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The Effects of Unemployment Insurance Duration on Job Quality: Evidence from Post-Hartz Germany

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Abstract

This paper examines the effect of changes in the duration of unemployment insurance on various measures of post-unemployment job quality within the context of Germany after the Hartz reforms. I find a significant positive effect of UI duration on re-employment wage, as well as significant effects for certain demographic groups indicating increased occupational prestige, job satisfaction, and satisfaction with hours of work. I find no significant effect on distance from home to work.

I find that the positive relationship between UI eligibility and unemployment duration is based solely on the unemployment durations of those who exit the labor force after unemployment; I find no evidence of a link between UI eligibility and unemployment duration for those who found jobs at the end of their unemployment spells.

To understand these results, I propose several possible explanations: heterogenous job search behaviors among those with different UI durations, a psychological burden of impending UI exhaustion, a negotiation advantage of a higher reservation wage for those with longer eligibility, or the possibility that my data simply failed to observe a positive relationship between UI duration and unemployment duration. Finally, I present one possible policy response to these findings, aimed at reducing the problem of free riding.

1 Introduction

On January 1, 2005, the fourth and final step in a series of unemployment policy reforms went into effect across the Federal Republic of Germany. This legislation, the *Viertes Gesetz für moderne Dienstleistungen am Arbeitsmarkt*¹, was based on a set of recommendations from a commission led by Volkswagen executive Peter Hartz, who is immortalized in the popular title for this law: Hartz IV.

The first three reforms advocated by this commission, Hartz I-III, were fairly uncontroversial. These laws reformed active labor market policies (ALMP), restructured German employment law, and reorganized federal employment services. Hartz IV, on the other hand, constituted a major overhaul of Germany's long-term unemployment insurance (UI) system, which had previously been one of the world's most generous. The legislation brought about two major changes: it reduced the time that an unemployed person could receive short-term unemployment insurance, and it changed (and generally decreased) the amount of unemployment assistance offered to the long-term unemployed.

This law was the most wide-ranging reform in the history of the German welfare system, and it remains a hot-button issue, even a decade after it came into effect. Germany's two current parliamentary opposition parties, *Bündnis 90/Die Grünen*² and *Die Linke*³, advocate for the reform and abolition of Hartz IV, respectively. On the other side of the political spectrum, *Hartz-IV-Empfänger*⁴ has become shorthand to identify and condemn those who rely on long-term unemployment assistance: a German equivalent of Americans' attitudes towards "trailer trash,"

¹ "Fourth Law for Modern Services on the Labor Market"

² "Alliance '90/The Greens"

³ "The Left"

⁴ "Hartz IV recipient"

perhaps. The arguments for and against Hartz IV are well-worn: the left claims that Hartz IV condemns the unemployed to legalized poverty without improving their chances to find a job, while the right maintains that reducing benefits incentivizes employment for those who would otherwise gladly live at taxpayers' expense.

Economists, too, disagree on the overall effect of Hartz IV. Some claim that it led to increased job search efficiency, producing a significant drop in unemployment without appreciable negative side effects. Others say that it had a minimal effect on unemployment, and was welfare-reducing for society as a whole. This paper offers a new angle on the understanding of unemployment in Germany after Hartz IV. Using individual survey data from the German Sozio-oekonomisches Panel⁵ (SOEP), I examine how the maximum potential duration of unemployment insurance affects the characteristics of jobs found after an unemployment spell. These characteristics are chosen to be indicative of the desirability of a position: wage, prestige, job satisfaction, hours per week⁶, and distance from home to work. In brief, the question I seek to answer is this: to what extent does a reduction in the duration of unemployment insurance induce job seekers to accept positions that have less desirable characteristics? To answer this question, I run several regressions with UI duration as an explanatory variable, isolating the effect of UI eligibility on each of these outcomes. I also run these regressions for different segments of the population to see how the effects of additional UI duration might vary for different groups of people.

I find a significant effect of UI duration on wage: an additional month of UI eligibility corresponds to a 3% to 4% increase in re-employment wage. This effect is heterogenous across different groups: it is particularly pronounced among female, unmarried, and older workers. For

⁵ "Socio-Economic Panel"

⁶ I have generated a measure of satisfaction with work hours; this will be explained in §3.2.3.

prestige, job satisfaction, and hours per week, my results for the sample as a whole fall short of statistical significance, but significant results exist for some demographic groups. For distance to work, I find no significant relationship.

I also examine the relationship between UI duration and unemployment spell duration and find evidence that extended UI eligibility is linked to longer unemployment spells. However, when dividing the sample into those whose unemployment spell ends in finding a job and those who exit the labor force, I find that this effect is driven exclusively by the latter. For those whose unemployment spells end in employment, longer UI eligibility seems to have no direct effect on the duration of unemployment, whereas those who exit the labor force are likely to respond to extended UI by lengthening their unemployment spells.

Economists have argued that extended UI increases reservation wage and decreases the marginal benefit of search, increasing unemployment spell duration. This result, then, raises questions: if those with extended UI eligibility are not choosing longer unemployment spells, why might they find jobs with more desirable characteristics? I propose a few theories that might to explain this effect. First, those who have shorter UI eligibility, wary of benefit expiration, may undertake a wide, but not concentrated, job search, looking for any position to avoid the problems of exhausting UI. Those who have access to longer-term UI, on the other hand, may focus their efforts on searching for high-paying full-time jobs. Another possibility is that the threat of UI expiration, which is more potent for those with shorter benefit durations, is a psychological stressor that negatively impacts their job search performance, leading to longer unemployment durations and worse jobs. A third theory is that workers with longer UI eligibility, who should have higher reservation wages, will be more assertive in negotiations with prospective employers, gaining benefits like higher wages without extending their job searches. A final possibility is that

there is a small effect on spell duration that is simply unobserved here because of the nature of the data used. Any of these theories, or some combination of the four, might help to explain why those with longer UI eligibility find better jobs without experiencing longer unemployment durations.

I conclude by connecting my results to the debate over the effects of Hartz IV. The results suggest that decreasing UI duration has effects beyond the unemployment rate; those who are subjected to shorter periods of UI eligibility are likely to find less desirable jobs. Thus, this provision of Hartz IV may have been welfare-reducing in ways that other studies, which focus on job-finding alone, may not observe. My results with respect to spell duration, too, have implications for policy. Those who exit the labor force after an unemployment spell, unlike those who find employment, benefit from longer UI duration by choosing longer unemployment spells. As a study of extended UI duration in the United States argued, "there may be individuals who remain attached to the labor force, perhaps searching at a low level, because extended benefits are available... [this effect] reflects mainly a redistribution to long-term job losers who, without extended benefits, would have left the labor force" (Farber & Valletta, 2013). In light of this, I propose a potential redesign of UI distribution in Germany, reducing free riding by linking UI payments to future employment.

1.1 Historical Background

Until 2005, unemployment insurance in Germany was administered through a threetiered benefits system. Those who lost their jobs were eligible for *Arbeitslosengeld*⁷ (ALG), which was set at 60% of previous earnings (67% for those with children). An unemployed person could

⁷ "unemployment benefits"

claim ALG for 6 to 32 months, depending on age and duration of previous employment. Once ALG eligibility expired, the next step was Arbeitslosenhilfe⁸ (ALH). ALH was set at 53% of previous income (57% for those with children), and an unemployed person could receive ALH indefinitely, subject to a yearly means-tested renewal. If a person was ineligible for ALH, either through being unwilling or unable to work, he or she would be eligible for *Sozialhilfe*⁹, which was set at a baseline entitlement (Regelsatz) equal to €295 per month immediately before Hartz IV, with supplements for those with dependent children. Jacobi & Kluve (2007) attribute this structure to the German understanding of the purpose of unemployment insurance at the time: "From the very beginning, unemployment benefits were meant to maintain the worker's social status during unemployment rather than providing a safety net as a last resort." This mindset helps to explain why a generous benefits system arose; however, such a system provided obvious work disincentives. The long period of ALG receipt allowed for a less urgent job search; for those over the age of 57, who could receive ALG for up to 32 months, unemployment was sometimes used as an early retirement strategy (Caliendo, Tatsiramos, & Uhlendorff, 2009). With generous ALH benefits available indefinitely, many felt little pressure to return to work, especially if they would have to take a lower-paying job due to skill deterioration. These work disincentives for the unemployed contributed to West Germany's persistently high unemployment rate through the 1980s, but the system remained in place.

Reunification in 1990 sent a shockwave through the German labor market. The entire East German labor force entered the labor market, and these workers were generally less welltrained than their West German counterparts. Despite the skill disparity, the unified German government faced pressure to close the wage gap between East and West Germans, thwarting the

⁸ "unemployment assistance"

⁹ "social assistance"

competitive advantage of lower wages that produced growth in other Eastern Bloc countries (Jacobi & Kluve, 2007). This drove up unemployment further, creating an untenable financial situation for the German unemployment insurance system as a whole. This, combined with clear systematic inefficiencies, generated the political will to attempt sweeping reforms, and in 2002, the federal government appointed Peter Hartz to lead the *Kommission für moderne Dienstleistungen am Arbeitsmarkt*¹⁰, tasked with making recommendations to improve the efficiency of the German labor market.

The recommendations of the commission were adopted and introduced as four separate pieces of legislation. Hartz I, which took effect on January 1, 2003, introduced the *Personal-Service-Agentur*¹¹ (PSA), a local agency to offer temporary work to the unemployed, operated either by the local unemployment office or through private contracting. Hartz I also strengthened the jobtraining services of the federal employment agency and sought to increase the acceptability of temporary work through deregulation coupled with equal-treatment protection. Hartz II, introduced simultaneously, created two new legal categories of employment, *Minijobs* and *Midijobs. Minijobs* are positions that pay €450 or less per month (€400 at the time of introduction) and are exempt from social security contributions; a *Midijob* is eligible for reduced social security contributions up to a wage of €800 per month. Hartz II also included a new subsidy, called *Ich-* AG^{12} , for unemployed people who wish to start their own business. Hartz III took effect on January 1, 2004. It focused on restructuring the federal employment agency, which was renamed from the *Bundesanstalt für Arbeit*¹³ to the *Bundesagentur für Arbeit*¹⁴ (BA). The goal of the

¹⁰ "Commission for Modern Services on the Labor Market"

¹¹ "Staff Service Agency"

¹² "Me, Inc."

