations of differences in employment rates. From a theoretical perspective (neoclassical labor supply model, job search models) individuals voluntarily choose non-employment over employment if their reservation wages are larger than the wages offered by firms. We have indeed found empirical evidence that hourly reservation wages increase with age for men and women. However, hourly entry

wages as proxy for offered wages increase with age only for men and not for women, which may partly explain the with age increasing gender gap in employment rates.

As a methodological contribution, we can show that the specification of the reservation wage as an hourly variable instead of a monthly variable yields more plausible results, because age and gender have simultaneous effects on hourly reservation wages and preferred working hours. Older workers and women prefer to work fewer hours and actually do so. In combination with the result that satisfaction with leisure increases relatively to job satisfaction, our findings support the statement of Gordon and Blinder (1980, p. 278) that "(...) as people age, their preferences may shift in favor of leisure and against work". Consequently, the lower employment rates of women and older persons can be partly attributed to the labor supply side and not necessarily to the labor demand side. From this it follows, first, that the productivity of women and older workers needs to be increased so that they can get higher wage offers by firms. Special training programs inside and outside firms, which are targeted at older persons and especially women, might help to maintain or even increase productivity and employability. Second, policy could subsidize employment and especially reintegration into the labor market (e.g., direct transfers, tax reductions), which would also increase offered wages and the employment probability.

Furthermore, we have found gender-specific differences in the family context. The presence of children in the household has positive effects on the reservation wages of women and negative effects on their labor supply, whereas neither reservation wages nor working hours of men are significantly affected. These findings point to the dominance of the traditional family model in Germany that mothers bear the main responsibility for raising children - voluntarily or involuntarily. In order to activate

more mothers for the labor market, firms as well as policy should continue the expansion of more flexible working time schedules and day care for children at the workplace and in the close neighborhood. Especially for Germany, additional full-time school programs might help parents to reduce time restrictions.

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Appendix A: Descriptive statistics (Online-Appendix, for Reviewer)

Table A.1: Descriptive statistics for different samples (2007/2008): all (not-employed, employed), men and women

Variable	Obs.	Mean	Std. Dev.	Min	Max
Reservation Wages hourly	1905	2.028	0.438	0.163	4.075
Reservation Wages monthly	1905	6.895	0.532	3.912	9.210
Entry Wages hourly	1907	1.884	0.503	0.022	4.420
Entry Wages monthly	1907	6.748	0.771	3.296	9.798
Desired Working Hours	1905	33.425	11.415	2	80
Desired Working Hours	1907	34.035	11.261	0	75
Actual Working Hours	1907	35.0142	14.8537	1	77
Leisure Satisfaction	3812	6.654	2.239	0	10
Job Satisfaction	2256	6.592	2.602	0	10
Overall Life Satisfaction	3812	6.626	1.974	0	10
Age Cat. 26-35	3812	0.282	0.450	0	1
Age Cat. 36-45	3812	0.256	0.436	0	1
Age Cat. 46-55	3812	0.176	0.381	0	1
Age Cat. 56-65	3812	0.064	0.244	0	1
Intermediate School	3812	0.353	0.478	0	1
Upper School	3812	0.274	0.446	0	1
Vocational Degree	3812	0.639	0.480	0	1
College Degree	3812	0.159	0.366	0	1
Health: normal	3812	0.287	0.453	0	1
Health: bad	3812	0.131	0.337	0	1
Household Income	3812	7.651	0.631	5.037	10.309
Female	3812	0.562	0.496	0	1
Children	3812	0.437	0.496	0	1

German	3812	0.927	0.260	0	1
Year 2008	3812	0.472	0.499	0	1
Federal States	3812	8.082	3.774	1	15
Unemployment Rate	3812	11.399	4.606	4.4	21.2

Table A.2: Descriptive statistics for different samples (2007/2008): all (not-employed, employed), men

Variable	Obs.	Mean	Std. Dev.	Min	Max
Reservation Wages hourly	780	2.0346	0.4427	0.5680	4.0745
Reservation Wages monthly	780	7.1036	0.4835	4.6052	9.2102
Entry Wages hourly	888	1.9330	0.5267	0.0225	4.2569
Entry Wages monthly	888	7.0412	0.7184	3.8712	9.7981
Desired Working Hours	780	38.8718	8.4303	6	70
Desired Working Hours	888	39.2095	9.0865	0	75
Actual Working Hours	888	41.8833	12.6829	2	77
Leisure Satisfaction	1668	6.6493	2.2130	0	10
Job Satisfaction	1049	6.4433	2.6603	0	10
Overall Life Satisfaction	1668	6.4197	2.0413	0	10
Age Cat. 26-35	1668	0.2716	0.4449	0	1
Age Cat. 36-45	1668	0.2200	0.4144	0	1
Age Cat. 46-55	1668	0.1829	0.3867	0	1
Age Cat. 56-65	1668	0.0923	0.2896	0	1
Intermediate School	1668	0.3171	0.4655	0	1
Upper School	1668	0.2554	0.4362	0	1
Vocational Degree	1668	0.6379	0.4808	0	1
College Degree	1668	0.1451	0.3523	0	1
Health: normal	1668	0.2776	0.4479	0	1
Health: bad	1668	0.1283	0.3345	0	1
Household Income	1668	7.6030	0.6537	5.2983	10.3090
Children	1668	0.3261	0.4689	0	1
German	1668	0.9173	0.2756	0	1
Year 2008	1668	0.4622	0.4987	0	1
Federal States	1668	8.3999	3.8051	1	15
Unemployment Rate	1688	11.7550	4.7329	4.4	21.2

Table A.3: Descriptive statistics for different samples (2007/2008): all (not-employed, employed), women

Variable	Obs.	Mean	Std. Dev.	Min	Max
Reservation Wages hourly	1125	2.0238	0.4352	0.1625	4.0745
Reservation Wages monthly	1125	6.7503	0.5158	3.9120	8.2940
Entry Wages hourly	1019	1.8419	0.4770	0.0572	4.4205
Entry Wages monthly	1019	6.4927	0.7241	3.2958	8.2687
Desired Working Hours	1125	29.6489	11.6880	2	80
Desired Working Hours	1019	29.5265	11.0364	0	60
Actual Working Hours	1019	29.0282	13.9965	1	75
Leisure Satisfaction	2144	6.6576	2.2587	0	10
Job Satisfaction	1207	6.7216	2.5439	0	10
Overall Life Satisfaction	2144	6.7864	1.9051	0	10
Age Cat. 26-35	2144	0.2906	0.4541	0	1
Age Cat. 36-45	2144	0.2840	0.4511	0	1
Age Cat. 46-55	2144	0.1712	0.3768	0	1
Age Cat. 56-65	2144	0.0415	0.1995	0	1
Intermediate School	2144	0.3811	0.4858	0	1
Upper School	2144	0.2887	0.4533	0	1
Vocational Degree	2144	0.6390	0.4804	0	1
College Degree	2144	0.1702	0.3759	0	1
Health: normal	2144	0.2948	0.4560	0	1
Health: bad	2144	0.1329	0.3396	0	1
Household Income	2144	7.6890	0.6109	5.0370	10.1266
Children	2144	0.5233	0.4996	0	1
German	2144	0.9352	0.2463	0	1
Year 2008	2144	0.4795	0.4997	0	1
Federal States	2144	7.8354	3.7327	1	15
Unemployment Rate	2144	11.1212	4.4858	4.4	21.2

Table A.4: Descriptive statistics for different samples (2007/2008): not employed, men and women

Variable	Obs.	Mean	Std. Dev.	Min	Max
Reservation Wages hourly	1905	2.0282	.4382	.1625	4.0745
Reservation Wages monthly	1905	6.8949	0.5319	3.9120	9.2102
Desired Working Hours	1905	33.4252	11.4150	2	80
Leisure Satisfaction	1905	6.9239	2.1996	0	10
Overall Life Satisfaction	1905	6.2766	2.1244	0	10
Age Cat. 26-35	1905	0.2446	0.4300	0	1
Age Cat. 36-45	1905	0.2467	0.4312	0	1
Age Cat. 46-55	1905	0.1890	0.3916	0	1
Age Cat. 56-65	1905	0.0740	0.2619	0	1
Intermediate School	1905	0.3491	0.4768	0	1
Upper School	1905	0.2373	0.4255	0	1
Vocational Degree	1905	0.5827	0.4932	0	1
College Degree	1905	0.1087	0.3113	0	1
Health: normal	1905	0.2892	0.4535	0	1
Health: bad	1905	0.1717	0.3772	0	1
Household Income	1905	7.4927	0.6730	5.0370	10.1266
Female	1905	0.5906	0.4919	0	1
Children	1905	0.4724	0.4994	0	1
German	1905	0.9318	0.2522	0	1
Year 2008	1905	0.4509	0.4977	0	1
Federal States	1905	8.4136	3.9929	1	15
Unemployment Rate	1905	12.1472	4.5869	4.4	21.2

