



INSTITUTE FOR EMPLOYMENT  
RESEARCH  
The Research Institute of the Federal Employment Agency

# IAB-DISCUSSION PAPER

Articles on labour market issues

---

## 13|2020 Online Appendix – Evidence on Job Search Models from a Survey of Unemployed Workers in Germany

Stefano DellaVigna, Jörg Heining, Johannes F. Schmieder, Simon Trenkle

ISSN 2195-2663



# Online Appendix – Evidence on Job Search Models from a Survey of Unemployed Workers in Germany

Stefano DellaVigna (UC Berkeley, NBER),

Jörg Heining (Institute for Employment Research (IAB)),

Johannes Schmieder (Boston University, NBER, IZA, and CESifo),

Simon Trenkle (Institute of Labor Economics (IZA), IAB)

Mit der Reihe „IAB-Discussion Paper“ will das Forschungsinstitut der Bundesagentur für Arbeit den Dialog mit der externen Wissenschaft intensivieren. Durch die rasche Verbreitung von Forschungsergebnissen über das Internet soll noch vor Drucklegung Kritik angeregt und Qualität gesichert werden.

The “IAB-Discussion Paper” is published by the research institute of the German Federal Employment Agency in order to intensify the dialogue with the scientific community. The prompt publication of the latest research results via the internet intends to stimulate criticism and to ensure research quality at an early stage before printing.

# Contents

<b>A</b>	<b>Survey Design</b>	<b>5</b>
A.1	Sampling Population	5
A.2	Sample Design	5
A.3	Initial Contact	6
A.4	Content of SMS Messages	7
A.5	Amazon vouchers	8
A.6	(Pre-)Pilots: From Checks to Final Samples	9
<b>B</b>	<b>Representativeness of Sample and Attrition</b>	<b>11</b>
B.1	Representativeness of Sample	11
B.2	Attrition	11
B.3	Effect of contact on job finding	12
<b>C</b>	<b>Description of Expert Forecast Survey</b>	<b>13</b>
C.1	Sample design	13
C.2	Survey Instrument	13
C.3	Distribution and data collection	14
C.4	Results of Expert Forecast	14
<b>D</b>	<b>Defining Nonemployment</b>	<b>16</b>
D.1	Imputing Job-Found in the Survey and Administrative Data	17
D.2	A Combined Measure of Job-Found	18
D.3	Alternative Measures of Job-Found	20
<b>E</b>	<b>Comparison to Marinescu and Skandalis (2021)</b>	<b>21</b>
<b>F</b>	<b>Empirical Framework for Identification and Survey Response Bias</b>	<b>24</b>
<b>G</b>	<b>Reference Dependent Model</b>	<b>29</b>
G.1	General Setup	29
G.1.1	Consumption Utility	29
G.1.2	Reference Point	30
G.2	Model under exponential discounting	30
G.2.1	Value Functions	30
G.2.2	Solving the Model	31
G.2.3	Calculating the value of accepting a job in each period	31
G.2.4	Solving for the optimal search effort and consumption path during unemployment	32
G.3	Model with Present Bias	34
G.4	Model with Time Trend in Optimal Hazard Rate	35
G.4.1	Time Trend in Search Cost	35

G.4.2	Time Trend in Productivity of effort.....	36
G.5	Normalizing Search Cost by Consumption .....	36
<b>H</b>	<b>Estimation .....</b>	<b>38</b>
H.1	Reducing the Dimensionality of the Endogenous Savings Model from $ A ^2$ to $ A $ .....	38
H.2	Optimization Algorithm .....	38
<b>I</b>	<b>Appendix Tables and Figures .....</b>	<b>40</b>
	<b>List of Figures .....</b>	<b>111</b>
	<b>List of Tables .....</b>	<b>113</b>

# A Survey Design

## A.1 Sampling Population

We draw our contact sample from administrative data containing the universe of UI recipients in Germany. This data stems from the administrative process of claiming UI at the local UI agencies and is, for example, used for generating official statistics on UI recipients in Germany. Every month we extracted micro level data with a reporting date around the 15th of each month on the current stock of all UI recipients in Germany. We received this data with a time lag of about 3 weeks. It contains the exact starting date of UI-receipt, the initial eligibility of UI in days and a number of demographic variables, such as age, education, gender and nationality.