¹³ "Federal Employment Institution"

¹⁴ "Federal Employment Agency"

reorganization was to turn inefficient, bureaucratic offices into customer-oriented service centers. Each office offered more services, paid more individual attention to job seekers, and pursued quantitative outcome targets. Hartz III also liberalized access to wage subsidies offered to employers hiring hard-to-employ workers.

Hartz IV, which became active on January 1, 2005¹⁵, reorganized the structure of unemployment insurance. ALG (commonly called ALG I today) was preserved at its previous level of 60% to 67% of previous income. However, ALG I receipt was limited to a maximum of 18 months (later increased to 24 months), accompanied by a restructuring of the age-based eligibility thresholds, which will be detailed later in this paper. ALH and Sozialhilfe were eliminated and replaced with a flat-rate Arbeitslosengeld II (ALG II), based on a Regelsatz of €345 for a single adult in West Germany, a 17% increase over the previous Regelsatz for Sozialhilfe recipients, and supplemented with coverage for basic housing and healthcare. ALG II can be received indefinitely, but depends on a recipient's ability to work at least 15 hours per week as well as annual means-testing. This change affected different groups of the long-term unemployed in different ways. According to an IAB¹⁶ estimate, 17% of ALH recipients were ineligible for ALG II due to changes in the definition of need that determined eligibility. Of those that did receive ALG II, 47% received higher benefits under Hartz IV, as their previous income was low enough that their ALH payments had been lower than the flat-rate ALG II payments (Blos & Rudolph, 2005). On average, however, the change to ALG II produced a lower level of long-term unemployment assistance. Finally, a new concept of Sozialhilfe was developed, now separate from the unemployment insurance system. Today's Sozialhilfe is expressed as minimal Grundsicherung¹⁷

¹⁵ Most of Hartz IV went into effect on this date; however, the limitations on ALG I duration, which are the background for my analysis in this paper, didn't come into effect until February 1, 2006.

¹⁶ Institut für Arbeitsmarkt- und Berufsforschung, "Institute for Employment Research"

¹⁷ "basic security"

reserved for those who are unable to work due to old age or temporary incapacity, with a *Regelsatz* equivalent to that of ALG II. After Hartz IV, those able but unwilling to seek work are eligible for neither ALG II nor *Sozialhilfe*, and thus receive no income from the state.

The introduction of Hartz IV saw protests across Germany. Unemployment at the time was over 10 percent, and millions of Germans who had passed the point of ALG I eligibility faced a reduction in benefits as their ALH benefits were reduced to the flat-rate ALG II. In East Germany, where unemployment was far higher than in West Germany, protestors organized *Montagsdemonstrationen*¹⁸ against Hartz IV, calling to mind the 1989 *Montagsdemonstrationen* that gathered hundreds of thousands of East Germans to protest against the communist regime. The protests failed to halt the implementation of Hartz IV, although public discontent over Hartz IV and other economic policies of Germany's ruling party, the center-left SPD¹⁹, contributed to the calling of an early election in 2005, in which Chancellor Gerhard Schröder's SPD lost its plurality, and thus its control of the chancellorship, to Angela Merkel's center-right CDU²⁰. In 2007, the new CDU-SPD coalition government agreed to raise the maximum receipt duration for ALG I from 18 to 24 months, the only major concession to pressure from anti-Hartz IV activists.

Although Hartz IV remains a contentious issue today, it has survived for 10 years and shows no signs of repeal in the immediate future. After all, at first glance, the reform appears to be working. Unemployment fell from over 11 percent in 2005 to under 7 percent today, and Germany's unemployment rate was scarcely affected by the so-called Great Recession. Hartz IV's opponents must reckon with the fact that unemployment fell swiftly and decisively after the law

¹⁸ "Monday demonstrations"

¹⁹ Sozialdemokratische Partei Deutschlands, "Social Democratic Party of Germany"

²⁰ Christlich Demokratische Union Deutschlands, "Christian Democratic Union of Germany"

took effect. There are still arguments to be made against Hartz IV: economic inequality has risen in Germany, and a lower unemployment rate is not synonymous with a better society. Furthermore, a fall in unemployment since 2005 doesn't prove that Hartz IV caused the decline —the introduction of Hartz I-III in the preceding two years certainly makes the individual impact of Hartz IV less easily identifiable. But the persistently lower level of unemployment in Germany today is certainly an inconvenient political reality for those who would fight for the abolition of Hartz IV. To provide a clear answer on the effect of the Hartz reforms, it is necessary to isolate the impact of the reforms from wider macroeconomic trends, which calls for a more rigorous approach than a quick glance at the unemployment rate over time. In this regard, economics can productively lend its voice to the debate, and it is in this spirit that this I seek to examine the effects of ALG I duration on re-employment outcomes.

2 Literature Review

Given the controversy that arose around the Hartz reforms, a sizable literature has already developed to analyze their effects. A comprehensive summary of the effects of Hartz I-III comes from Jacobi & Kluve (2007). The authors first explain the background and implications of each part of the reforms, sorting them into three categories according to their aims: "improving labour market services and policy measures in terms of effectiveness and efficiency," "activating the unemployed by enforcing the so-called principle of 'rights and duties," and "stimulating employment demand by deregulating the labour market." They then summarize early results on the effectiveness of Hartz I-III, evaluating how the effectiveness of active labor market policies changed due to Hartz. They find that some measures had positive effects on employment: *Ich-AG* subsidies, the creation of *Minijobs* and *Midijobs*, the deregulation of temporary work, and wage subsidies for older workers all increased employment. The creation of PSAs seems to have been detrimental, with other measures having no effect or ambiguous effects. On the whole, the authors conclude, "the effectiveness of [ALMP] measures has improved modestly," and the measures implemented by Hartz I-III represent an improvement over previous measures for the unemployed in Germany. This view is confirmed by Fahr & Sunde (2009), who use a macroeconomic matching function to evaluate structural changes occurring at the time of Hartz I-III. They find that the two waves, Hartz I/II in 2003 and Hartz III in 2004, complemented one another and significantly accelerated unemployment outflows compared to the pre-2003 state, reflecting increased efficiency in the job-matching process.

One analysis of the effects of the Hartz reforms taken as a whole comes from Hertweck & Sigrist (2013). The authors estimate the effects of Hartz by looking at the relative importance of inflows and outflows in determining the unemployment rate in Germany, using the same SOEP dataset that I will use in this paper. Evaluating data starting in 1984, they find that inflows into unemployment were the chief determinant of the unemployment rate before Hartz, consistent with an inefficient job-matching market. The authors argue that unemployment outflows were low because high unemployment benefits and high firing costs both disincentivized job-matching. In the early 2000s, however, the importance of the outflow rate in determining the unemployment rate increased significantly, indicating a 23% increase in job-matching efficiency. Although this model does not prove causality with respect to the Hartz reforms, the fact that the market experienced a sharp change after twenty years of stability would seem to indicate a structural change rather than natural variation, consistent with knowledge of the legislation that came into effect at that time.

Several papers attempt to address Hartz IV specifically. Krause & Uhlig (2011) develop a model of the German unemployment market that hinges on skill heterogeneity. Long-term unemployment was an intractable problem before Hartz: skill loss over time, coupled with generous long-term unemployment benefits, meant that many people had no incentive to accept lower-paying jobs commensurate with their new skill levels. Krause and Uhlig's model indicates that Hartz IV, taken alone, reduced unemployment by 2.8 percentage points by increasing labor market tightness and job acceptance. Krebs & Scheffel (2013) develop a model featuring heterogenous search effort and a decision to invest in physical or human capital. This model finds a 1.4 percentage point decrease in unemployment as a result of Hartz IV, mainly driven by increased search effort by the short-term and long-term unemployed. Hartz IV also increases investment in human capital, which contributes to higher economic growth. Societal welfare experiences an increase equal to .36 percent of lifetime consumption; however, the gains are not distributed evenly among the population. Employed households benefit from a decrease in taxes needed to pay for unemployment insurance, with a welfare increase of .44 percent of lifetime consumption, while the long-term unemployed suffer a welfare decrease of .74 percent due to the decrease in unemployment insurance, with the short-term unemployed falling roughly in the middle. The authors speculate that the sharp welfare reduction for the long-term unemployed may be to blame for the societal backlash against Hartz IV.

Launov & Wälde (2013), on the other hand, have a less positive view of the effects of Hartz IV on unemployment. They develop an equilibrium matching model to predict individual employment probabilities, which they then extend to predict aggregate unemployment. In their model, unemployment exit rates depend chiefly on two factors: monetary incentives, particularly those related to benefit expiration, and negative duration dependence (that is, exit probability falls with longer unemployment duration), with the tradeoff between these factors varying across sections of the population. They find that unemployment was essentially unchanged by Hartz IV, falling by .07 percentage points. This effect is heterogeneous, with unemployment actually rising for low-skilled workers. Net wages rise, both from increased employment and from improved job-matching as search effort increases, and taxes fall as benefits are reduced. Despite these positive effects, the reform is intertemporally welfare-reducing for medium- and high-skilled workers, as the negative effects on anticipated long-term unemployment outweigh the increase in net wages. Thus, for Launov & Wälde, Hartz IV failed in its main objective (reducing unemployment) and reduced social welfare. And what about the fall in unemployment? Rather than crediting Hartz IV, the authors point to a 4% increase in total factor productivity between 2005 and 2007 as the reason for Germany's employment boom.