Table A.5: Descriptive statistics for different samples (2007/2008): not employed, men

Variable	Obs.	Mean	Std. Dev.	Min	Max
Reservation Wages hourly	780	2.0346	0.4427	0.5680	4.0745
Reservation Wages monthly	780	7.1036	0.4835	4.6052	9.2102
Desired Working Hours	780	38.8718	8.4303	6	70
Leisure Satisfaction	780	7.0679	2.1400	0	10
Overall Life Satisfaction	780	5.8705	2.2010	0	10
Age Cat. 26-35	780	0.1987	0.3993	0	1
Age Cat. 36-45	780	0.1910	0.3934	0	1
Age Cat. 46-55	780	0.2141	0.4105	0	1
Age Cat. 56-65	780	0.1103	0.3134	0	1
Intermediate School	780	0.2923	0.4551	0	1
Upper School	780	0.2231	0.4166	0	1
Vocational Degree	780	0.5641	0.4962	0	1
College Degree	780	0.0859	0.2804	0	1
Health: normal	780	0.2628	0.4404	0	1
Health: bad	780	0.1859	0.3893	0	1
Household Income	780	7.3890	0.7097	5.2983	10.1266
Children	780	0.3000	0.4586	0	1
German	780	0.9346	0.2474	0	1
Year 2008	780	0.4500	0.4978	0	1
Federal States	780	8.8872	3.9810	1	15
Unemployment Rate	780	12.7030	4.6337	4.4	21.2

Table A.6: Descriptive statistics for different samples (2007/2008) not employed, women

Variable	Obs.	Mean	Std. Dev.	Min	Max
Reservation Wages hourly	1125	2.0238	0.4352	0.1625	4.0745
Reservation Wages monthly	1125	6.7503	0.5158	3.9120	8.2940
Desired Working Hours	1125	29.6489	11.6880	2	80
Leisure Satisfaction	1125	6.8240	2.2355	0	10
Overall Life Satisfaction	1125	6.5582	2.0233	0	10
Age Cat. 26-35	1125	0.2764	0.4474	0	1
Age Cat. 36-45	1125	0.2853	0.4518	0	1
Age Cat. 46-55	1125	0.1716	0.3772	0	1
Age Cat. 56-65	1125	0.0489	0.2157	0	1
Intermediate School	1125	0.3884	0.4876	0	1
Upper School	1125	0.2471	0.4315	0	1
Vocational Degree	1125	0.5956	0.4910	0	1
College Degree	1125	0.1244	0.3302	0	1
Health: normal	1125	0.3076	0.4617	0	1
Health: bad	1125	0.1618	0.3684	0	1
Household Income	1125	7.5645	0.6368	5.0370	9.4335
Children	1125	0.5920	0.4917	0	1
German	1125	0.9298	0.2556	0	1
Year 2008	1125	0.4516	0.4979	0	1
Federal States	1125	8.0853	3.9698	1	15
Unemployment Rate	1125	11.7620	4.5162	4.4	21.2

Table A.7: Descriptive statistics for different samples (2007/2008): employed, men and women

Variable	Obs.	Mean	Std. Dev.	Min	Max
Entry Wages hourly	1907	1.8843	0.5027	0.0225	4.4205
Entry Wages monthly	1907	6.7481	0.7714	3.2958	9.7981
Desired Working Hours	1907	34.0354	11.2614	0	75
Actual Working Hours	1907	35.0142	14.8537	1	77
Leisure Satisfaction	1907	6.3844	2.2451	0	10
Job Satisfaction	1907	7.0703	2.1198	0	10
Overall Life Satisfaction	1907	6.9748	1.7433	0	10
Age Cat. 26-35	1907	0.3199	0.4665	0	1
Age Cat. 36-45	1907	0.2653	0.4416	0	1
Age Cat. 46-55	1907	0.1636	0.3700	0	1
Age Cat. 56-65	1907	0.0535	0.2251	0	1
Intermediate School	1907	0.3571	0.4793	0	1
Upper School	1907	0.3110	0.4630	0	1
Vocational Degree	1907	0.6943	0.4608	0	1
College Degree	1907	0.2098	0.4072	0	1
Health: normal	1907	0.2853	0.4517	0	1
Health: bad	1907	0.0902	0.2865	0	1
Household Income	1907	7.8100	0.5424	5.6384	10.3090
Female	1907	0.5343	0.4989	0	1
Children	1907	0.4017	0.4904	0	1
German	1907	0.9229	0.2668	0	1
Year 2008	1907	0.4929	0.5001	0	1
Federal States	1907	7.7514	3.5128	1	15
Unemployment Rate	1907	10.6507	4.5030	4.4	21.2

Table A.8: Descriptive statistics for different samples (2007/2008): employed, men

Variable	Obs.	Mean	Std. Dev.	Min	Max
Entry Wages hourly	888	1.9330	0.5267	0.0225	4.2569
Entry Wages monthly	888	7.0412	0.7184	3.8712	9.7981
Desired Working Hours	888	39.2095	9.0865	0	75
Actual Working Hours	888	41.8833	12.6829	2	77
Leisure Satisfaction	888	6.2815	2.2119	0	10
Job Satisfaction	888	6.9595	2.1647	0	10
Overall Life Satisfaction	888	6.9020	1.7545	0	10
Age Cat. 26-35	888	0.3356	0.4725	0	1
Age Cat. 36-45	888	0.2455	0.4306	0	1
Age Cat. 46-55	888	0.1554	0.3625	0	1
Age Cat. 56-65	888	0.0766	0.2661	0	1
Intermediate School	888	0.3390	0.4736	0	1
Upper School	888	0.2838	0.4511	0	1
Vocational Degree	888	0.7027	0.4573	0	1
College Degree	888	0.1971	0.3980	0	
Health: normal	888	0.2905	0.4543	0	1
Health: bad	888	0.0777	0.2679	0	1
Household Income	888	7.7910	0.5339	6.0064	10.3090
Children	888	0.3491	0.4770	0	1
German	888	0.9020	0.2974	0	1
Year 2008	888	0.4730	0.4996	0	1
Federal States	888	7.9718	3.5917	1	15
Unemployment Rate	888	10.9224	4.6645	4.4	21.2

Table A.9: Descriptive statistics for different samples (2007/2008): employed, women

Variable	Obs.	Mean	Std. Dev.	Min	Max
Entry Wages hourly	1019	1.8419	0.4770	0.0572	4.4205
Entry Wages monthly	1019	6.4927	0.7241	3.2958	8.2687
Desired Working Hours	1019	29.5265	11.0364	0	60
Actual Working Hours	1019	29.0282	13.9965	1	75
Leisure Satisfaction	1019	6.4740	2.2710	0	10
Job Satisfaction	1019	7.1668	2.0761	0	10
Overall Life Satisfaction	1019	7.0383	1.7319	0	10
Age Cat. 26-35	1019	0.3062	0.4611	0	1
Age Cat. 36-45	1019	0.2826	0.4505	0	1
Age Cat. 46-55	1019	0.1708	0.3765	0	1
Age Cat. 56-65	1019	0.0334	0.1797	0	1
Intermediate School	1019	0.3729	0.4838	0	1
Upper School	1019	0.3346	0.4721	0	1
Vocational Degree	1019	0.6869	0.4640	0	1
College Degree	1019	0.2208	0.4150	0	1
Health: normal	1019	0.2807	0.4495	0	1
Health: bad	1019	0.1011	0.3016	0	1
Household Income	1019	7.8265	0.5495	5.6384	10.1266
Children	1019	0.4475	0.4975	0	1
German	1019	0.9411	0.2355	0	1
Year 2008	1019	0.5103	0.5001	0	1
Federal States	1019	7.5594	3.4329	1	15
Unemployment Rate	1019	10.4138	4.3458	4.4	21.2