## A.2 Sample Design

We select UI-recipients with initial eligibility, i.e. the maximum eligibility duration to UI benefits at the first day of unemployment, of exactly 6, 8 and 10 months, as well as 12 and 15 months. For the 6, 8 and 10 month eligibility groups, we restrict the sample to the age between 28 and 55 at time of UI, while for the 12 and 15 month eligibility groups we restrict to age between 45 and 55 -centered around the age-cutoff 50. We further restrict to individuals with complete address information and cellphone number that are neither sanctioned nor participate in a training program at time of sampling. Each month, we draw a stratified random sample and contact a new pool of UI recipients. We call each new round of drawing and contacting a wave, of which we run 22 in total. Each strata is defined by the interaction of initial UI eligibility in month  $P \in \{6, 8, 10, 12, 15\}$  and the UI duration at the intended contact date in month  $D \in \{2, 5, 7, 8, 9, 11, 13\}$ , though we do not sample individuals for all of these interactions.<sup>1</sup>

The sampling frame -displayed in table A.2- follows an overlapping cohort-structure: In each wave and for each P-group, we sample at different D values (cohorts). With full participation -individuals where surveyed over 18 weeks-, the UI duration at the end of the earliest cohort

---

<sup>1</sup> We refer to the intended contact date as the date for which we would like to contact individuals. This can differ from the actual date for two reasons: First, in the early pilots (wave 1 - 3), we use a slightly different definition of month (i.e. we used the date the data was updated + one month) and second, at time of sampling we do not have perfect control over the time the contact takes actually place. In some cases the send-out got unexpectedly delayed, forcing us to delay the actual contact date as well. The difference between actual and intended contact date by wave is highlighted in table A.3.

overlaps with, or is slightly higher than, the start of UI duration of the next cohort. This design allows us to disentangle potential survey response biases from actual changes in search over the unemployment spell and also allows us to study the job search behavior over the full UI spell.

We oversample individuals close to UI exhaustion, but make sure that we sample also some individuals at the start of their UI duration. We do sample individuals only once; the sampling design therefore takes into account that contacted individuals are out of the sampling pool in subsequent waves.

The sample is drawn using Stata's random number generator. Each individual fulfilling the sample restrictions gets assigned a random number that is drawn from the uniform distribution. Within each strata, we select individuals in increasing order of their random draw until the number of individuals we intend to sample in each cell -the target number- is reached. In the rare cases where the target number lies above the individuals available in a particular cell, we take all individuals in that cell, without any adjustment in other cells.

The contact of the first wave started on 11/09/2017 and the survey ended for the last wave on 11/28/2019 after over 750 days.

### A.3 Initial Contact

To each sampled individual we send a contact letter, accompanied with a more detailed flyer. In the contact letter (figure A.1) we inform individuals that we would like them to participate in a survey related to job search and would contact them during the next weeks on their private cellphone via text message. The contact letter describes broadly the study purpose and mentions the potential social benefits (better informed policy advice) as well as the private benefits (amazon vouchers) of participation. We also mention that participation is completely voluntary, and that sending messages can induce costs, depending on the individual phone contract. The letter was printed in color and signed by the (acting) head of IAB.

The flyer (figure A.2) includes a description of the origin of the contact information and provides the legal context which allows us to use this information. We also provide a telephone number and a email address that individuals could contact for further questions or in case they don't want to be contacted via text message. We also provide more details about the job-search question we ask during the survey and clarify what we would and would not count as job search activity. As activities that count for job search we mention "looking through the internet or the daily news for suitable vacancies", "drafting and editing

a CV”, “drafting and send out of job applications” and “preparation for, arrival at and participation in a job interview”. As activities that we do not count as job search we mention “participation in training programs” and “filing of application forms for UI benefits or related”. Individuals that actively reported that they did not want to participate in the survey were taken out before the actual contact via text message took place. We also removed individuals from the survey if their letter was returned due to an invalid address or for other reasons. This led to a reduction of the contacted sample by about 2-3% percent, with some mild fluctuations between waves.