Several papers on topics other than the Hartz reforms help to form the analytical framework for this project. One important analysis comes from Chetty (2008), who questions the conventional wisdom that the employment disincentive effects of unemployment insurance are universally welfare-reducing, arguing instead that the longer unemployment duration associated with more generous unemployment insurance consists of both moral hazard and liquidity effects, which have negative and positive welfare effects, respectively. The moral hazard of unemployment insurance is clear: if you give money to an unemployed person, that may lead her to reduce her search effort relative to if the money had not been provided. Less well-documented in the economic literature, however, is the welfare-increasing liquidity effect of unemployment insurance. Chetty conceives of this as a safety net for those who are unable to smooth consumption perfectly due to failures in credit and insurance markets. He finds this effect empirically through two different analyses. First, he compares the effect of unemployment

insurance on unemployment durations in liquidity-constrained and non-constrained households, and finds that an increase in benefits raises unemployment durations significantly for constrained households, whereas the effects are much smaller for non-constrained households, indicating the presence of a liquidity effect separate from moral hazard. He also looks at recipients of lumpsum severance payments, which reduce liquidity constraints without producing moral hazard, and finds that these recipients are likely to have significantly longer unemployment durations. Combining these results, he finds that in the United States, liquidity effects dominate over moral hazard, indicating that an increase in unemployment insurance would be welfare-increasing.

This work has important implications for my analysis. It serves as a word of warning in interpreting the results of any Hartz IV analysis: a decrease in average unemployment duration is not necessarily welfare-increasing for a society. According to Chetty, if liquidity effects predominate, people are forced into a sub-optimally short unemployment durations because inefficient credit and insurance markets prevent them from smoothing consumption properly; people would choose longer durations if they could smooth consumption optimally. In other words, by cutting benefits in an attempt to induce shorter unemployment durations, Hartz IV and reforms like it may be addressing a relatively minor moral hazard problem while amplifying the greater problem of consumption smoothing inefficiency. Beyond this, Chetty's analysis provides empirical evidence for what one might intuitively expect: unemployment imposes serious liquidity constraints on those who cannot smooth income perfectly, which in turn affects their job search. This can be seen as the underlying explanation for the effects that I will explore in this paper: if people are increasingly willing to settle for sub-optimal positions when benefit duration is shortened, it could be a sign that liquidity constraints require them to accept a job in a shorter timeframe than they would otherwise choose.

Farber & Valletta (2013) examine the effect of UI extensions on unemployment duration in the United States during two recessionary periods: 2002 to 2004 and 2009 to 2012. Their work has significant implications for my analysis of ALG I eligibility on unemployment spell duration. They find a small but significant reduction in the exit rate from unemployment as a result of UI extensions; however, when they run this analysis using a competing risk model that examines the outcome of an exit from unemployment (i.e., did an unemployment spell end because the person found a job or because she exited the labor force?), they find that extended benefit duration has no substantial effect on the exit rate to employment, whereas there is a significant effect of decreasing the exit rate to leaving the labor force. According to this model, then, additional UI eligibility does not cause moral hazard that disincentivizes serious job search, nor does it cause those searching for jobs to spend longer doing so; however, it does benefit those who might elect to receive UI without a real intention of returning to work.

Schmieder, von Wachter, & Bender (2012) carry out a regression discontinuity analysis of German unemployment insurance with the aim of seeing how the effects of UI change during recessions. Looking at data from the pre-Hartz unemployment system, they find that the employment disincentive effects of extended unemployment insurance are smaller during recessions, whereas the benefit of additional coverage increases as more people use the full duration of benefit receipt, implying that Germany might do well to adopt a policy of countercyclical increases to unemployment benefit duration. Interestingly, they put exact figures on the nonemployment²¹ effect of benefit extension, stating that an additional month of ALG coverage increased the average nonemployment spell by .1 month, which was relatively consistent for all three age cutoffs. They also find a strong effect of duration extension on coverage, with an

²¹ Rather than looking at unemployment and absence from the labor force separately, both of these states are grouped into nonemployment in this analysis.

additional month of ALG eligibility increasing average ALG receipt by .3 to .4 months, consistent with their finding that about a quarter of beneficiaries remain on ALG until expiration. This is driven by those who will exit the labor force after their ALG eligibility expires: only 8 percent of those who exhaust their benefits return to employment.

A final analysis of pre-Hartz Germany comes from Caliendo, Tatsiramos, & Uhlendorff (2009). Their work asks how unemployment exit rates and the quality of jobs found change near the expiration of UI coverage. Using data from 2001 to 2003, they examine a discontinuity in unemployment exits at age 45, where maximum ALG duration changes from 12 months to 18 months, to test the theory that the expiration of unemployment benefits causes a higher exit rate and worse matches. With respect to exit rates, they find that unemployment hazard rates spike just before each group's respective expiration dates. As for job quality, they examine employment hazard for subsequent jobs (that is, the probability of losing the job found after an unemployment spell) and find that hazard is significantly higher for the 12-month-UI-eligibility group for jobs found after 10-12 and 16-18 months of unemployment. This provides two interesting conclusions: stability is lower for jobs found just before benefit expiration, and stability is lower still for jobs found after benefit expiration: between 16 and 18 months, when 12-month group is receiving ALH and the 18-month group is approaching ALG expiration, the 12-month group finds jobs that are less stable. They also examine variation in re-employment wage. They find a small, insignificant increase in wage for those who were eligible for a longer ALG duration. They also find a significant wage decrease for jobs accepted near benefit expiration, consistent with a falling reservation wage as expiration approaches. The authors draw two major conclusions: benefits create work disincentives but improve match quality, and job seekers become less selective as benefit expiration nears, implying that a more gradual schedule of benefit expiration might be useful in curbing the problem of low-quality matches.

3 Methodology

3.1 Model

In my analysis, I use ordinary least squares regressions with ALG I eligibility, demographic characteristics, labor market history, and other factors as explanatory variables, and with unemployment spell duration and subsequent employment characteristics as response variables. This choice is based at least partially on the limitations of the dataset used. In their analysis, Caliendo, Tatsiramos, & Uhlendorff use a large administrative dataset, allowing them to employ regression discontinuity analysis over a relatively narrow group of people entering unemployment. I had originally hoped to carry out a regression discontinuity analysis, but because my survey dataset was smaller and not focused on unemployment in particular, it didn't offer a large enough sample size of people entering unemployment around certain age thresholds to carry out a serious regression discontinuity study. However, due to the discontinuous determination of ALG I duration, OLS regressions allow me to isolate the effects of this duration on the response variables.

3.1.1 Determining ALG I Duration after Hartz IV

My key variable, of course, is ALG I duration. This variable is determined through a combination of age at the time of entry into unemployment and work history for a period preceding unemployment. For workers of most ages, it is determined based on months of qualifying employment over the past two years, using a formula that did not change with the introduction of Hartz IV. Qualification is based on whether a particular job is *versicherungspflichtig*, meaning that it is subject to mandatory social security contributions²². If a UI applicant has been employed in a qualifying job for at least 12 months in the past two years, she is eligible for 6 months of ALG I. This eligibility increases with the number of months worked, with someone who has been employed each month for the past two years eligible for 12 months of ALG I.



Figure 1: Maximum ALG I Duration for Most Workers²³

My analysis hinges on the fact that ALG I duration is not determined by a strictly linear relationship to qualifying months of employment. Instead, ALG I eligibility jumps up at certain points and remains static at others. Although every increase in UI duration corresponds to an increase in months of qualifying employment, there is also variation in qualifying employment

²² Recall that certain forms of employment, such as *Minijobs* paying up to \notin 450 per month, are exempt from these contributions.

²³ Maximum duration for workers up to age 54 between February 2006 and December 2007 and workers up to age 49 since January 2007.

time that has no effect on ALG I duration. This ALG I-independent variation will allow regressions to estimate the effects of additional employment and additional UI eligibility separately.

Hartz IV continued the previous system's extended UI eligibility for older workers, but it changed the rules that determine eligibility. In the pre-Hartz system, extended UI was offered starting at age 45 and could last up to 32 months for workers 57 and older; after Hartz IV went into effect, this was limited to workers aged 55, whose eligibility could increase to 18 months. However, such a sharp decrease proved deeply unpopular, and within two years a new framework was put into place, starting at age 50 and reaching a maximum of 24 months for workers 58 and older.

Months of qualifying employment, past 5 years	Age	Maximum ALG I duration (months)
30	55	15
36	55	18

Table 1: Maximum ALG I Duration for Older Workers, Feb. 2006 to Dec. 2007

Note: Restrictions listed represent minimum values.

Table 2: Maximum ALG I Duration for Older Workers Since Jan. 2008

Months of qualifying employment, past 5 years	Age	Maximum ALG I duration (months)
30	50	15
36	55	18
48	58	24

Note: Restrictions listed represent minimum values.

In this case, too, there is variation in age and qualifying months of employment within each fixed ALG I duration bracket. Thus, although potential ALG I duration is highly correlated with employment history and age, its effect can be estimated independently. In each regression in my analysis, age and employment history (qualifying months in two years preceding an unemployment spell as well as qualifying months in the preceding three to five years) are all included as explanatory variables, which means regression coefficients for ALG I eligibility should be legitimate measures of the real effect of additional UI duration. Fortunately, because ALG I eligibility is determined strictly by age and employment history, and these variables can be precisely controlled for, the danger of eligibility being correlated with unobserved factors should be relatively small.

3.2 Data

This study employs the German SOEP dataset. This longitudinal survey has been conducted on a representative sample of the population of Germany since 1984, providing a wealth of responses to demographic, economic, sociological, and psychological questions. Today, the sample includes over 20,000 respondents surveyed annually. Outside of Europe, researchers are allowed to access a 95% random sample of the data to comply with German privacy laws, so the data used in this study include that limitation.