Table A.10: Descriptive statistics for different samples (1997-2008): all (not-employed, employed), men and women

Variable	Obs.	Mean	Std. Dev.	Min	Max
Desired Working Hours	101500	34.9537	9.5493	.4	99.9
Actual Working Hours	101500	38.3921	11.9000	1	80
Leisure Satisfaction	101500	6.5124	2.1414	0	10
Job Satisfaction	101500	7.0241	1.9661	0	10
Overall Life Satisfaction	101500	7.1042	1.6007	0	10
Age Cat. 26-35	101500	0.2378	0.4257	0	1
Age Cat. 36-45	101500	0.3188	0.4660	0	1
Age Cat. 46-55	101500	0.2614	0.4394	0	1
Age Cat. 56-65	101500	0.1102	0.3132	0	1
Intermediate School	101500	0.3623	0.4807	0	1
Upper School	101500	0.2716	0.4448	0	1
Vocational Degree	101500	0.7277	0.4451	0	1
College Degree	101500	0.2319	0.4221	0	1
Health: normal	101500	0.3093	0.4622	0	1
Health: bad	101500	0.0993	0.2991	0	1
Household Income	101500	7.9199	0.4750	3.8286	11.5308
Female	101500	0.4664	0.4989	0	1
Children	101500	0.3942	0.4887	0	1
German	101500	0.9135	0.2811	0	1
Unemployment Rate	101500	12.1667	5.1103	4.1	25.7
Federal States	101500	7.7224	3.4697	1	15

Table A.11: Descriptive statistics for different samples (1997-2008): all (not-employed, employed), men

Variable	Obs.	Mean	Std. Dev.	Min	Max
Desired Working Hours	54164	38.9960	7.0750	1	99.9
Actual Working Hours	54164	43.3535	8.7983	1	80
Leisure Satisfaction	54164	6.5151	2.1172	0	10
Job Satisfaction	54164	7.0375	1.9450	0	10
Overall Life Satisfaction	54164	7.1249	1.5713	0	10
Age Cat. 26-35	54164	0.2450	0.4301	0	1
Age Cat. 36-45	54164	0.3166	0.4651	0	1
Age Cat. 46-55	54164	0.2529	0.4347	0	1
Age Cat. 56-65	54164	0.1216	0.3269	0	1
Intermediate School	54164	0.3154	0.4647	0	1
Upper School	54164	0.2822	0.4501	0	1
Vocational Degree	54164	0.7323	0.4428	0	1
College Degree	54164	0.2410	0.4277	0	1
Health: normal	54164	0.3045	0.4602	0	1
Health: bad	54164	0.0910	0.2876	0	1
Household Income	54164	7.9354	0.4530	4.5747	11.3504
Children	54164	0.4187	0.4933	0	1
German	54164	0.9035	0.2953	0	1
Unemployment Rate	54164	12.0308	5.0408	4.1	25.7
Federal States	54164	7.6611	3.4331	1	15

Table A.12: Descriptive statistics for different samples (1997-2008): all (not-employed, employed), women

Variable	Obs.	Mean	Std. Dev.	Min	Max
Desired Working Hours	47336	30.3283	9.9079	0.4	90
Actual Working Hours	47336	32.7152	12.4371	1	80
Leisure Satisfaction	47336	6.5093	2.1688	0	10
Job Satisfaction	47336	7.0088	1.9899	0	10
Overall Life Satisfaction	47336	7.0805	1.6334	0	10
Age Cat. 26-35	47336	0.2296	0.4205	0	1
Age Cat. 36-45	47336	0.3213	0.4670	0	1
Age Cat. 46-55	47336	0.2711	0.4445	0	1
Age Cat. 56-65	47336	0.0972	0.2962	0	1
Intermediate School	47336	0.4159	0.4929	0	1
Upper School	47336	0.2596	0.4384	0	1
Vocational Degree	47336	0.7225	0.4478	0	1
College Degree	47336	0.2216	0.4153	0	1
Health: normal	47336	0.3148	0.4644	0	1
Health: bad	47336	0.1088	0.3114	0	1
Household Income	47336	7.9022	0.4984	3.8286	11.5308
Children	47336	0.3662	0.4818	0	1
German	47336	0.9250	0.2634	0	1
Unemployment Rate	47336	12.3222	5.1843	4.4	25.7
Federal States	47336	7.7925	3.5097	1	15

Appendix B: Results from panel estimations

Table B.1: Preferred working hours (1997-2008, random and fixed effects)

	All	Men		Women	
	Random Effects	Random Effects	Fixed Effects	Random Effects	Fixed Effects
Age Categories					
Ref: 18-25					
26 - 35	-0.2314**	1.3071***	0.6836***	-1.2315***	-1.1326***
	(0.1053)	(0.1375)	(0.1657)	(0.1575)	(0.1831)
36 - 45	-0.5304***	1.2908***	0.6860***	-2.0881***	-1.2326***
	(0.1186)	(0.1516)	(0.1946)	(0.1802)	(0.2278)
46 - 55	-0.9401***	1.0664***	0.7339***	-2.9748***	-1.3594***
	(0.1282)	(0.1628)	(0.2221)	(0.1941)	(0.2606)
56 - 65	-1.9730***	0.2150	0.3371	-4.1800***	-1.7873***
	(0.1488)	(0.1852)	(0.2583)	(0.2305)	(0.3105)
Female	-8.9498***				
	(0.1087)				
Children	-1.8222***	0.1004	-0.0856	-4.2532***	-3.3345***
	(0.0632)	(0.0775)	(0.0887)	(0.1011)	(0.1146)
Intermediate School	0.6884***	0.4436***	0.6770***	1.0098***	0.4029
	(0.1124)	(0.1362)	(0.2322)	(0.1749)	(0.3055)
Upper School	-0.2336*	-0.7537***	1.1245***	0.1608	0.7018*
	(0.1369)	(0.1661)	(0.2928)	(0.2136)	(0.3899)
Vocational Degree	1.3045***	1.0843***	0.4469***	1.4142***	0.6362***
	(0.0906)	(0.1125)	(0.1488)	(0.1403)	(0.1833)
College Degree	3.0421***	2.1688***	4.1715***	3.4455***	5.4054***

	(0.1362)	(0.1657)	(0.2830)	(0.2124)	(0.3765)
Health					
Ref: Good					
Normal	-0.1745***	-0.0876	-0.0725	-0.2808***	-0.3214***
	(0.0496)	(0.0630)	(0.0670)	(0.0772)	(0.0811)
Bad	-0.4050***	-0.2330**	-0.1997*	-0.5777***	-0.7207***
	(0.0790)	(0.1030)	(0.1107)	(0.1193)	(0.1265)
Household Income	-0.0189	0.6505***	0.4515***	-0.5335***	-0.0321
	(0.0678)	(0.0898)	(0.1085)	(0.0995)	(0.1174)
German	-1.2425***	-0.5539***	-0.7869**	-1.9018***	-1.3902**
	(0.1733)	(0.1991)	(0.4006)	(0.2838)	(0.5728)
Unemployment Rate	0.0300**	0.0008	0.0141	0.0626***	0.0820***
	(0.0122)	(0.0155)	(0.0161)	(0.0190)	(0.0195)
Federal States	yes	yes	yes	yes	yes
Constant	38.5969***	31.4852***	33.7030***	35.5439***	28.9977***
	(0.6394)	(0.8244)	(1.2599)	(0.9481)	(1.5214)
R^2	0.2496	0.0188	0.0079	0.1785	0.0335
Breusch-Pagan-Test	76567.62	27260.09		36876.43	
F-Test			6.06		7.88
Hausman-Test		328.18		714.26	
Number of Observations	101500	54164	54164	47336	47336
Number of Individuals	20712	10733	10733	9979	9979

Notes: Random Effects GLS, Fixed Effects OLS, robust standard errors in parentheses, levels of significance ***1%, **5%, *10%, SOEP (1997-2008).