The survey was conducted by MGov International, a survey institute located in Frankfurt (Main), Germany, specialized on text message based surveys. For contacting purposes, the contact information of the sampled individuals were transferred to a secure server of MGov International. MGov handled the complete technical aspect of the survey, including the programming of survey paths, the send out of questions, the purchasing and distribution of vouchers and the collecting of responses.

During the whole survey period, individuals could ask questions via a hotline managed by IAB that was active from 10am to 2pm Tuesday to Thursday, except during public holidays. At all times, individuals could leave voice messages and send emails that where answered usually within at most two business days by IAB staff.

The first contact via text message usually took place on a Tuesday afternoon at 3pm.

## A.4 Content of SMS Messages

The SMS messages consists of an initial questionnaire which individuals receive only once at the first date of contact and of a regular questionnaire received during the rest of the survey period. Table A.7 shows the German and English wording of the main questions of the survey and the frequency in which they are asked.

Individuals received first a welcome message introducing shortly the survey and referring to the contact letter and a homepage at IAB containing the information provided in the contact letter and the flyer. The second message then asks directly about whether individuals want to participate in the survey and whether they agree to the linkage of their information with the administrative data stored at IAB. If they consent to this question, they receive the first Amazon voucher, followed by the first question on job search and additional information on how long the survey will last. After that, they receive information when the remaining Amazon vouchers (one in the middle and two at the end) are sent and how to stop the survey prematurely (by replying “stop” at any time). If individuals reply that they don’t want

to participate, the survey stops and a message stating that the end of the survey is reached is sent. Moreover, an option to return to the survey within three days is offered. In case individuals do not reply at all they receive a first reminder after four hours, and a second and last reminder 24 hours after the start of the initial question. The first reminder already informs them that no action is required if they don't want to participate, whereas the second reminder says that they will not be contacted again if they take no further action.

Individuals receive the job-search question twice a week on Tuesday and Thursday. As table A.7 shows, there is a short and long job search question, where the long question contains additional examples. In addition, each Tuesday (with exception of the first date of contact) we ask one of four additional questions which we rotate, such that each of these questions gets asked every fourth week. The rotating questions are in the order in which they are asked: (a) life satisfaction on a scale from 1 to 5 (b) target wage in euro (c) search intensity over the last week on a scale from 1 to 10 and (d) information on whether they found a job. If individuals said that they found a job, they were asked on which day they got the offer, on which day they accepted the offer and on which day they are starting the new job. In case individuals report that they did not have found a job yet, they were asked to assess their subjective likelihood of finding a job within the next four weeks on a scale from 1 (not likely at all) to 10 (very likely).

## A.5 Amazon vouchers

We used amazon.de vouchers to incentivize individuals to participate in the survey as well as compensating them for potential costs that might occur to them when replying. Individuals that participated fully in the survey received four vouchers, each worth 5 , or 20 in total. We sent the first voucher directly after individuals consented to participate in the survey, the second one in the middle of the survey after 8 weeks and two at the end of the survey. Individuals received the middle and end vouchers if they responded to at least 70% of the job search questions since they received the last vouchers. Every four weeks individuals received a message displaying the share of job search questions they responded to with an appreciation for their continuous replies in case they responded to at least 70% of the questions and otherwise with a message that informed them that in order to receive vouchers in the future they would need to reply more often.

Table A.1 lists the voucher take-up rates, conditional on receiving a voucher and conditional on that we have information on take-up status. As Amazon repeatedly changed its policy of providing information on take-up status, we only observe take-up status for a subset of individuals and the share of individuals where we observe it varies by wave. Column 1 provides take-up rates for the different vouchers without any further sample restrictions.



Slightly less than 60% of the observed individuals take-up their initial voucher. Restricting to individuals that are non-employed at survey-start provides a similar take-up rate. Of those who participated fully in the survey we observe a slightly higher take-up rate of about 68%.