3.2.1 Selecting Suitable Unemployment Spells

To carry out my regressions, I was interested in unemployment spells beginning after the ALG I duration adjustments of Hartz IV came into effect on February 1, 2006. In particular, I examined uncensored unemployment spells using data from February 2006 to December 2012

(the most recent data available) in SOEP's ARTKALEN dataset. This dataset converts responses from an employment calendar section of the survey into data on "spells" of various types: employment, unemployment, education, etc. In total, 227,783 spells of all types are included, of which 5,638 are unemployment spells in my period of interest. I eliminated any spells that are censored. In these spells, start and end dates cannot be clearly defined, which may be due to a person entering or leaving the dataset, filling out a survey improperly, or because a person was still unemployed at the end of my observation period. However, the precise duration of unemployment spells is key to my analysis, so censored spells had to be removed.

I also disregard spells during which the person in question would be ineligible for ALG I (those who had less than 12 months of qualifying employment in the two years preceding their unemployment spells). Of course, I am examining the effects of ALG I in particular, so the job outcomes of those who are ineligible for ALG I are less relevant to my analysis. It could be argued that these people should be entered as recipients of 0 months of UI. However, under certain conditions, those who have between 6 and 11 months of qualifying employment in the past two years may be eligible for 3 to 5 months of UI. This program, however, is subject to more restrictions and contingencies than the normal ALG I formula, so I would be unable to determine whether or not those who might be eligible based on work history were, in reality, eligible. To ensure the accuracy of my UI duration variable, I elected to focus on spells that had at least 12 months of qualifying employment in the preceding two years, and were thereby eligible for ALG I.

I also eliminated spells where patchy data in the pre-unemployment period prevented me from determining the exact number of months of qualifying employment. This challenge will be explained in more detail in §**3.2.3**.

The final step in selecting spells was to eliminate those spells that began in the exact month a worker reached an ALG I age threshold. For example, if a worker born in January 1955 became unemployed in January 2010, the data on entry into unemployment (which are reported by month rather than day) do not reveal whether he was 54 or 55 years old when he entered unemployment, which means I cannot determine his ALG I eligibility with certainty. Since this is a relatively rare occurrence, dropping these observations had a minimal impact on the dataset and preserves the accuracy of the ALG I eligibility variable.

After all of these filters, I was left with 1,985 usable unemployment spells for my regressions. The actual number in each regression is lower, as survey data for some variables was incomplete, which meant that some unemployment spells could not be used in regressions featuring those variables. Furthermore, unemployment spells that ended in labor force exit were unsuitable candidates for all regressions that dealt with post-unemployment job outcomes, as were certain spells that risked introducing bias to these regressions²⁴. For each regression, the number of observations used is included above the results table, either in the paper or in the Appendix; each observation corresponds to one unemployment spell.

3.2.2 Response Variables

My first regressions deal with re-employment wage. Wage is a powerful indicator for job quality in that it is objective and (presumably) universally valued. The wage variable, like all employment outcome variables, is drawn from survey data on wage from the year following the end of the unemployment spell (i.e., if a person's unemployment spell ends anytime in 2008, responses from the 2009 survey will be used). SOEP interviews are generally conducted at the

²⁴ For more, see §**3.2.4** and §**3.2.5**.

beginning of a year, so the risk that the job described in the survey is different from the one found immediately after unemployment is small, although not zero, and should not bias results in any particular way. The wage variable used in my regressions is calculated as the natural logarithm of weekly wages expressed in euros, which results in a roughly normal distribution²⁵.

My next response variable is the new job's prestige score according to Donald J. Treiman's Standard International Occupational Prestige Scale (SIOPS). This scale was developed from occupational prestige studies carried out in 60 countries, averaging the national results to produce a single metric (Ganzeboom & Treiman, 1996). Observed values range from 13 (garbage collectors and sweepers) to 78 (university professors and medical doctors). The SOEP survey includes detailed occupational information, and its PGEN (generated individual data) datasets include the SIOPS prestige score for each respondent's occupation.

Another independent variable is job satisfaction. This is collected as part of the individual survey, where respondents are asked about their satisfaction with their employment on a scale from 1 to 10, with 10 being extremely satisfied.

I wanted to examine the potential effect of UI duration on hours worked in a postunemployment job. However, running a regression on a simple hours-worked variable was obviously not the best solution, given that working 80 hours per week is hardly better than working 2 hours per week. Unlike wage, prestige, or satisfaction, more isn't always better, and the optimal level is very much a matter of personal preference. Fortunately, along with an hoursworked variable, the SOEP survey includes a question to see how many hours per week interviewees would choose to work if they had their druthers. To generate a variable for the desirability of hours worked, I squared the difference between desired weekly work hours and

²⁵ Summary statistics for this and other variables are available in **Table A.1** in the Appendix.

actual weekly work hours. A higher value for this variable denotes a position's undesirability: it corresponds to a wider gulf between how many hours a person works and how many hours they want to be working.

The last re-employment variable is distance to work, which is part of the SOEP individual survey and is expressed in kilometers.

My final response variable, which also functions as an explanatory variable in many regressions, is unemployment spell duration. This variable is as simple as it sounds: from the ARTKALEN spell data, I take the difference between the month at the end and beginning of the unemployment spell and add 1. In Germany, most new jobs begin on the first day of the month, which means that unemployment spells end at the end of a month (Caliendo, Tatsiramos, & Uhlendorff, 2009). Thus, adding 1 to the difference means that this variable should never underestimate spell duration and will not overestimate duration by more than one month.

3.2.3 Explanatory Variables

The first set of explanatory variables is simply the set of re-employment response variables (wage, prestige, satisfaction, work hours gap, and distance to work) from the survey preceding each unemployment spell. A previous job's squared work hours gap is based on actual and desired work hours response from the pre-unemployment survey—I wanted to allow for heterogeneity in desired hours over time, since it is likely that hours desired is not a fixed preference, but rather that it is at least partially responsive to a respondent's satisfaction with her current position.

There are three age variables: age, age squared, and a dummy indicating if age is greater than or equal to 50²⁶. Including age squared as well as age allows for the effect of age on job outcomes to be parabolic rather than constantly increasing or decreasing with age. In most of my regressions, I find that the positive effects of age are maximized around age 35, in the heart of one's working career. Without age squared, the regression would be maximized either for teenagers or for the elderly, so the inclusion of age squared proves to be very prudent.

Next up are three demographic dummy variables to indicate gender, marital status, and nationality. The "Female" variable, naturally, is 1 if the subject is female. The "Married" variable isn't exactly as the name indicates. SOEP allows people to report their marital status as "married, living together" and "married, separated," and I chose to mark only married couples who live together as 1 for this variable. My rationale is that the salient feature of marriage for the purposes of this study is the economic freedom of having a spouse in the household, which may help to ease liquidity constraints during unemployment spells; I assume that separated married couples do not receive the same economic benefits from their marriages in this situation. In today's Germany, there are likely to be many unmarried couples who live together and enjoy these benefits in the event of unemployment; however, SOEP doesn't provide for such a status in its responses, so only those who are married and living together are marked as 1 in this variable. Finally, the "Foreign" variable uses self-reported nationality from the SOEP data; anyone whose nationality is not German is marked as 1.

A final demographic variable is years of education, which is taken directly from the relevant SOEP dataset (using responses from the year of the start of unemployment).

 $^{^{26}}$ The rationale for including this variable will be explained in §3.2.5.

Next are several variables relating to employment history. The first two are variables for the months of qualifying employment (i.e., employment subject to mandatory social security contributions) over the two-year period preceding unemployment and and over the period from three to five years before unemployment. These variables, of course, are the same variables used to calculate ALG I duration. These are devised not from the ARTKALEN spell dataset, which has too many gaps and censored observations to provide effective information on employment preceding unemployment spells. Rather, these are generated by examining people's survey responses as to their employment status in each month to determine how many of those months were spent in qualifying employment. This dataset is imperfect, so in some months no employment status might be observed; in this case, the entire period in question is treated as a missing value for that person. This difficulty in determining the exact number of months of qualifying employment in the past two years is a big reason why my dataset fell from 5,638 to 1,985 unemployment spells; however, it does mean that I have precise data on work history preceding those spells.

Along with these variables examining months of employment over the past 5 years, the SOEP dataset includes data on lifetime experience of full-time employment, part-time employment, and unemployment, measured in years. The regressions use these values as they are reported in the year of the start of an unemployment spell.

The last explanatory variable is the year at the beginning of an unemployment spell. In my regressions, I treat year as a categorical variable with dummy coding, using 2006 as a reference year. In theory, this allows for a bit more flexibility with respect to fluctuating economic conditions, although these variables were rarely significant anyway. More importantly, this picks up the huge variation of unemployment spell duration in later years²⁷. Because I use only uncensored (i.e., completed and well-documented) unemployment spells, and my data ends in 2012, spells that began in 2012 naturally could not be as long as spells that begin in 2006. The year variables pick up the fact that results on spell duration for later years are skewed.

3.2.4 Adjusting for Early Retirement

One potential confounding factor in the data is the possibility of biases arising due to differential exits from the labor force. Many workers who are unemployed end up exiting unemployment not by finding jobs, but by leaving the labor force: in 570 (28.7%) of the 1,985 unemployment spells in my dataset, the subject registered as "not employed" in the survey following his unemployment spell. If these labor force exits were random with respect to ALG I duration, it wouldn't be especially concerning; however, it is reasonable to guess that increased ALG I duration might increase the likelihood of labor force exit, especially among older workers. This would skew results in a problematic way: if a significantly larger portion of a certain group leaves the labor force, then it is likely that those who remain in the labor force from that group will be those who have found particularly plum jobs, inducing them to become re-employed when they might otherwise have exited the labor force. In this case, that effect would taint any results obtained, as those with longer ALG I durations would be more likely to find a good job, not because the extended UI caused their job search to improve but because it made their group more likely to retire. However, to solve this problem by throwing out all older workers would not have been an acceptable solution, since they represent an extremely significant proportion of the

²⁷ This result appears in §4.2.

extended ALG I duration group. Thus, the problem was to identify exactly the group susceptible to this bias and to remove them from the sample.