Table B.2: Actual working hours (1997-2008, random and fixed effects)

	All	Men		Women	
	Random Effects	Random Effects	Fixed Effects	Random Effects	Fixed Effects
Age Categories					
Ref: 18-25					
26 - 35	0.5582***	2.5767***	1.2637***	-0.7854***	-1.1015***
	(0.1182)	(0.1545)	(0.1788)	(0.1763)	(0.1979)
36 - 45	0.2177	2.8578***	1.1678***	-2.0963***	-2.0478***
	(0.1349)	(0.1721)	(0.2100)	(0.2051)	(0.2462)
46 - 55	-0.5284***	2.4180***	0.6097**	-3.4338***	-2.9394***
	(0.1473)	(0.1867)	(0.2398)	(0.2236)	(0.2817)
56 - 65	-1.6696***	1.3937***	-0.1830	-4.5925***	-3.6780***
	(0.1715)	(0.2132)	(0.2788)	(0.2658)	(0.3357)
Female	-11.0108***				
	(0.1393)				
Children	-2.4358***	0.0334	-0.1801*	-5.5365***	-4.4660***
	(0.0706)	(0.0866)	(0.0958)	(0.1131)	(0.1239)
Intermediate School	1.1018***	0.7698***	0.4932**	1.6088***	0.3676
	(0.1342)	(0.1615)	(0.2506)	(0.2100)	(0.3303)
Upper School	0.1849	-0.5586***	1.3182***	0.7823***	0.1840
	(0.1632)	(0.1962)	(0.3161)	(0.2566)	(0.4215)
Vocational Degree	1.6605***	1.4637***	0.5100***	1.7806***	0.8592***
	(0.1041)	(0.1290)	(0.1606)	(0.1615)	(0.1981)
College Degree	5.4278***	4.2338***	5.7065***	6.2372***	7.8177***
	(0.1617)	(0.1949)	(0.3055)	(0.2544)	(0.4070)
Health					

Ref: Good					
Normal	0.0722	0.1381**	0.1165	-0.0094	-0.0505
	(0.0545)	(0.0692)	(0.0723)	(0.0847)	(0.0877)
Bad	0.1561*	0.1827	0.1597	0.1263	0.0139
	(0.0870)	(0.1135)	(0.1195)	(0.1312)	(0.1368)
Household Income	1.7368***	2.2042***	1.8155***	1.4459***	1.6561***
	(0.0764)	(0.1013)	(0.1172)	(0.1122)	(0.1269)
German	-0.7129***	0.1893	0.1017	-1.7245***	-1.4185**
	(0.2102)	(0.2397)	(0.4325)	(0.3464)	(0.6192)
Unemployment Rate	-0.0594***	-0.0883***	-0.0975***	-0.0238	-0.0317
	(0.0133)	(0.0170)	(0.0174)	(0.0207)	(0.0211)
Federal States	yes	yes	yes	yes	yes
Constant	27.5318***	20.9573***	25.8553***	21.6904***	22.0516***
	(0.7387)	(0.9462)	(1.3600)	(1.0993)	(1.6447)
R^2	0.2676	0.0735	0.0199	0.1952	0.0524
Breusch-Pagan-Test	100000	38425.18		51803.79	
F-Test			8.59		11.51
Hausman-Test		552.20		707.82	
Number of Observations	101500	54164	54164	47336	47336
Number of Individuals	20712	10733	10733	9979	9979

Notes: Random Effects GLS, Fixed Effects OLS, robust standard errors in parentheses, levels of significance ***1%, **5%, *10%, SOEP (1997-2008).

Table B.3: Satisfaction with leisure (1997-2008, random and fixed effects)

	All	Men		Women	
	Random Effects	Random Effects	Fixed Effects	Random Effects	Fixed Effects
Age Categories					
Ref: 18-25					
26 - 35	-0.1893***	-0.2835***	-0.2409***	-0.0936**	-0.0345
	(0.0273)	(0.0387)	(0.0496)	(0.0387)	(0.0494)
36 - 45	-0.1182***	-0.1936***	-0.2054***	-0.0468	0.0426
	(0.0298)	(0.0419)	(0.0583)	(0.0426)	(0.0615)
46 - 55	0.0585*	-0.0039	-0.0950	0.1103**	0.2181***
	(0.0314)	(0.0443)	(0.0666)	(0.0446)	(0.0704)
56 - 65	0.2031***	0.1010**	-0.0746	0.3096***	0.3523***
	(0.0362)	(0.0500)	(0.0774)	(0.0529)	(0.0839)
Female	-0.0120				
	(0.0218)				
Children	-0.2922***	-0.2681***	-0.1973***	-0.3263***	-0.2474***
	(0.0164)	(0.0219)	(0.0265)	(0.0247)	(0.0309)
Intermediate School	-0.0237	-0.0488	0.0217	0.0086	-0.1827**
	(0.0252)	(0.0348)	(0.0694)	(0.0365)	(0.0824)
Upper School	-0.0415	-0.0765*	0.0735	0.0001	-0.1337
	(0.0309)	(0.0428)	(0.0876)	(0.0448)	(0.1051)
Vocational Degree	0.0114	-0.0064	-0.0180	0.0272	0.0041
	(0.0220)	(0.0304)	(0.0445)	(0.0318)	(0.0494)
College Degree	-0.2377***	-0.2483***	-0.0688	-0.2158***	-0.2288**
	(0.0309)	(0.0430)	(0.0846)	(0.0446)	(0.1015)
Health					

Ref: Good					
Normal	-0.2329***	-0.1859***	-0.1372***	-0.2851***	-0.2238***
	(0.0137)	(0.0187)	(0.0202)	(0.0202)	(0.0221)
Bad	-0.3249***	-0.2685***	-0.2167***	-0.3843***	-0.2891***
	(0.0221)	(0.0309)	(0.0339)	(0.0315)	(0.0348)
Household Income	-0.1275***	-0.1118***	-0.0846***	-0.1452***	-0.2052***
	(0.0173)	(0.0251)	(0.0325)	(0.0239)	(0.0317)
German	0.3738***	0.3386***	-0.0642	0.4261***	-0.1631
	(0.0378)	(0.0499)	(0.1198)	(0.0577)	(0.1544)
Unemployment Rate	-0.0170***	-0.0085*	-0.0107**	-0.0266***	-0.0243***
	(0.0034)	(0.0046)	(0.0048)	(0.0050)	(0.0053)
Overall Life Satisfaction	0.3195***	0.3110***	0.2361***	0.3292***	0.2441***
	(0.0043)	(0.0059)	(0.0067)	(0.0062)	(0.0070)
Federal States	yes	yes	yes	yes	yes
Constant	5.7101***	5.6077***	6.3104***	5.8079***	7.4136***
	(0.1576)	(0.2263)	(0.3791)	(0.2192)	(0.4124)
R^2	0.1588	0.1495	0.0363	0.1709	0.0446
Breusch-Pagan-Test	46635.29	27423.27		19131.21	
F-Test			4.75		4.12
Hausman-Test		726.69		779.60	
Number of Observations	101500	54164	54164	47336	47336
Number of Individuals	20712	10733	10733	9979	9979

Notes: Random Effects GLS, Fixed Effects OLS, robust standard errors in parentheses, levels of significance ***1%, **5%, *10%, SOEP (1997-2008).

Table B.4: Satisfaction with job (1997-2008, random and fixed effects)

	All	Men		Women	
	Random Effects	Random Effects	Fixed Effects	Random Effects	Fixed Effects
Age Categories					
Ref: 18-25					
26 - 35	-0.0380	-0.0462	-0.1316***	-0.0395	-0.1688***
	(0.0252)	(0.0350)	(0.0465)	(0.0366)	(0.0480)
36 - 45	-0.0597**	-0.0835**	-0.2187***	-0.0429	-0.2777***
	(0.0273)	(0.0375)	(0.0546)	(0.0399)	(0.0598)
46 - 55	-0.0892***	-0.1488***	-0.3910***	-0.0291	-0.4230***
	(0.0286)	(0.0393)	(0.0624)	(0.0416)	(0.0684)
56 - 65	-0.1115***	-0.1610***	-0.5648***	-0.0746	-0.6740***
	(0.0329)	(0.0443)	(0.0725)	(0.0493)	(0.0816)
Female	-0.0094				
	(0.0190)				
Children	0.0467***	-0.0219	-0.0208	0.1274***	0.1165***
	(0.0151)	(0.0197)	(0.0249)	(0.0232)	(0.0300)
Intermediate School	-0.0202	0.0057	0.0201	-0.0556*	-0.0672
	(0.0224)	(0.0301)	(0.0651)	(0.0334)	(0.0801)
Upper School	-0.0457*	0.0118	-0.0125	-0.1100***	0.0943
	(0.0275)	(0.0371)	(0.0821)	(0.0410)	(0.1022)
Vocational Degree	0.0330*	0.0350	0.0666	0.0377	0.0208
	(0.0199)	(0.0268)	(0.0417)	(0.0296)	(0.0480)
College Degree	0.0514*	0.0417	0.0268	0.0484	-0.0070
	(0.0275)	(0.0374)	(0.0793)	(0.0409)	(0.0987)
Health					