## A.6 (Pre-)Pilots: From Checks to Final Samples

We began the survey with extensive piloting. Before sending any messages to unemployed individuals, we tested a reduced versions of the survey with colleagues at IAB. This allowed us to detect and repair some technical problems as well as revising and shortening the questionnaires to improve readability. We then started with two pre-pilots in November 2017. Table A.3 gives an overview of the different waves and corresponding characteristics. The pre-pilots (wave one and two) consisted of 504 contacted individuals each and contained already the basic survey structure. In addition, we asked for participants age (in years) and gender during the initial survey in order to verify this information with administrative records. As responses and administrative information align in the vast majority of cases, we abolished those additional questions after the two pre-pilots. In the pilot, on an experimental basis we also offered the possibility for individuals to extend their survey by two more months, in which case they received another 5 amazon.de voucher. The survey extension option was abolished after wave 4 due to low take-up.

Starting with the first wave, we randomized the incentives individuals received. We did three equal-sized randomization arms: In the first arm, individuals could receive up to 20 amazon.de vouchers of which they received 5 at the beginning, another 5 in the middle and another 10 at the end. In another arm, individuals could receive up to 30 , of which they received 5 at the beginning and after month one, two and three, as well as 10 at the end of the survey. Finally, we did one randomization where individuals received a 20 voucher in total, as in the first randomization arm, but also participated in a monthly iPad lottery with drawing probability of 1 in 100. The contact letter, flyer and the initial text messages contained information on the arm-specific incentives. Based on the evidence from this randomization, we chose the first arm with up to 20 amazon.de vouchers as the most cost effective.<sup>2</sup>

The survey was then scaled up to 3,024 contacted individuals in wave 3, with additional randomizations of the initial survey paths. We did four equally sized randomization arms, where each arm had a different survey path of the initial questions. In version one, we first sent a general information about the scope and duration of the survey. We then asked in a

---

<sup>2</sup> The participation-rate was about 1.5 percentage points lower in the 20 Euro arm in the pre-pilots as well as the first two pilots than compared to the other arms. The differences in participation rates were not always significant.

second step whether individuals wanted to participate in the survey and consent to linkage with administrative records. If they did consent, they received their first job-search question and after responding to that, they received their first 5 amazon.de voucher. Version two followed the same logic, except that the first question on job-search was asked before we asked for linkage-consent. The third version then provided only a very short info (without providing info on the duration of the survey), before individuals got a question on job-search followed by information on the duration of the survey, the consent question and the voucher. Version four is similar to the first version, but emphasized in addition the importance to participate. The randomization of the survey path was interacted with that of the incentives, such that there were 12 randomization arms in total. After wave four we stopped the randomization of the versions and opted for version one.<sup>3</sup>

We implemented a final randomization in wave seven, randomizing with equal weights whether individuals were contacted from a regular cellphone number<sup>4</sup>, the default in all previous waves, or a “short code”: a four or five digit number. The short code offered the potential of appearing more official, and is for example used in communications by phone contractors. On the other hand, apart from cellphone providers or for some pay-services, short codes are not very common in Germany and Android phones display as default a warning message that replying might induce costs. It turned out that the downside of the short code dominated: Participation rates were only about half of the size from individuals that were contacted by the short code. In addition, individuals had to pay more often when replying to the short code as common SMS flat rates usually exclude short codes. This led to an increase in complaints and we stopped the survey for individuals in the short code arm after a few weeks, with a message reporting the issue and including a final 5 voucher.

An anomaly of the survey is that in wave 11 individuals erroneously received instead of the consent question a message that they decided to terminate the survey, but could re-join if replying with “yes”. To those who did say yes, we sent the corrected consent question also notifying them about the error. Only those individuals who replied “yes” continued to participate in the survey. During wave 11 a lower number of individuals with different characteristics (for example, a lower share of Non-Germans) participated in the survey than during other regular waves.

---

<sup>3</sup> The differences in participation rates between the versions appeared small and version one was the most cost effective. Since there were some version-specific errors in the time of send-out, it is difficult, however to interpret these differences as causal.

<sup>4</sup> In Germany, cellphones can be distinguished from other phone numbers by their first digit.