I decided on two simple tests to determine whether there is a serious problem of labor force exit for a particular age group. First, what proportion of the unemployment spells ends in labor force exit? Second, what is the relationship between ALG I duration and unemployment spell duration? In both cases, the answer is clear: this problem of disproportionate labor force exit manifests itself exclusively in workers who are aged 58 and older at the beginning of their unemployment spell.

Age Group	Probability
18-49	0.755
50-57	0.722
58+	0.352

Table 3: Probability of Re-Employment by Age Group

The rate of job-finding for the sample as a whole is 71%. Although the ages below 58 exhibit some variation around this mark, at no point does job-finding drop below 50%. For those 58 and older, on the other hand, this figure is below 50% for every single age²⁸. Even a cursory glance at these results is enough to raise an eyebrow, especially considering the ALG I duration extension (from 18 to 24 months) that comes at age 58.

²⁸ For full results, see **Table A.2** in the Appendix.

Age Group	Coefficient	SE
18-49	0.017	0.005
50-57	0.008	0.008
58+	-0.015	0.007

 Table 4: ALG I Duration Regression Coefficient by Age Group

These results come from regressing the probability of re-employment on ALG I duration. In short, for those younger than 58, longer ALG I duration corresponds to a higher probability of finding a job. For those 58 and older, this relationship is reversed: longer ALG I duration is correlated with a lower probability of re-employment²⁹.

With these two results, then, it is apparent that disproportionate labor force exits are a problem for those aged 58 and up. This can be best explained as workers taking advantage of an early retirement strategy. This was a problem in the pre-Hartz system, and although the German government tried to plug this hole by increasing the pressure on ALG I recipients to accept any job offered to them, it is hardly a surprise that the problem remains. In this case, it seems likely that unemployed workers beyond a certain age receive ALG I until exhausting their eligibility, perhaps halfheartedly undertaking a job search to meet requirements, then exit the labor force, waiting for social security to kick in at the official retirement age of 65.

²⁹ Note: The lower coefficient for the 50-57 group compared to the 18-49 age group isn't necessarily a sign of an early retirement problem: for this group, changes in ALG I duration are likely to come in the form of increases beyond 12 months, whereas with the younger group, workers vary between 6 and 12 months of UI. Because more people are still searching in the 6-12 month period than in the 12-18 month period, the variation experienced there is more likely to be advantageous, thus the coefficient on ALG I duration on this age group's regression could be expected to be higher. Most importantly, in neither case should it be negative!

With this potential danger in mind, all of my regressions that deal with re-employment outcomes exclude those aged 58 and above, which should minimize or eliminate this confounding effect.

3.2.5 Adjusting for Employment Subsidies

One final potential concern is that my results would be affected by the *Eingliederungszuschuss*³⁰, a wage subsidy program designed to encourage firms to hire harder-toemploy workers, particularly older and disabled workers, with reimbursement up to half of the employee's wage. This program is available to certain workers above age 50. Firm information on this program is difficult to obtain, and it appears that eligibility is at least somewhat determined by the discretion of the local unemployment office. Furthermore, it seems to be fairly limited in scope and is not linked to ALG I duration, but rather to age, so its effect should be minimal. Just in case, my regressions include a dummy variable for age greater than or equal to 50 to attempt to account for a possible effect from this program.

4 Results

4.1 UI Duration and Characteristics of Subsequent Employment

These regressions examine the job characteristics of those ALG I recipients who exit to employment; they find a generally positive effect of extended ALG I duration on job outcomes. This effect is particularly pronounced on wage. An effect on prestige, satisfaction, and squared work hours gap is present for certain groups. There seems to be no effect on distance to work.

³⁰ "integration subsidy"

4.1.1 Wage

	Coefficient	Std. Error
ALG I eligibility (months)	0.038***	0.013
Biographical variables		
Age	0.051**	0.022
Age^2	-0.001***	0.000
$Age \ge 50$	-0.089	0.101
Female	-0.188***	0.043
Married	-0.035	0.042
Foreign	0.068	0.075
Education (years)	0.041***	0.009
Employment history		
Wage at previous job (euros per week, log)	0.326***	0.030
Insurance-compulsory employment, last 2 years (months)	-0.016**	0.008
Insurance-compulsory employment, last 3-5 years (months)	0.004**	0.002
Full-time work, lifetime (years)	0.006	0.005
Part-time work, lifetime (years)	0.000	0.007
Unemployment, lifetime (years)	-0.006	0.010
Beginning of unemployment (ref.: 2006)		
2007	-0.007	0.062
2008	-0.063	0.066
2009	-0.066	0.063
2010	0.017	0.068
2011	-0.054	0.076
2012	0.051	0.089
Unemployment spell duration (months)	-0.016***	0.003
Constant	3.657***	0.404

Table 5: Wage at New Job (Euros per Week, Log) $n = 925, R^2 = 0.310$

This result measures the effect of ALG I duration on re-employment wage, combining all unemployment spells for those under 58 with exit to employment for which the other variables (employment history, previous wage, etc.) are available. These restrictions left me with 925 observations, enough to show a highly significant relationship between UI duration and wage in the re-employed population as a whole. A one-month increase in ALG I eligibility corresponds to a 3 to 4 percent increase in re-employment wage.

A note on this regression: I had considered removing wage outliers from the sample, reasoning that those with very high incomes are less subject to the whims of the labor market. However, I found that results were not strikingly different with the outliers removed, particularly with respect to ALG I duration, so I kept the outliers in the interest of maintaining as large a sample as possible. To compare these regressions side by side, see **Table A.3** in the Appendix.

	Coefficient	Std. Error
Male	0.024	0.017
Female	0.046**	0.020
Married & Living Together	0.013	0.017
Other Marital Status	0.048**	0.022
Aged 18-38	-0.014	0.053
Aged 39-57	0.042***	0.016

Table 6: Effects of ALG I Duration on Wage for Various Groups³¹

Note: * if p < 0.10, ** if p < 0.05, *** if p < 0.01.

Extended UI duration has heterogeneous effects on wage in different segments of the population. In particular, it has a significant effect, increasing wage by over 4% for an additional

³¹ For full regression results, see Tables A.4, A.5, and A.6 in the Appendix

month of coverage, for women, people who aren't married and living together, and people aged 39 and older. One possibility is that these duration-dependent groups are less able to smooth consumption in the event of long-term unemployment, and as a result they benefit more from increased UI durations in so far as they ward off the possibility of long-term unemployment. Another possible explanation is that the groups who don't respond to UI extensions—men, married people, and younger workers—feel more societal pressure to be employed as quickly as possible, and are thus less likely to benefit from a duration extension. A third possible explanation, in the case of married people, is that they prioritize different job characteristics (specifically, shorter hours) and use the boost in UI duration to pursue jobs that offer that trait rather than those that pay well.³²

³² For more information, see §4.1.3.

4.1.2 Prestige

	Coefficient	Std. Error
ALG I eligibility (months)	0.354 (p = .103)	0.217
Biographical variables		
Age	0.423	0.358
Age^2	-0.006	0.005
$Age \ge 50$	-1.597	1.687
Female	0.671	0.704
Married	-0.322	0.702
Foreign	-0.795	1.249
Education (years)	1.400***	0.157
Employment history		
SIOPS prestige score at previous job	0.491***	0.029
Insurance-compulsory employment, last 2 years (months)	-0.156	0.124
Insurance-compulsory employment, last 3-5 years (months)	-0.113***	0.035
Full-time work, lifetime (years)	0.071	0.088
Part-time work, lifetime (years)	0.131	0.116
Unemployment, lifetime (years)	-0.524***	0.173
Beginning of unemployment (ref.: 2006)		
2007	-0.339	1.052
2008	-0.619	1.127
2009	-0.458	1.072
2010	-1.995*	1.149
2011	0.128	1.270
2012	0.066	1.475
Unemployment spell duration (months)	-0.072	0.054
Constant	0.178	6.344

Table 7: SIOPS Prestige Score at New Job $n = 896, R^2 = 0.508$

The regression of SIOPS prestige score finds a relationship of extended UI that falls just short of statistical significance. There are, nevertheless, interesting lessons to be gleaned from this regression. For example, the wage gap between women and men, which was significant at the 1% level, does not have a corresponding prestige gap. A quick re-examination of the wage gap reveals that it is driven by a significant difference in work hours rather than a difference in earning power per hour worked, a notion that is corroborated by the result that men and women find re-employment with similar levels of prestige.

Table 8: Effects of ALG I Duration on Prestige by Gender³³

	Coefficient	Std. Error
Male	0.041	0.344
Female	0.499*	0.290

Note: * if p < 0.10, ** if p < 0.05, *** if p < 0.01.

The effect of ALG I duration on prestige only breaks the 10% significance threshold for one group, women, and even then it just scrapes past the 10% level (p = 0.085). This is a problem common to several of my re-employment outcome regressions—I'm looking for small effects in rather noisy data with a fairly limited sample size, which often leaves my results tiptoeing on the edge of significance. As for the reason that women's re-employment prestige may reflect a stronger response to UI extensions, the explanation is likely the same as in the wage regression: women may be more liquidity-constrained, allowing for greater returns to additional duration, or men may feel more pressure to get a job long before UI extensions would enter the picture.