Ref: Good					
Normal	-0.3700***	-0.3748***	-0.3036***	-0.3628***	-0.3065***
	(0.0129)	(0.0172)	(0.0190)	(0.0193)	(0.0215)
Bad	-0.6758***	-0.6847***	-0.6002***	-0.6666***	-0.5736***
	(0.0206)	(0.0284)	(0.0317)	(0.0300)	(0.0339)
Household Income	0.0770***	0.1097***	0.0804***	0.0522**	-0.0219
	(0.0158)	(0.0224)	(0.0305)	(0.0224)	(0.0308)
German	0.1174***	0.0828*	-0.2048*	0.1485***	0.1462
	(0.0334)	(0.0428)	(0.1123)	(0.0526)	(0.1502)
Unemployment Rate	-0.0039	-0.0053	-0.0093**	-0.0019	-0.0058
	(0.0032)	(0.0043)	(0.0045)	(0.0048)	(0.0051)
Overall Life Satisfaction	0.3916***	0.4242***	0.3516***	0.3585***	0.2885***
	(0.0040)	(0.0054)	(0.0062)	(0.0059)	(0.0068)
Federal States	yes	yes	yes	yes	yes
Constant	3.8316***	3.3534***	4.3869***	4.2492***	5.7314***
	(0.1434)	(0.2013)	(0.3553)	(0.2046)	(0.4010)
R^2	0.2184	0.2524	0.0958	0.1861	0.0707
Breusch-Pagan-Test	22177.39	12471.88		9434.75	
F-Test-Test			3.39		3.14
Hausman-Test		678.73		573.66	
Number of Observations	101500	54164	54164	47336	47336
Number of Individuals	20712	10733	10733	9979	9979

Notes: Random Effects GLS, Fixed Effects OLS, robust standard errors in parentheses, levels of significance ***1%, **5%, *10%, SOEP (1997-2008).

Figures and Tables Included in Text

Table 1: Age and employment rates (in %) for Germany in 2007 and 2008

	2007		2008	
Age Groups	Men	Women	Men	Women
15 - 20	34.9	29.6	35.5	29.2
20 - 25	74.6	67.6	74.7	68.5
25 - 30	86.7	75.9	86.7	76.2
30 - 35	94.9	77.4	94.6	76.4
35 - 40	96.4	80.4	96.0	80.1
40 - 45	95.6	83.7	95.6	83.6
45 - 50	94.4	83.9	94.2	83.9
50 - 55	91.4	79.2	90.9	79.7
55 - 60	82.7	66.7	83.3	67.5
60 - 65	45.1	27.4	46.6	29.4
> 65	5.3	2.4	5.7	2.5
Total: 15 - 65	81.6	69.2	81.8	69.6

Source: Federal Statistical Office (Destatis), Mikrozensus (2007 and 2008).

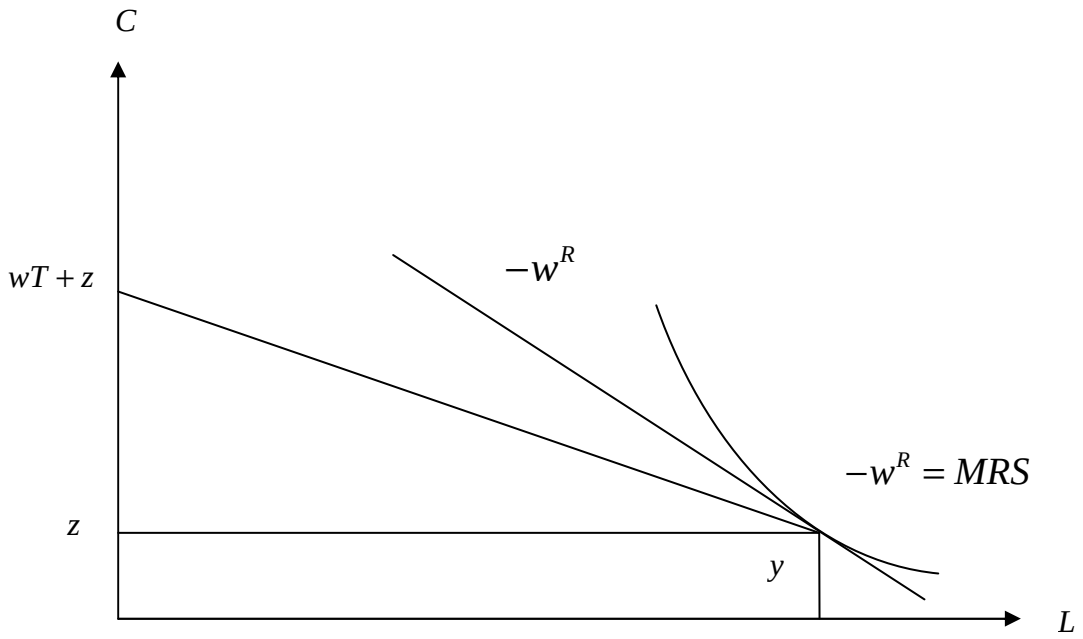

Figure 1: Neoclassical Labor Supply

Table 2: Overview of previous studies on reservation wages

Study: Author	Data: Country, source, years	Reservation wage variable, method	Findings
Kiefer / Neumann (1979)	USA, Survey, 1969-1973	Weekly reservation wages, Maximum-Likelihood,	Reservation wages decline over duration of unemployment
Gordon / Blinder (1980)	USA, LRHS, 1969-1973	Calculated hourly reservation wages, OLS	Reservation wages increase with age and bad health, decline with marriage, mixed effects for children (sample: only men).
Franz (1982)	Germany, Unemployment Register, 1976	Monthly reservation wages, OLS	Unemployment compensations increase over duration of unemployment.
Feldstein / Poterba (1984)	USA, Current Population Survey May 1976, 1976	Monthly reservation wages, OLS	Unemployment insurances increase duration of unemployment.
Maani / Studenmund (1986)	Chile, Survey, 1981-1982	Monthly reservation wages, OLS, 2SLS,	Reservation wages decline over duration of unemployment (sample: only men).
Jones (1989)	Great Britain, Economist Intelligence Unit, 1982,	Monthly reservation wages, OLS	Last wages influence reservation wages positive. Higher reservation wages for men, especially for husbands.
Schmidt / Winkelmann (1993)	Germany, Federal Secretary of Labor ,1978	Monthly reservation wages, OLS	Reservation wages decline with duration of unemployment. Higher reservation wages for men. No significance for age.
Gorter / Gorter (1993)	Netherlands, SEP, 1985-1987	Monthly reservation wages, OLS, 2SLS,	Reservation wages increase with age and education level.
Bloemen / Stancanelli (2001)	Netherlands, SEP, 1987-1990,	Monthly & hourly reservation wages, OLS, IV,	Inverse u-shaped effect of age on reservation wages. Wealth increase reservation wages.
Prasad (2001)	Germany, SOEP, 1984-1997	Monthly reservation wages, OLS,	Inverse u-shaped effect of age on reservation wages. Marriage and children lower reservation wages.
Prasad (2004)	Germany, SOEP, 1984-1997	Monthly reservation wages, OLS,	Higher reservation wages for married men. Children increase only men´s reservation wages.
Christensen (2005)	Germany, SOEP, 1984-2000	Monthly reservation wages, OLS, IV	Reservation wages constant over duration of unemployment. Reservation wages higher than last market wages.
Addison et al. (2009)	13 European Countries, ECHP, 1994-1999	Hourly reservation wages, random & fixed effects	Reservation wages constant with duration of unemployment. Unemployment benefits increase reservation wages.
Brown et al. (2010a)	Great Britain, BHPS, 1991-2004	Weekly reservation wages, OLS,	Reservation wages and market wages rise with age, decline after age 55. No influence of health on reservation wages (sample: only men).
Brown et al. (2010b)	Great Britain, BHPS, 1991-2007	Hourly reservation wages, Oaxaca Decomposition	Reservation wages higher for men. Reservation wages lower with duration of unemployment.
Pannenberg (2010)	Germany, SOEP, 2004-2006	Monthly reservation wages, OLS, fixed effects	Risk aversion lowers reservation wages. Reservation wages lower with duration of unemployment.