# B Representativeness of Sample and Attrition

## B.1 Representativeness of Sample

As we have administrative information on individuals that participated in the survey as well as those who did not, we can examine how the characteristics of participants differed from those that did not participate in the survey. Table A.4 shows the mean for those characteristics for the contacted individuals that participate in the survey (column (1)), those who do not participate (column (2)) and the difference and p-value of this difference in column (3). Females and high educated are more likely to participate, while individuals with Non-German nationality participate less often. Age and eligibility-duration in contrast is not or only mildly related to participation behavior.

## B.2 Attrition

Figure A.10 shows attrition rates over time since survey start, where attrition is defined as never responding to any future job-search question again. Figure A.10 (a) shows the attrition, separately for all individuals participating in the survey and for individuals participating in the survey while still non-employed. Attrition for all survey participants is quite low in our setting: Almost 70% of the surveyed individuals stay in the survey until the end, and about 85% of individuals stay for at least 5 weeks. When conditioning on non-employment the attrition is somewhat higher, with about 40% of the individuals that participated as non-employed in the beginning are still non-employed and participating. This reflects the fact that many individuals find a job while participating in the survey. Figure A.10 (b) shows the overall attrition rate over time split up by wave. While there is some mild variation in attrition between waves, the overall pattern is quite similar for most waves. A notable exception is wave 7 where the abolition of the short code (see A.6) leads to notable attrition at week 4. Figure A.10 (c) shows as comparison the attrition rate over time for the Krueger and Mueller data. Their data exhibits a higher attrition rate, where the attrition in week 5 is comparable to attrition in week 18 in our survey. Overall, the attrition rate is quite low in our setting, especially considering the long duration of our survey.

## B.3 Effect of contact on job finding

The administrative data also allows us to examine whether being contacted and asked to participate in the survey affected the job-finding of the unemployed. To examine this question we take all individuals in the sample frame (column (2) of table I), and select all months where those individuals had an a priori positive probability of being sampled. Among those, we define treatment as being contacted in a particular month. As the sampling-process was a stratified random-sample within PxD cells and conducted separately for each wave, we perform an OLS regression of different job outcomes on a dummy for being contacted, controlling for the full PxDxWave interaction.

Table A.5 shows the results. Panel B shows placebo tests using predetermined variables as outcomes. The coefficients for these variables are very close to zero and insignificant in most cases, suggesting that the treatment and control are balanced. Panel A shows results for 3 labor market outcomes: the duration in nonemployment in months until the next Social Security employment (winsorized at 18 months), an indicator for finding a new job within the next 3 months after (potential) contact, and an indicator for finding a job within the next six months after (potential) contact. All three results are insignificant and very close to zero. Moreover, the precision of the estimates allows to reject effects of modest size. In a complementary specification, we examine hazard rates after the potential contact between treatment and control group. Figure A.9 plots hazard rates for individuals with P=6 and P=8, and separately for different times of being (potentially) contacted. The hazard rates of treatment and control follow each other closely, are mostly not significantly different from each other and do not exhibit a systematic pattern. Overall, the evidence suggests that in our case the contact of the unemployed did not affect their job-finding behavior.

## C Description of Expert Forecast Survey

How do the main results of our paper line up with the expectations of job search experts? What role did experts anticipate for storable offers, discouragement, and other models in search effort? Along the lines proposed by DellaVigna and Pope (2018) and DellaVigna et al. 2019, we elicit expectations for our key findings. The remaining section describes the sample design, survey instruments, the data collection and the results.

### C.1 Sample design

The sample was constructed as follows: in a first step, we selected authors of UI-related articles published in the so-called top-5 journals (AER, Econometrica, JPE, ReStud, and QJE) since 2010. We supplemented this list with a number of younger economists who have worked on unemployment insurance in recent years, economists who have worked on the German UI system and economists who have worked on models of storable offers. Using these criteria, we arrived at a sample of 47 experts on UI and job search.