³³ For full regression results, see Table A.7 in the Appendix

4.1.3 Job Satisfaction

	Coefficient	Std. Error
ALG I eligibility (months)	0.076 (p = .109)	0.047
Biographical variables		
Age	-0.083	0.082
Age^2	0.001	0.001
$Age \ge 50$	-0.688*	0.385
Female	0.076	0.160
Married	0.362**	0.159
Foreign	-0.358	0.290
Education (years)	-0.048	0.032
Employment history		
Satisfaction at previous job (1-10 scale)	0.210***	0.029
Insurance-compulsory employment, last 2 years (months)	-0.053**	0.026
Insurance-compulsory employment, last 3-5 years (months)	0.009	0.008
Full-time work, lifetime (years)	-0.025	0.020
Part-time work, lifetime (years)	-0.023	0.026
Unemployment, lifetime (years)	-0.067*	0.038
Beginning of unemployment (ref.: 2006)		
2007	0.422*	0.254
2008	0.437	0.266
2009	0.474*	0.257
2010	0.613**	0.269
2011	0.153	0.297
2012	0.876**	0.349
Unemployment spell duration (months)	0.010	0.012
Constant	7.513***	1.454

Table 9: Satisfaction at New Job (1-10 Scale) $n = 883, R^2 = 0.099$

Like the prestige regression before it, this regression comes tantalizingly close (p = 0.109) to significance at the 10% level. The demographic variables are interesting here: married people report significantly higher satisfaction with their new jobs, while those over 50 report very low satisfaction relative to their younger counterparts. Both of these make sense on an intuitive level. Marriage could provide a psychological boost, or it could result in the flexibility to choose a job that leads to greater enjoyment without having to worry so much about one's own income. Older workers, in some situations, may struggle more than their younger counterparts to adapt to a new environment or position.

Table 10: Effects of ALG I Duration on Job Satisfaction by Marital Status

	Coefficient	Std. Error
Married & Living Together	0.009	0.063
Other Marital Status	0.132*	0.079

Note: * if *p* < 0.10, ** if *p* < 0.05, *** if *p* < 0.01.

While marriage is correlated with higher satisfaction in the overall regression, unmarried people are the ones who respond significantly to UI extensions. This result echoes the ones before it: due to possible liquidity constraints or less social pressure to find a job immediately, unmarried people receive a boost from extended duration that their married counterparts do not.

4.1.4 Hours Worked

	Coefficient	Std. Error
ALG I eligibility (months)	-8.323 (p = 0.207)	6.596
Biographical variables		
Age	4.207	10.978
Age^2	-0.102	0.147
$Age \ge 50$	68.400	50.822
Female	-18.371	21.734
Married	44.718**	21.153
Foreign	45.076	37.096
Education (years)	5.679	4.273
Employment history		
Squared work hours gap at previous job	0.118***	0.040
Insurance-compulsory employment, last 2 years (months)	-1.274	3.919
Insurance-compulsory employment, last 3-5 years (months)	-0.051	1.060
Full-time work, lifetime (years)	1.057	2.692
Part-time work, lifetime (years)	1.782	3.483
Unemployment, lifetime (years)	-3.437	4.970
Beginning of unemployment (ref.: 2006)		
2007	35.223	31.088
2008	9.585	33.104
2009	2.231	32.504
2010	-1.218	35.166
2011	-1.290	37.479
2012	-25.726	45.483
Unemployment spell duration (months)	1.882	1.713
Constant	91.046	193.364

Table 11: Squared Work Hours Gap (Desired – Actual) at New Job $n = 688, R^2 = 0.044$

Although the sign on ALG I eligibility is in line with what one would predict here, the *p*-value is further from significance than in the previous two regressions. This is a particularly unpredictable response variable, and only two of the explanatory variables reach statistical significance: the squared work hours gap at a person's previous job and, interestingly, marriage. Again, one can see the intuition behind this: people in a marriage may prefer to spend less time at work and more time at home, so they end up with a significantly larger gap between desired and actual work hours than those who live alone.

Table 12: Effects of ALG I Duration on Work Hours Gap by Marital Status

	Coefficient	Std. Error
Married & Living Together	-20.828**	9.911
Other Marital Status	-0.389	9.130

Note: * if *p* < 0.10, ** if *p* < 0.05, *** if *p* < 0.01.

This variable features a group benefiting from extended ALG I duration in a more clearly statistically significant manner (p = 0.036): married workers. This result is particularly noteworthy, because unlike the findings for women and prestige or unmarried people and job satisfaction, this shows a significant result for a group that didn't experience a significant effect of ALG I duration on wage. The effect of marriage on the squared work hours gap in the regression in **Table 11** can help elucidate this result: married people display a strong preference for working fewer hours; this indicates that they do find UI extensions beneficial to their job search, but they take advantage of these extensions by finding jobs that allow them to work fewer hours rather than finding higher-paying or more prestigious jobs.

4.1.5 Distance to Work

	Coefficient	Std. Error
ALG I eligibility (months)	2.530 (p = 0.344)	2.673
Biographical variables		
Age	2.536	4.474
Age^2	-0.060	0.060
Age ≥ 50	17.272	21.537
Female	-28.665***	8.660
Married	32.292***	8.735
Foreign	-13.551	15.635
Education (years)	4.781***	1.723
Employment history		
Distance to work at previous job (km)	0.298***	0.037
Insurance-compulsory employment, last 2 years (months)	-1.190	1.484
Insurance-compulsory employment, last 3-5 years (months)	-0.908**	0.420
Full-time work, lifetime (years)	1.043	1.089
Part-time work, lifetime (years)	1.519	1.408
Unemployment, lifetime (years)	4.027**	2.047
Beginning of unemployment (ref.: 2006)		
2007	37.679***	12.912
2008	16.973	13.649
2009	-1.525	12.923
2010	4.451	13.755
2011	-1.676	15.868
2012	0.456	18.300
Unemployment spell duration (months)	-0.917	0.643
Constant	-42.991	77.221

Table 13: Distance to Work at New Job (km) $n = 753, R^2 = 0.187$

For the distance variable, I found no significant effects from ALG I eligibility for any group. In the main regression, the sign of the coefficient was actually different than what I would have expected (namely, that people who benefit from UI extensions find jobs closer to home). While there are interesting relationships here—women wind up with jobs 28 km closer to home than men, while married people find jobs 32 km further away than unmarried people—distance to work is likely not as indicative of job quality as the other factors, or at the very least is unaffected by extensions in UI duration.

4.2 UI Eligibility and Unemployment Spell Duration

As Table 14 (on the following page) shows, the effect of ALG I eligibility on unemployment spell duration without regard to exit outcome is positive. As expected, there is a significant decrease in the later years in the study, which cannot have spells longer than 12 or 24 months (for 2012 and 2011, respectively). Nationality shows up as a significant factor for the first time, with non-Germans experiencing much longer unemployment durations than Germans.

	Coefficient	Std. Error
ALG I eligibility (months)	0.332***	0.097
Biographical variables		
Age	0.026	0.172
Age^2	0.003	0.002
$Age \ge 50$	0.418	0.908
Female	0.422	0.439
Married	-0.252	0.429
Foreign	1.846**	0.787
Education (years)	-0.304***	0.088
Employment history		
Wage at previous job (euros per week, log)	-0.290	0.316
Insurance-compulsory employment, last 2 years (months)	-0.071	0.062
Insurance-compulsory employment, last 3-5 years (months)	-0.027	0.022
Full-time work, lifetime (years)	-0.156***	0.051
Part-time work, lifetime (years)	-0.030	0.071
Unemployment, lifetime (years)	0.002	0.099
Beginning of unemployment (ref.: 2006)		
2007	0.040	0.666
2008	-0.535	0.701
2009	0.065	0.668
2010	-0.716	0.710
2011	-2.699***	0.786
2012	-4.379***	0.906
Constant	8.053**	3.588

Table 14: Unemployment Spell Duration (Months) $n = 1366, R^2 = 0.163$

Table 15: Unemployment Spell Duration (Months) by Outcome Employment: n = 997, $R^2 = 0.097$ Not In Labor Force: n = 369, $R^2 = 0.292$

	Employment		Not In Labor Force	
	Coefficient	Std. Error	Coefficient	Std. Error
ALG I eligibility (months)	-0.118	0.117	0.677***	0.186
Biographical variables				
Age	0.277	0.200	0.464	0.347
Age^2	-0.001	0.003	-0.005	0.004
$Age \ge 50$	1.996**	0.986	3.048	2.059
Female	0.683	0.461	-0.326	1.018
Married	-0.265	0.451	-0.681	0.992
Foreign	1.919**	0.808	1.503	1.923
Education (years)	-0.267***	0.090	-0.188	0.225
Employment history				
Wage at previous job (euros per week, log)	-0.349	0.321	-0.668	0.823
Insurance-compulsory employment, last 2 years (months)	0.094	0.071	-0.174	0.124
Insurance-compulsory employment, last 3-5 years (months)	-0.014***	0.023	-0.029	0.049
Full-time work, lifetime (years)	-0.176	0.055	-0.056	0.115
Part-time work, lifetime (years)	-0.084	0.075	0.067	0.163
Unemployment, lifetime (years)	0.047	0.107	-0.085	0.211
Beginning of unemployment (ref.: 2006)				
2007	0.354	0.676	-1.239	1.676
2008	-0.439	0.716	-1.964	1.745
2009	0.257	0.688	-1.369	1.631
2010	-0.744	0.739	-2.006	1.703
2011	-1.669**	0.826	-5.400***	1.826
2012	-3.425***	0.954	-6.714***	2.086
Constant	3.733	3.971	4.515	7.811

Our results, however, take a turn when unemployment outcome is taken into account. As one would expect, those whose unemployment spells end in labor force exit experience significant changes in unemployment duration in response to changes in UI eligibility, with a one-month increase in ALG I duration corresponding to a .677-month increase (about 3 weeks) in unemployment duration. As for those whose unemployment spells end in a new job, there is no statistically significant relationship between UI duration and unemployment duration. This contradicts the conventional wisdom on UI's effect on spell duration: according to most analyses, UI reduces the marginal return to search and increases the reservation wage, which should cause job seekers to choose longer unemployment spells. Here, we find no evidence of that effect. Despite this result, extended UI duration is correlated with positive job outcomes in the post-Hartz system. To reconcile these two results, I propose a few theories on how ALG I duration might affect unemployment outcomes without causing a noticeable increase to unemployment duration.