Constant et al. (2010)	Germany, IZA Evaluation Dataset , 2007-2008	Hourly reservation wages, OLS, Oaxaca Decomposition	Reservation wages increases between generations of migrants.
Krueger / Mueller (2011)	USA (New Jersey), Survey, 24 weeks in 2009-2010	Hourly reservation wages, OLS, probit	Reservation wages rise with age, decline after age 50. Reservation wages close to last market wage. Amount of job search time decline over unemployment duration.

Table 3: Variable list and definitions

Variable	Definition
Reservation Wages hourly (non-employed)	log reservation wages per hour in Euro. (Reservation Wages monthly / (4.25* Desired Working Hours))
Reservation Wages monthly (non-employed)	log reservation wages per month in Euro
Entry Wages hourly (employed)	log entry wages per hour (only tenure less one year). (Wages monthly / (4.25*Actual Working Hours)
Entry Wages monthly (employed)	log entry wages per month (only tenure less one year)
Desired Working Hours (non-employed)	desired number of working hours (non-employed)
Desired Working Hours (employed)	desired number of working hours (employed)
Actual Working Hours (employed)	real number of working hours (employed)
Job Satisfaction (employed)	satisfaction with job: scale 0 to 10 (0:low, 10:high)
Leisure Satisfaction	satisfaction with leisure: scale 0 to 10 (0:low, 10:high)
Overall Life Satisfaction	overall life satisfaction: scale 0 to 10 (0:low, 10:high)
Age Categories	dummies for five age categories: 18-25 (reference), 26-35, 36-45, 46-55, 56-65
Household Income	log adjusted household income in Euro
Female	dummy for being female
Children	dummy for having children under age of 16 in household
German	dummy for having German citizenship
Year 2008	dummy for year 2008
Federal States	15 German federal states (East and West Berlin as Berlin, Rhineland-Palatinate and Saarland as Rhineland-Palatinate / Saarland)
Unemployment Rate	German federal states' unemployment rate (information per state and month, for Rhineland-Palatinate / Saarland information per regional directorate and month)
Health	dummies for state of health: good (reference), normal, bad
Intermediate School	dummy for having an intermediate school degree (German Realschule)
Upper School	dummy for having an upper school degree (German Abitur)
Vocational Degree	dummy for having a vocational degree
College Degree	dummy for having a college degree

Table 4: Hourly reservation and entry wages (2007/2008)

	All		Men		Women	
	Reservation Wages	Entry Wages	Reservation Wages	Entry Wages	Reservation Wages	Entry Wages
Age Categories						
Ref: 18-25						
26 - 35	0.1472***	0.1315***	0.1983***	0.1362***	0.0901**	0.1572***
	(0.0288)	(0.0298)	(0.0440)	(0.0448)	(0.0371)	(0.0412)
36 - 45	0.1725***	0.1659***	0.1835***	0.2487***	0.1362***	0.1378***
	(0.0302)	(0.0325)	(0.0489)	(0.0492)	(0.0394)	(0.0446)
46 - 55	0.1752***	0.1354***	0.1849***	0.1898***	0.1473***	0.1055**
	(0.0345)	(0.0373)	(0.0526)	(0.0543)	(0.0461)	(0.0496)
56 - 65	0.2268***	0.1948***	0.2341***	0.2360***	0.2142***	0.1458*
	(0.0425)	(0.0529)	(0.0570)	(0.0691)	(0.0695)	(0.0789)
Female	-0.0660***	-0.1302***				
	(0.0202)	(0.0206)				
Children	0.0365	0.0671***	0.0036	0.1220***	0.0680**	0.0165
	(0.0227)	(0.0231)	(0.0358)	(0.0328)	(0.0295)	(0.0322)
Intermediate School	-0.0170	0.0733***	-0.0546	0.0577	-0.0073	0.0755**
	(0.0230)	(0.0269)	(0.0345)	(0.0382)	(0.0315)	(0.0376)
Upper School	0.1865***	0.1935***	0.1998***	0.1573***	0.1786***	0.1976***
	(0.0288)	(0.0318)	(0.0471)	(0.0480)	(0.0367)	(0.0422)
Vocational Degree	-0.0254	0.0135	0.0420	0.0344	-0.0572**	-0.0160
	(0.0223)	(0.0260)	(0.0353)	(0.0376)	(0.0289)	(0.0344)
College Degree	0.0654*	0.1865***	-0.0214	0.1962***	0.1099***	0.1657***
	(0.0338)	(0.0337)	(0.0656)	(0.0500)	(0.0388)	(0.0439)
Health						

Ref: Good						
Normal	-0.0299	-0.0030	-0.0399	-0.0376	-0.0209	0.0145
	(0.0229)	(0.0235)	(0.0391)	(0.0326)	(0.0285)	(0.0327)
Bad	-0.0729***	-0.0324	-0.0779*	-0.0511	-0.0735**	-0.0281
	(0.0282)	(0.0375)	(0.0434)	(0.0684)	(0.0370)	(0.0440)
Household Income	0.0701***	0.2054***	0.0927***	0.3390***	0.0549**	0.0981***
	(0.0169)	(0.0225)	(0.0269)	(0.0349)	(0.0229)	(0.0283)
German	-0.0404	0.1327***	-0.0914	0.1581***	-0.0040	0.1340*
	(0.0438)	(0.0474)	(0.0664)	(0.0599)	(0.0579)	(0.0755)
Unemployment Rate	-0.0161	-0.0085	0.0121	-0.0207	-0.0356*	0.0095
	(0.0166)	(0.0167)	(0.0300)	(0.0223)	(0.0188)	(0.0249)
Year 2008	0.0003	-0.0218	0.1059	-0.0391	-0.0683*	-0.0111
	(0.0359)	(0.0327)	(0.0655)	(0.0446)	(0.0406)	(0.0474)
Federal States	yes	yes	yes	yes	yes	yes
Constant	1.6160***	0.0938	1.0572***	-0.8232**	1.9041***	0.6313*
	(0.2128)	(0.2637)	(0.3470)	(0.3700)	(0.2694)	(0.3831)
R^2	0.1592	0.2635	0.1761	0.3746	0.1766	0.2023
adjusted R^2	0.1458	0.2517	0.1442	0.3534	0.1548	0.1789
F-Test	14.1749	20.8078	6.0783	16.5399	11.6065	8.6610
Number of Observations	1905	1907	780	888	1125	1019
Number of Individuals	1522	1757	617	819	905	938

Notes: OLS, robust standard errors in parentheses, levels of significance *** 1%, **5%, *10%, SOEP (2007-2008).

Table 5: Monthly reservation and entry wages (2007/2008)

	All		Men		Women	
	Reservation Wages	Entry Wages	Reservation Wages	Entry Wages	Reservation Wages	Entry Wages
Age Categories						
Ref: 18-25						
26 - 35	0.0300	0.2623***	0.2296***	0.3652***	-0.0917*	0.2868***
	(0.0364)	(0.0445)	(0.0524)	(0.0616)	(0.0483)	(0.0595)
36 - 45	0.0309	0.2507***	0.2370***	0.4598***	-0.0706	0.2058***
	(0.0377)	(0.0477)	(0.0542)	(0.0641)	(0.0499)	(0.0664)
46 - 55	-0.0345	0.1267**	0.1408**	0.3125***	-0.1500***	0.0365
	(0.0387)	(0.0538)	(0.0555)	(0.0778)	(0.0529)	(0.0712)
56 - 65	-0.0264	0.1099	0.1516**	0.3017***	-0.1787**	-0.0120
	(0.0502)	(0.0798)	(0.0649)	(0.0958)	(0.0768)	(0.1302)
Female	-0.3476***	-0.5675***				
	(0.0240)	(0.0299)				
Children	-0.0833***	-0.1506***	0.0201	0.1536***	-0.1213***	-0.4111***
	(0.0265)	(0.0322)	(0.0368)	(0.0439)	(0.0364)	(0.0443)
Intermediate School	-0.0497*	0.1036***	-0.0464	0.0453	-0.0494	0.1470***
	(0.0269)	(0.0396)	(0.0367)	(0.0513)	(0.0375)	(0.0556)
Upper School	0.1369***	0.0985**	0.1300**	-0.0388	0.1659***	0.1792***
	(0.0397)	(0.0482)	(0.0572)	(0.0663)	(0.0516)	(0.0660)
Vocational Degree	0.0213	0.1766***	0.0904**	0.1299***	-0.0106	0.1689***
	(0.0269)	(0.0365)	(0.0381)	(0.0497)	(0.0349)	(0.0497)
College Degree	0.1709***	0.4437***	0.0509	0.3913***	0.2331***	0.4330***
	(0.0409)	(0.0493)	(0.0631)	(0.0652)	(0.0524)	(0.0666)
Health						