### C.2 Survey Instrument

We designed a concise questionnaire that, in a first section, described the expert forecast survey and asked for consent to participate in the survey. Next we provided contextual information about the SMS survey project and the German UI system. Then, predictions were asked about our three key results: search effort at the beginning of the unemployment spell, search effort around UI exhaustion and storable job offers.

For each of these questions we gave the respondents some context. In general we provided the respondents versions of Figure VI in the main text that omitted the respective expert forecasts that are shown in each of the three panels. In addition we provided them with the hazard rate figures shown in Figure VIa-b. For the initial search effort we gave our respondent the average search in month 2 of unemployment, showed them the evolution of the reemployment hazard over the first 6 months of unemployment and then asked them what they believed the search effort in month 6 would be. For the question on search effort around exhaustion, we provided the respondents with the actual search effort in the month prior to exhaustion as well as the evolution of the reemployment hazard around the exhaustion point and then asked for their predictions regarding search effort 2 months

before and after exhaustion. For the question on storable offers we showed them the gap between job offer and job start for the months before and after UI exhaustion and asked for their prediction at UI exhaustion.

Finally, respondents were asked about their academic positions, main research field and previous knowledge of the German labor market. A text box for comments and feedback was also available. The average survey response time was 5 to 10 minutes.

### C.3 Distribution and data collection

The survey was sent to respondents via a personalized email. In order to ensure confidentiality in responses an anonymized link to the survey was used. Due to this distribution method, respondents were encouraged not to share the survey with other colleagues. Invitations were sent on October 29, 2019 and a week after a reminder email was sent. Response recording ended on November 9, 2019. In terms of response rates, we recorded 35 fully completed surveys, which translates into a response rate of 74.5%.

### C.4 Results of Expert Forecast

Appendix Figure A.36 present the average forecast, compared to the findings, with additional information in Appendix Table A.30 and the full distribution of forecasts in Appendix Figure A.37.<sup>5</sup> The experts on average expect a 20 percent decrease in search effort from month 2 to 6, well outside the confidence interval of the actual findings (Figure A.36a). Thus, they expected either a larger role for discouragement or for reference dependence, than we observe.

The experts also expect a sizable increase in search effort leading up to expiration, as predicted by most models except for a pure storable-offer model (Figure A.36b). Thus, the experts do not believe that the “spike” is purely due to storable offers. The expert also expect a similar-sized decrease in search effort post expiration, as predicted under reference dependence, but not under the standard model. These predictions are directionally in line with the data, even though the experts overestimate the extent of the spike in search effort.

---

<sup>5</sup> The figures and numbers presented to the experts were not exactly identical to the ones in the paper due to some further data cleaning that occurred after the survey. However, the differences are minor.

Finally, the experts on average expect an offer-start gap over 50% larger for individuals who start a job at UI expiration, compared to in other periods (Figure A.36c). Thus, the experts expect a larger incidence of storable offers than we observe in the data.

## D Defining Nonemployment

The measure of job search employed in the paper is the average reported number of minutes of job search among the survey respondents that are still unemployed. The last portion of this definition – the restriction to individuals that are unemployed—is critical: if we included also individuals who have already found a job, the measure of search effort would presumably display a downward drift over time, as search effort on the job is much lower, and employed people would tend to become a larger share of respondents over time. We thus work hard to come up with the best definition of unemployment combining information with two data sources: survey responses on job finding and administrative info on job-start.

The challenges in coming up with a sensible definition of unemployment in our context, as we see them, are mainly the following. The typical definition of unemployment — searching for a job — does not work in a setting where job search is the main outcome of interest. Administrative definitions of unemployment on the other hand are in part mechanically tight to benefit receipt and an ending unemployment spell might thus reflect benefit run out instead of exiting unemployment. Indeed, figure A.6 shows an increased exit from registered unemployment at UI expiration, which is not matched by an equally sized increase in job-start. Nonemployment as a third measure, the period until next job-start, does not suffer from this issue, but might only contain delayed information on unemployment exits. As figure 4 (c) has shown there is a significant delay between job-acceptance and job start, and figure 4 (b) shows that job-search decreases steadily in advance of job-start, but sharply at job-acceptance. Thus, we view the time until job-found as the conceptually cleanest measure for our purpose.