4.3 Possible Mechanisms

4.3.1 Heterogenous Job Search Behaviors

One possibility is that those who are eligible for longer unemployment insurance durations may conduct their job searches differently than those with short durations. For example, someone with 6 months of UI, feeling a pressure to find a job as quickly as possible, may emphasize breadth over depth in her job search, feeling that it is more important to find *something* before UI exhaustion. She may be more likely to consider a job that doesn't pay well or that demands long hours. She may also consider part-time employment, which would allow her to get her feet under her while giving her free time to continue her job search in the future. On the other hand, someone with 12 months of UI has a certain degree of security, knowing that he doesn't need to find a position right away. He might devote more time to a few high-quality job prospects—networking, researching the company, practicing for interviews—with the knowledge that if his efforts fail, he will have time to find something else before his UI expires. Although the first job seeker lowers her sights and applies to less competitive openings, she may not dedicate herself to the pursuit of these in the way that the second job seeker does. As a result, their chances of getting the jobs they apply for may be largely the same; however, the second worker applies for a better position because of the safety of longer UI eligibility. According to this theory, extended UI duration could lead to better re-employment outcomes without producing longer unemployment spells.

4.3.2 Psychological Effects of Liquidity Constraints

Related to this first idea is the possibility that UI exhaustion and its concomitant liquidity constraint produce a significant amount of stress on job seekers who face shorter UI eligibility. Thus, independent of a decision to adopt different search tactics (as explained above), a person with shorter UI duration may struggle in the job market because of the psychological burden of future expectations of poverty. A person who is more relaxed about his future prospects due to a longer period before benefit exhaustion may be less likely to panic during interviews, more likely to impress the people she encounters at the company with a relaxed sense of humor, less likely to suffer from mental health struggles that might impact her ability to apply for jobs at all. Thus, a job seeker with extended UI eligibility, in spite of the theories about diminished marginal benefits of search, may actually be more likely to get a job than someone with shorter benefits. If this effect is active, the job seeker with a long UI duration has better job prospects while reducing the search time needed to find a good job relative to others with less eligibility.

4.3.3 Reservation Wage and Job Negotiation

Another possibility is linked to the notion that UI eligibility increases the reservation wage of job applicants, making them less likely to accept a job than someone with less UI eligibility. Perhaps, rather than rejecting jobs outright, applicants with higher reservation wages may enter negotiation for job characteristics with a more assertive attitude, leading them to request more desirable conditions for themselves: higher wages, better hours, or whatever else might be important to each individual job seeker. Applicants closer to UI exhaustion may be more likely to accept whatever terms are offered to them without negotiating for fear of upsetting the employer and losing the job offer. In this scenario, workers with different UI durations could find employment in similar time frames with substantial differences in job quality.

4.3.4 Unobserved Effect of UI Eligibility on Unemployment Duration

Finally, it is possible that there is an effect of UI eligibility on unemployment duration that my regression simply didn't observe. This dataset, which is tremendously useful for its survey responses, is also somewhat limited in size, which makes things like regression discontinuity analysis and unemployment hazard rate estimation difficult. Many papers—Caliendo, Tatsiramos, & Uhlendorff (2009) springs to mind—use better models and datasets than mine and find that extended UI duration increases unemployment duration (albeit covering a different time period than my regression), and I would certainly not reject their results based on the outcome of my regression. However, others—Farber & Valletta (2013), for example—find that UI duration does not affect unemployment duration for unemployment spells that end in employment. Based on this evidence, I have a little more confidence my results. So it's possible, but not certain, that there *is* a relationship between UI eligibility and unemployment duration that my model did not manage to pick up. There is, however, also the possibility that the structural changes in the German labor market due to the Hartz reforms have produced an environment that is significantly different from its predecessor, one in which increased UI eligibility does not lead to longer unemployment spells.. Only time, and further study, will tell.

4.4 Policy Implications

The results of this study indicate that the effects of a change in unemployment insurance eligibility are not limited to changes in the unemployment rate. Re-employment job quality is positively related to UI duration; conversely, those who face reduced UI eligibility are likely to find less desirable jobs. Thus, the provision of Hartz IV that reduced ALG I eligibility may have been welfare-reducing in ways that other studies, which focus on job-finding alone, do not observe. It is important to take this into account when evaluating the overall effect of Hartz IV on the German labor market; even if it did decrease unemployment, it may have done so at a considerable welfare cost by inducing people to choose jobs with less desirable characteristics. Determining whether these benefits outweigh the cost savings of reducing UI payouts is a natural next step from these results; unfortunately, such an estimation is well beyond the scope of this paper.

4.4.1 Preventing Free Riding: One Solution

The answer to such a question may lie in solving the problem of free riding in the UI system. If those UI recipients who find jobs do not experience longer unemployment spells, then the additional cost of extending UI duration is a problem of free riding: people may receive UI benefits without a real intention of finding a job, instead putting in just enough search effort to keep them qualified for UI benefits. When these benefits are exhausted, these individuals then drop out of the labor force, often into retirement.

If the German government wanted to curb this moral hazard problem, one possible solution would be to offer a portion of ALG I payments not as unrestricted benefits but as loans³⁴. Here's how this might look in practice: everyone who registers for unemployment is automatically eligible for payments on the level of ALG II, just as the long-term unemployed who have exhausted their ALG I benefits receive today. For a certain period of time—perhaps following today's ALG I duration rules, perhaps different—an unemployed person has the option to receive additional benefits up to the level of today's ALG I level. If he finds a job, then a portion of his mandatory social security contribution is deducted as a loan payment until he has paid back the loan; in some sense, then, he pays for his own unemployment insurance. If, however, he exits the labor force without finding a job, he is responsible for the repayment of the loan out of his own pocket. Such a system would reduce the moral hazard of UI: those with no intention of finding a job will be less likely to accept the additional ALG I benefits if they come with the expectation of repayment.

If ALG I eligibility rules are not changed, then this plan is, at worst, cost-neutral: those who accept the loan and repay it with social security contribution deductions ultimately cost the

³⁴ A similar proposal appears in Chetty (2008).

system exactly what it would have given out as pure subsidy, and if anyone who would have been a free rider elects not to take the loans, then the system saves money it would have spent subsidizing the job search of someone who was never really searching for a job. With this framework in place, Germany could then consider extending maximum ALG I duration, in the hopes that it will improve job search outcomes without increasing unemployment spells or subsidizing free riding.

5 Conclusion

This paper sought to examine the effect of changes in the duration of unemployment insurance on various measures of post-unemployment job quality within the context of Germany's unemployment system after the Hartz reforms. I find a significant effect of UI duration on job wage, as well as significant effects for certain groups on occupational prestige, job satisfaction, and the desirability of hours worked. I find no significant effect on distance from home to work.

I also look for the effect of UI eligibility on unemployment duration. I find a significant effect when all unemployed people are taken together; however, when breaking this down into those who exit unemployment by finding a job and those whose unemployment spell ends in exit from the labor force, I find that this entire effect is driven by the latter. In short, I find no evidence of a link between UI eligibility and unemployment duration for those who found jobs at the end of their unemployment spells.

To make sense of these results, I propose a few theories: different job search behaviors among those with different UI durations, a psychological burden imposed by impending UI exhaustion, a negotiation advantage caused by a higher reservation wage for those with longer eligibility, or the possibility that my dataset simply failed to observe a positive relationship between UI duration and unemployment duration. Finally, I present one possible policy response to these findings: administering UI benefits above a subsistence level as loans, reducing the risk of free riding without harming those who genuinely seek to use UI as a consumption smoothing mechanism while searching for a new job. With policies like this, Germany could save money by cutting its subsidies to free riders, perhaps allowing it to reverse some of the cuts that made Hartz IV unpopular in the first place while supporting, rather than damaging, the efficiency of the unemployment insurance system.