Ref: Good						
Normal	-0.0439	-0.0046	-0.0494	-0.0372	-0.0339	0.0040
	(0.0284)	(0.0342)	(0.0423)	(0.0444)	(0.0361)	(0.0466)
Bad	-0.0264	-0.0742	-0.0661	-0.1209	-0.0272	-0.0217
	(0.0308)	(0.0591)	(0.0431)	(0.0890)	(0.0412)	(0.0737)
Household Income	0.0157	0.3644***	0.1489***	0.5130***	-0.0727***	0.2565***
	(0.0212)	(0.0325)	(0.0306)	(0.0480)	(0.0280)	(0.0416)
German	-0.0775*	0.0547	0.0426	0.1290*	-0.0982*	0.0987
	(0.0442)	(0.0594)	(0.0610)	(0.0707)	(0.0569)	(0.0955)
Unemployment Rate	-0.0202	-0.0270	0.0091	-0.0160	-0.0397*	-0.0149
	(0.0183)	(0.0235)	(0.0297)	(0.0302)	(0.0212)	(0.0347)
Year 2008	0.0189	-0.0522	0.1190*	-0.0567	-0.0458	-0.0328
	(0.0418)	(0.0462)	(0.0684)	(0.0586)	(0.0480)	(0.0664)
Federal States	yes	yes	yes	yes	yes	yes
Constant	7.2950***	4.0350***	5.5663***	2.6868***	7.9778***	4.1969***
	(0.2549)	(0.3614)	(0.3964)	(0.4713)	(0.3048)	(0.5230)
R^2	0.1705	0.3286	0.1717	0.3786	0.1307	0.2567
adjusted R^2	0.1572	0.3179	0.1396	0.3576	0.1076	0.2349
F-Test	13.2320	31.7960	6.2550	16.7539	7.0934	14.4404
Number of Observations	1905	1907	780	888	1125	1019
Number of Individuals	1522	1757	617	819	905	938

Notes: OLS, robust standard errors in parentheses, levels of significance ***1%, **5%, *10%, SOEP (2007-2008).

Table 6: Preferred and actual working hours (2007/2008)

	Preferred Hours (non-employed)			Preferred Hours (with job)			Actual Hours (with job)		
	All	Men	Women	All	Men	Women	All	Men	Women
Age Categories									
Ref: 18-25									
26 - 35	-2.8072***	0.9346	-4.4669***	0.7639	3.4974***	-0.0707	3.0895***	6.6477***	2.0932*
	(0.7563)	(1.0208)	(1.0147)	(0.7226)	(1.0622)	(0.9276)	(0.9337)	(1.3198)	(1.2361)
36 - 45	-4.0837***	0.7573	-5.7636***	-1.0093	2.4047**	-2.4865**	1.5538	5.8160***	0.2791
	(0.7452)	(0.9384)	(1.0150)	(0.7710)	(1.0952)	(1.0292)	(0.9664)	(1.3366)	(1.3249)
46 - 55	-5.5939***	-1.4789	-8.0066***	-1.6334**	2.3495**	-4.1717***	-0.7096	3.7930***	-3.1625**
	(0.7765)	(1.0309)	(1.0746)	(0.7906)	(1.1003)	(1.0606)	(1.0442)	(1.4622)	(1.4286)
56 - 65	-6.8624***	-2.9777**	-10.1251***	-3.4772***	0.2108	-5.6007***	-2.8735*	1.7414	-5.7868***
	(1.0061)	(1.2791)	(1.6439)	(1.1047)	(1.4860)	(1.8009)	(1.5385)	(2.0876)	(2.1417)
Female	-7.7125***			-9.0449***			-12.3795***		
	(0.4705)			(0.4618)			(0.5942)		
Children	-3.0764***	0.7184	-5.0129***	-3.8918***	0.8612	-7.8543***	-5.5372***	0.6800	-10.7098***
	(0.5423)	(0.7014)	(0.7560)	(0.4866)	(0.6651)	(0.6791)	(0.6216)	(0.8561)	(0.8468)
Intermediate School	-0.8089	0.2234	-1.1235	-0.0536	-0.8587	0.5422	1.0936	-0.1804	2.1164**
	(0.5532)	(0.6973)	(0.7876)	(0.5988)	(0.7948)	(0.8199)	(0.7758)	(1.0938)	(1.0398)
Upper School	-1.0673	-1.1108	-0.4491	-2.0580***	-2.0417*	-2.3708**	-2.0468**	-5.2314***	-0.0255
	(0.7571)	(1.0810)	(0.9641)	(0.7811)	(1.1327)	(1.0552)	(0.9554)	(1.4443)	(1.2381)
Vocational Degree	1.0325*	1.4039**	0.8436	3.0667***	1.6156*	3.8076***	3.1147***	1.5797	3.5434***
	(0.5647)	(0.6859)	(0.7503)	(0.5865)	(0.8386)	(0.7739)	(0.7388)	(1.0462)	(0.9846)
College Degree	2.4035***	2.4639	2.4907**	4.3629***	1.9600*	5.3730***	6.3456***	5.4331***	6.2646***
	(0.8951)	(1.5971)	(1.0259)	(0.7471)	(1.0657)	(0.9931)	(0.9908)	(1.4282)	(1.3119)
Health									
Ref: Good									

Normal	-0.2383	-0.1607	-0.2152	0.1881	0.2448	0.0931	0.4025	-0.0546	0.5455
	(0.5598)	(0.7703)	(0.7216)	(0.5312)	(0.7400)	(0.7089)	(0.6688)	(0.9479)	(0.8560)
Bad	1.0623	0.4617	0.8898	-0.2834	0.2880	0.0761	-0.2775	-1.2535	1.0579
	(0.6486)	(0.8335)	(0.9035)	(0.8385)	(1.2526)	(1.0371)	(1.1995)	(1.7495)	(1.5274)
Household Income	-1.1407***	1.4748***	-2.8197***	-0.0684	1.1116	-0.8210	3.9578***	4.9854***	3.4911***
	(0.3980)	(0.5433)	(0.5349)	(0.4926)	(0.7368)	(0.6190)	(0.6178)	(0.9234)	(0.7958)
German	-0.7784	3.8876***	-2.3240*	-1.4296	-0.3105	-0.7721	-1.9503	-1.1907	-0.2082
	(1.0001)	(1.3251)	(1.3181)	(0.9485)	(1.1026)	(1.4767)	(1.2129)	(1.6065)	(1.6918)
Unemployment Rate	-0.0933	0.0363	-0.1645	-0.1555	0.0150	-0.0062	-0.5432	0.1214	-0.7837
	(0.3592)	(0.5246)	(0.4711)	(0.3341)	(0.4705)	(0.4678)	(0.4646)	(0.6687)	(0.6257)
Year 2008	0.3331	0.4747	0.2515	-1.1242	-1.3710	-0.3478	-0.9949	-1.1127	-0.5096
	(0.8048)	(1.1332)	(1.0470)	(0.7259)	(1.0443)	(0.9710)	(0.9554)	(1.3734)	(1.2492)
Federal States	yes	yes	yes	yes	yes	yes	yes	yes	yes
Constant	52.3702***	22.3605***	61.6668***	41.1011***	26.3513***	38.3001***	15.3961**	-0.8641	8.6833
	(5.0219)	(6.8793)	(6.5655)	(5.4649)	(7.7169)	(7.1140)	(6.9622)	(10.1976)	(8.9957)
R^2	0.2604	0.0823	0.2601	0.2717	0.0721	0.2673	0.2818	0.1374	0.2472
adjusted R^2	0.2485	0.0468	0.2405	0.2600	0.0407	0.2458	0.2703	0.1082	0.2252
F-Test	23.9937	1.9116	19.2132	25.0348	2.0623	15.7000	28.3786	4.5401	13.3876
Number of Observations	1905	780	1125	1907	888	1019	1907	888	1019
Number of Individuals	1520	617	905	1757	819	938	1757	819	938

Notes: OLS, robust standard errors in parentheses, levels of significance *** 1%, **5%, *10%, SOEP (2007-2008).