The nature of our study has the unique advantage that it allows us to combine two completely different, complementary information on job-finding: Survey information on job-acceptance and administrative information on job-start. We combine these two separate pieces of information into one joint measure of job-finding by combining the strength of each of the survey and admin data in a systematic way. This combined measure is considerably more robust to potential flaws in each of the separate data sources which is why we consider it as a better measure than any of the individual information separately.

The remainder of this section first describes how we can measure job-finding in each of the two data-sets separately. It then illustrates different scenarios in which one measure outperforms the other. Finally, we introduce the combined measure of job-finding that we use in the paper.



## D.1 Imputing Job-Found in the Survey and Administrative Data

### Job-Found Date in the Administrative Data

In the administrative data, we only observe the start date of a job. Denote this start date for individuals  $i$  as  $T_i^{Start,A}$ . One question is which *type* of jobs to include. We opt to only include social-security reliable jobs, but do not impose any additional restriction on the duration of or earnings payed at this job, though the exclusion of mini-jobs can be viewed as a wage-floor at 450 monthly earnings. Mini-jobs, the German marginal employment scheme is tax- and social security free below 450 Euro of monthly earnings making it strictly preferable to social security jobs in that region. The exclusion of mini-jobs also excludes cases where it is preferable to combine UI receipt with employment (up to 160 Euro of monthly earnings jobs are SSC and social contribution free, but — can be combined with UI receipt without any penalty which is why we exclude them. (Changing the definition to include all type of jobs or to impose minimum duration on the job-accepted has little impact on results.)

In order to impute for the job-found date  $T_i^{Found,A}$ , we subtract 2 weeks from the actual job-start date i.e. the imputed job-found date in the administrative data is given by:

$$T_i^{Found,A} = T_i^{Start,A} - 14 \quad (\text{A.1})$$

### Job-Found Date in the Survey Data

In the survey data, we ask every four weeks for whether individuals have found a job or not (conditional on that they have not indicated in previous iterations of the question that they have found a job). If they have found a job, we wask for the date of the offer  $T_i^{Offer}$ , the date of acceptance  $T_i^{Accept}$ , as well as the start date of that job  $T_i^{Start}$ . As some responses are missing, we apply the following imputation to obtain the imputed job-found date from the

survey-data:

$$T_i^{Found,S} = \begin{cases} T_i^{Offer} & !m(T_i^{Offer}) \\ T_i^{Accept} & m(T_i^{Offer}) \& !m(T_i^{Accept}) \\ T_i^{Start,S} - 14 \text{ if} & m(T_i^{Offer}, T_i^{Accept}) \& !missing(T_i^{Start}) \\ \min(t = emp) & m(T_i^{Offer}, T_i^{Accept}, T_i^{Start,S}) \& !m(emp = "yes") \\ \max(t = nonemp) & m(T_i^{Offer}, T_i^{Accept}, T_i^{Start,S}, emp = "yes") \& !m(nonemp = "yes") \\ missing & else \end{cases} \quad (A.2)$$

Where  $m(\dots)$  is an indicator function for whether all of its elements are missing,  $\min(t = emp)$  is the first calendar date, at which an individual indicates to have found a job,  $\max(t = nonemp)$  refers to the last date someone reports to have not found a job yet to the four-weekly job-found question and  $missing$ , refers to cases where we don't have any survey information on job-found (either because individuals don't respond to the question or leave the survey before they can answer that question).

## D.2 A Combined Measure of Job-Found

### Case-Specific Superiority of Survey or Admin Info

The job-found info from each of these two data sets have their pros and cons. While the data from the administrative data is precise and -for what it covers- complete, i.e. without potential missings due to non-response, the survey data asks more targeted question on job-offer and acceptance date and would also allow to capture self-employment and other jobs not covered in the administrative data. Which of these two sources on job-found is preferable depends on the context. While in some scenarios survey data provides superior information, in the other scenario the social security data is the preferred choice. To illustrate this, consider the following scenarios:

1. *Survey drop-out.* An individual decides to drop out of the survey because she took up a new social security reliable job before the next question on job-search is asked. In this scenario, the survey data does not provide any information on job-finding, but the up-take of the social security reliable employment is observed precisely in the administrative data.
2. *Self-employment and other non-observed employment.* An individual accepts a non-standard work arrangement or starts a small business. She reports the job-acceptance in the survey.