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Appendix

Table A.1: Summary Statistics

	Count	Median	Mean	Std. Deviation
Response variables				
Wage at new job (euros per week, log)	1386	7.313	7.234	0.705
SIOPS prestige score at new job	1350	38	40.161	12.738
Satisfaction at new job (1-10 scale)	1449	7	6.742	2.216
Squared work hours gap (desired – actual) at new job	1340	25	107.692	226.347
Distance to work at new job (km)	1184	12	36.074	105.668
Unemployment spell duration (months)	1985	4	6.961	7.630
Explanatory variables				
Wage at previous job (euros per week, log)	1811	7.313	7.210	0.732
SIOPS prestige score at previous job	1766	38	39.533	12.317
Satisfaction at previous job (1-10 scale)	1816	6	5.910	2.566
Squared work hours gap (desired – actual) at previous job	1288	25	121.773	236.100
Distance to work at previous job (km)	1636	12	33.733	96.626
Age	1985	39.417	39.411	12.732
Age^2	1985	1553.674	1715.286	1032.144
$Age \ge 50$	1985	0	0.243	0.429
Female	1985	0	0.443	0.497
Married	1985	0	0.441	0.497
Foreign	1985	0	0.059	0.236
Education (years)	1885	11.5	11.988	2.316
Insurance-compulsory employment, last 2 years (months)	1985	23	20.737	4.288
Insurance-compulsory employment, last 3-5 years (months)	1577	31	26.508	11.073
Full-time work, lifetime (years)	1984	10	13.422	12.056
Part-time work, lifetime (years)	1984	0.1	2.230	4.508
Unemployment, lifetime (years)	1984	0.8	1.791	2.442
Beginning of unemployment spell	1985	2009	2008.665	1.784

Age	Probability	Age	Probability	Age	Probability
18	0.500	34	0.731	50	0.762
19	0.591	35	0.750	51	0.825
20	0.786	36	0.744	52	0.833
21	0.661	37	0.833	53	0.844
22	0.644	38	0.757	54	0.512
23	0.632	39	0.830	55	0.735
24	0.698	40	0.771	56	0.686
25	0.882	41	0.636	57	0.594
26	0.816	42	0.755	58	0.479
27	0.886	43	0.712	59	0.294
28	0.816	44	0.722	60	0.370
29	0.729	45	0.787	61	0.176
30	0.687	46	0.811	62	0.333
31	0.804	47	0.680	63	0.333
32	0.915	48	0.886	64	0.267
33	0.857	49	0.722		
		•		•	

Table A.2: Probability of Re-Employment by Age

Table A.3: Wage at New Job (Euros per Week, Log) Including/Excluding Outliers Including: n = 925, $R^2 = 0.310$ Excluding: n = 880, $R^2 = 0.244$, excluding 45 outliers (wage > €3,600/week)

	Including Outliers		Excluding Outliers	
	Coefficient	Std. Error	Coefficient	Std. Error
ALG I eligibility (months)	0.038***	0.013	0.034**	0.013
Biographical variables				
Age	0.051**	0.022	0.048**	0.022
Age^2	-0.001***	0.000	-0.001**	0.000
$Age \ge 50$	-0.089	0.101	-0.076	0.101
Female	-0.188***	0.043	-0.144***	0.043
Married	-0.035	0.042	-0.058	0.042
Foreign	0.068	0.075	0.053	0.075
Education (years)	0.041***	0.009	0.025***	0.009
Employment history				
Wage at previous job (euros per week, log)	0.326***	0.030	0.281***	0.030
Insurance-compulsory employment, last 2 years (months)	-0.016**	0.008	-0.017**	0.008
Insurance-compulsory employment, last 3-5 years (months)	0.004**	0.002	0.005**	0.002
Full-time work, lifetime (years)	0.006	0.005	0.008	0.005
Part-time work, lifetime (years)	0.000	0.007	0.001	0.007
Unemployment, lifetime (years)	-0.006	0.010	0.000	0.010
Beginning of unemployment (ref.: 2006)				
2007	-0.007	0.062	0.012	0.063
2008	-0.063	0.066	-0.022	0.067
2009	-0.066	0.063	-0.024	0.064
2010	0.017	0.068	0.014	0.069
2011	-0.054	0.076	-0.020	0.077
2012	0.051	0.089	0.095	0.090
Unemployment spell duration (months)	-0.016***	0.003	-0.014***	0.003
Constant	3.657***	0.404	4.170***	0.407

Table A.4: Wage at New Job (Euros per Week, Log) by Gender Male: n = 493, $R^2 = 0.359$ Female: n = 432, $R^2 = 0.244$

	Male		Female	
	Coefficient	Std. Error	Coefficient	Std. Error
ALG I eligibility (months)	0.024	0.017	0.046**	0.020
Biographical variables				
Age	0.024	0.028	0.072**	0.034
Age^2	0.000	0.000	-0.001**	0.000
$Age \ge 50$	-0.029	0.127	-0.144	0.159
Married	-0.024	0.050	-0.043	0.069
Foreign	0.109	0.081	-0.015	0.145
Education (years)	0.021	0.013	0.044***	0.012
Employment history				
Wage at previous job (euros per week, log)	0.491***	0.042	0.217***	0.043
Insurance-compulsory employment, last 2 years (months)	-0.006	0.010	-0.027**	0.012
Insurance-compulsory employment, last 3-5 years (months)	0.002	0.003	0.006**	0.003
Full-time work, lifetime (years)	-0.004	0.008	0.006	0.007
Part-time work, lifetime (years)	0.008	0.014	0.001	0.009
Unemployment, lifetime (years)	-0.011	0.013	0.005	0.017
Beginning of unemployment (ref.: 2006)				
2007	-0.134*	0.075	0.150	0.101
2008	-0.043	0.078	-0.086	0.110
2009	-0.137*	0.076	0.010	0.104
2010	-0.098	0.082	0.107	0.110
2011	-0.115	0.088	0.041	0.130
2012	0.035	0.101	0.051	0.152
Unemployment spell duration (months)	-0.010**	0.004	-0.020***	0.005
Constant	3.062***	0.513	3.939***	0.628

Table A.5: Wage at New Job (Euros per Week, Log) by Marital Status Married & living together: n = 446, $R^2 = 0.412$ Other marital status: n = 479, $R^2 = 0.272$

	Married & Living Together		Other Marital Status	
	Coefficient	Std. Error	Coefficient	Std. Error
ALG I eligibility (months)	0.013	0.017	0.048**	0.022
Biographical variables				
Age	0.007	0.041	0.096***	0.031
Age^2	0.000	0.001	-0.001***	0.000
$Age \ge 50$	-0.134	0.119	-0.021	0.189
Female	-0.222***	0.065	-0.151***	0.057
Foreign	0.044	0.087	0.133	0.138
Education (years)	0.031**	0.012	0.038***	0.012
Employment history				
Wage at previous job (euros per week, log)	0.476***	0.043	0.223***	0.042
Insurance-compulsory employment, last 2 years (months)	0.004	0.010	-0.028**	0.012
Insurance-compulsory employment, last 3-5 years (months)	0.000	0.003	0.006**	0.003
Full-time work, lifetime (years)	0.002	0.007	0.007	0.008
Part-time work, lifetime (years)	0.003	0.009	-0.002	0.011
Unemployment, lifetime (years)	0.014	0.013	-0.024	0.017
Beginning of unemployment (ref.: 2006)				
2007	-0.101	0.092	0.049	0.084
2008	-0.005	0.092	-0.119	0.095
2009	-0.006	0.089	-0.118	0.090
2010	0.034	0.098	-0.008	0.095
2011	-0.063	0.109	-0.007	0.106
2012	-0.050	0.133	0.109	0.119
Unemployment spell duration (months)	-0.022***	0.004	-0.011**	0.004
Constant	3.212***	0.820	3.765***	0.559

Table A.6: Wage at New Job (Euros per Week, Log) by Age Group Aged 18-38: n = 455, $R^2 = 0.276$ Aged 39-57: n = 470, $R^2 = 0.384$

	Aged 18-38		Aged 39-57	
	Coefficient	Std. Error	Coefficient	Std. Error
ALG I eligibility (months)	-0.014	0.053	0.042***	0.016
Biographical variables				
Age	0.066	0.071	0.020	0.114
Age^2	-0.001	0.001	0.000	0.001
$Age \ge 50$		—	-0.090	0.109
Female	-0.141**	0.060	-0.245***	0.063
Married	-0.098	0.068	0.015	0.055
Foreign	0.075	0.105	0.123	0.111
Education (years)	0.057***	0.014	0.028**	0.011
Employment history				
Wage at previous job (euros per week, log)	0.291***	0.049	0.349***	0.039
Insurance-compulsory employment, last 2 years (months)	0.012	0.029	-0.018**	0.009
Insurance-compulsory employment, last 3-5 years (months)	0.005*	0.003	0.004	0.004
Full-time work, lifetime (years)	0.023*	0.012	-0.001	0.006
Part-time work, lifetime (years)	0.022	0.016	-0.005	0.008
Unemployment, lifetime (years)	0.042*	0.021	-0.019	0.012
Beginning of unemployment (ref.: 2006)				
2007	-0.009	0.088	-0.002	0.087
2008	-0.159	0.098	0.026	0.090
2009	0.042	0.094	-0.143*	0.086
2010	0.070	0.099	-0.053	0.094
2011	-0.021	0.115	-0.091	0.102
2012	0.089	0.124	-0.044	0.130
Unemployment spell duration (months)	-0.019***	0.005	-0.014***	0.004
Constant	3.498***	1.020	4.434*	2.611

Table A.7: SIOPS Prestige Score at New Job by Gender Male: n = 468, $R^2 = 0.478$ Female: n = 428, $R^2 = 0.541$

	Male		Female	
	Coefficient	Std. Error	Coefficient	Std. Error
ALG I eligibility (months)	0.041	0.344	0.499*	0.290
Biographical variables				
Age	0.433	0.536	0.383	0.500
Age^2	-0.007	0.007	-0.005	0.007
$Age \ge 50$	2.008	2.502	-4.946	2.386
Married	-0.334	0.976	-0.079	1.029
Foreign	-0.643	1.550	-1.590	2.220
Education (years)	1.298***	0.267	1.353***	0.207
Employment history				
SIOPS prestige score at previous job	0.486***	0.043	0.500***	0.040
Insurance-compulsory employment, last 2 years (months)	0.077	0.193	-0.326*	0.167
Insurance-compulsory employment, last 3-5 years (months)	-0.073	0.057	-0.140***	0.045
Full-time work, lifetime (years)	0.053	0.161	0.057	0.112
Part-time work, lifetime (years)	0.531**	0.270	0.083	0.138
Unemployment, lifetime (years)	-0.492**	0.249	-0.509*	0.264
Beginning of unemployment (ref.: 2006)				
2007	-1.428	1.482	0.203	1.524
2008	-1.034	1.568	-1.111	1.671
2009	-1.826	1.499	0.325	1.585
2010	-1.788	1.633	-2.715	1.651
2011	0.498	1.708	-1.576	1.963
2012	-2.253	1.942	2.971	2.321
Unemployment spell duration (months)	-0.037	0.087	-0.076	0.071
Constant	-0.886	9.402	4.094	8.887