Table 7: Satisfaction with leisure and job (2007/2008)

	Leisure Satisfaction (all)			Leisure Satisfaction (non-employed)			Leisure Satisfaction (with job)			Job Satisfaction (with job)		
	All	Men	Women	All	Men	Women	All	Men	Women	All	Men	Women
Age Categories												
Ref: 18-25												
26 - 35	-0.2880***	-0.4631***	-0.1178	-0.3321**	-0.2017	-0.3002	-0.1251	-0.4024*	0.0938	0.3203**	0.3448*	0.3128*
	(0.1054)	(0.1549)	(0.1459)	(0.1489)	(0.2100)	(0.2119)	(0.1451)	(0.2134)	(0.1994)	(0.1318)	(0.1949)	(0.1793)
36 - 45	-0.0476	-0.1520	0.0483	-0.1694	-0.2576	-0.0579	0.0992	0.0594	0.0895	-0.0087	0.0407	0.0250
	(0.1125)	(0.1732)	(0.1520)	(0.1603)	(0.2638)	(0.2127)	(0.1559)	(0.2327)	(0.2173)	(0.1489)	(0.2338)	(0.1924)
46 - 55	0.0110	-0.3354*	0.2680	-0.1354	-0.5203*	0.2223	0.1182	-0.1515	0.2932	-0.0740	-0.0175	-0.0785
	(0.1215)	(0.1832)	(0.1649)	(0.1730)	(0.2668)	(0.2306)	(0.1695)	(0.2534)	(0.2305)	(0.1632)	(0.2421)	(0.2187)
56 - 65	0.4875***	0.2604	0.7851***	0.3794*	0.1643	0.7545**	0.4146	0.1617	0.6215	-0.1345	0.0774	-0.4977
	(0.1679)	(0.2336)	(0.2522)	(0.2210)	(0.3177)	(0.3213)	(0.2539)	(0.3373)	(0.4088)	(0.2195)	(0.2991)	(0.3610)
Female	0.0387			-0.2256**			0.1790*			0.1368		
	(0.0706)			(0.0992)			(0.0972)			(0.0898)		
Children	-0.3808***	-0.1028	-0.5607***	-0.5196***	-0.0856	-0.6804***	-0.4642***	-0.2240	-0.6501***	0.1549	0.4198***	-0.0777
	(0.0773)	(0.1181)	(0.1038)	(0.1098)	(0.1667)	(0.1513)	(0.1078)	(0.1625)	(0.1471)	(0.0995)	(0.1485)	(0.1365)
Intermediate School	-0.0782	-0.0750	-0.0866	-0.0050	0.0647	0.0486	-0.0925	-0.0263	-0.1704	0.0633	-0.0956	0.1559
	(0.0880)	(0.1353)	(0.1171)	(0.1197)	(0.1835)	(0.1593)	(0.1271)	(0.1926)	(0.1722)	(0.1200)	(0.1774)	(0.1655)
Upper School	-0.3790***	-0.2689*	-0.4525***	-0.5524***	-0.5721***	-0.4148**	-0.1861	-0.0217	-0.3667*	0.1145	0.0675	0.0675
	(0.0989)	(0.1454)	(0.1374)	(0.1316)	(0.1921)	(0.1855)	(0.1488)	(0.2279)	(0.2037)	(0.1359)	(0.2022)	(0.1900)
Vocational Degree	-0.2893***	-0.5179***	-0.0964	-0.1256	-0.2394	-0.0425	-0.1755	-0.4404**	0.0349	-0.0705	-0.1207	-0.0510
	(0.0842)	(0.1330)	(0.1108)	(0.1231)	(0.2060)	(0.1560)	(0.1162)	(0.1754)	(0.1597)	(0.1037)	(0.1530)	(0.1432)
College Degree	-0.2617**	-0.3052*	-0.1755	0.1379	0.2345	0.1300	-0.3802**	-0.4058*	-0.3303	-0.2595*	-0.1966	-0.2562
	(0.1116)	(0.1709)	(0.1498)	(0.1724)	(0.2489)	(0.2320)	(0.1489)	(0.2305)	(0.2011)	(0.1349)	(0.2081)	(0.1799)
Health												

Ref: Good												
Normal	-0.5488***	-0.6113***	-0.4803***	-0.5641***	-0.5285***	-0.5242***	-0.4847***	-0.5555***	-0.4687***	-0.0913	-0.3169**	0.0934
	(0.0815)	(0.1240)	(0.1085)	(0.1150)	(0.1775)	(0.1512)	(0.1131)	(0.1672)	(0.1578)	(0.1022)	(0.1549)	(0.1375)
Bad	-0.5538***	-0.6497***	-0.4671***	-0.4228***	-0.6583***	-0.1654	-0.9381***	-0.8034**	-1.0743***	-0.6645***	-1.0775***	-0.3467
	(0.1284)	(0.2030)	(0.1642)	(0.1591)	(0.2453)	(0.2059)	(0.2047)	(0.3313)	(0.2624)	(0.2056)	(0.3565)	(0.2441)
Household Income	-0.3000***	-0.3232***	-0.3098***	-0.1253	-0.1193	-0.1599	-0.1872**	-0.1764	-0.2239*	0.0867	0.0518	0.0829
	(0.0583)	(0.0841)	(0.0801)	(0.0769)	(0.1068)	(0.1100)	(0.0907)	(0.1404)	(0.1200)	(0.0867)	(0.1336)	(0.1177)
German	0.4549***	0.4730**	0.4703**	0.2851	0.0665	0.4879*	0.5416***	0.6940**	0.3783	0.1810	0.2283	0.2070
	(0.1458)	(0.2194)	(0.1936)	(0.2053)	(0.3457)	(0.2560)	(0.2008)	(0.2693)	(0.3050)	(0.1791)	(0.2331)	(0.2874)
Unemployment Rate	0.0291	0.0211	0.0436	0.0928	0.1592	0.0417	-0.08 82	-0.1774	-0.0194	0.1117	0.2210**	0.0140
	(0.0552)	(0.0828)	(0.0743)	(0.0759)	(0.1200)	(0.0979)	(0.0787)	(0.1130)	(0.1094)	(0.0684)	(0.0995)	(0.0955)
Year 2008	0.0793	-0.0003	0.1635	0.1658	0.2177	0.1227	-0.0186	-0.2504	0.1733	0.2729*	0.2921	0.2302
	(0.1172)	(0.1783)	(0.1558)	(0.1693)	(0.2755)	(0.2132)	(0.1606)	(0.2336)	(0.2218)	(0.1397)	(0.2170)	(0.1856)
Overall Life Satisfaction	0.3446***	0.3032***	0.3839***	0.3425***	0.3333***	0.3600***	0.3991***	0.3616***	0.4307***	0.4956***	0.5353***	0.4715***
	(0.0224)	(0.0324)	(0.0309)	(0.0297)	(0.0433)	(0.0411)	(0.0343)	(0.0475)	(0.0493)	(0.0327)	(0.0485)	(0.0448)
Federal States	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Constant	6.5444***	6.8709***	6.2241***	4.9987***	4.0693**	5.2706***	6.10 70***	6.8888***	5.9717***	1.5065	0.8322	2.4563*
	(0.7861)	(1.2210)	(1.0345)	(1.0635)	(1.7082)	(1.4012)	(1.1386)	(1.7428)	(1.5072)	(1.0131)	(1.4901)	(1.3693)
R^2	0.1497	0.1568	0.1647	0.1810	0.2340	0.1766	0.1741	0.1607	0.2104	0.2263	0.2892	0.1909
adjusted R^2	0.1427	0.1414	0.1529	0.1675	0.2034	0.1541	0.1604	0.1313	0.1865	0.2135	0.2644	0.1664
F-Test	20.2095	11.0830	12.6462	13.1800	7.6411	7.8580	12.20	6.44	8.45	14.7355	10.7872	6.7153
Number of Observations	3812	1668	2144	1905	780	1125	1907	888	1019	1907	888	1019
Number of Individuals	3022	1323	1699	1522	617	905	1757	819	938	1757	819	938

Notes: OLS, robust standard errors in parentheses, levels of significance ***1%, **5%, *10%, SOEP (2007-2008).