In this scenario, the social security data alone would not help to detect that a job has been found but the survey information provides information on job-finding.

3. *Long waiting period btwn. job-found and job-start.* An individual receives and accepts a job-offer for a social security reliable job whose job-start lies several months in the future and stays in the survey after job acceptance.

In this scenario, both the survey and the administrative data are observed. Defining job-found based the social security data in this case would however include the months where the individual has found a job but is not yet reemployed in the administrative data. Defining job information on job offer and acceptance in the survey data instead would circumvent this problem.

4. *No or wrong dates in the survey data.* Consider an individual that finds a social security reliable job and reports that event in the survey, but fails to report a correct date.

In this case, the survey data only contains information that a job has been found, the administrative data in contrast reports the exact start date of that job.

Scenarios (1) - (4) illustrate common cases in which only one of the two sources on job-found are valid or where one source is at least superior to the other. While in case (1) and (3) the survey data is clearly preferred, in cases (2) and (4) we would like to use the administrative data. We construct a combined measure that honors these priorities and other related ones.

## A Combined Measure on Job-Found

We construct a combined measure of job-found by integrating the separate, case-specific responses into one unified measure of job search. This measure considers that, depending on the type of response, the admin or the survey information is more reliable:

$$T_i^{Found,combined} = \begin{cases} T_i^{Found,S} & !m(T_i^{Offer})|!m(T_i^{Accept}) \\ T_i^{Found,A} & \text{if } m(T_i^{Found,S})|m(T_i^{Offer}, T_i^{Accept}, T_i^{Start,S}) \\ \min(T_i^{Found,A}, T_i^{Found,S}) & \text{else} \end{cases} \quad (A.3)$$

$T_i^{Found,combined}$  determines the job-found information for our main sample. It says that a valid job-acceptance or job-offer information in the survey data is treated with priority to information from the administrative data. In contrast, for cases where we don't have any date-information in the survey data, either because individuals report only that they have found a job but do not respond with a date, or they don't respond that they have found a job (either because they don't respond at all or they respond always to have not found a job

yet). All other cases (cases where we use the job-start information in both the survey and the admin data definition) receive the minimum date of the job-found date in the survey and the administrative data.

## D.3 Alternative Measures of Job-Found

### **Survey Only Definition**

As an alternative measure, we apply a nonemployment definition that is entirely based on the job-found information as described in equation A.2.

### **Admin Only Definition and Comparison to Marinescu and Skandalis (2021)**

A second measure is based on the administrative data alone. We combine equation A.1 with additional information on being registered as “job searcher” in the administrative data. This definition excludes individuals from the sample that (a) have found a social security reliable job based on information in the administrative data or (b) exit the status as registered job searcher or unemployed in data on registered job-search (ASU). This sample specification is similar in spirit to the main sample used in Marinescu and Skandalis (2021).

# E Comparison to Marinescu and Skandalis (2021)

In this appendix section we relate our findings to Marinescu and Skandalis (2021) (henceforth: MS) and highlight similarities and differences to our setting.

## Sample Construction

MS select unemployed individuals registered at the job-search platform of the French Employment Agency between 2013 and 2017, our sample consists of UI recipients in Germany surveyed between November 2017 and 2019, as described in A.2. While MS selects individuals with and without UI eligibility, our sample focuses on eligible UI recipients, oversampling individuals with short eligibility durations.

## Time of Unemployment Definition

Both MS and our definition of time on UI are on the monthly level. Both MS and we have to decide on how to cope with changes to PBD that occur during the unemployment spell (for example due to participation in active labor market programs). While MS opt for a definition that dynamically updates changes to eligibility, we opt for an intent-to-treat definition that considers the PBD at UI start as fixed, though we report robustness checks where (a) we restrict to spells where individuals do not experience any change to their PBD while on UI and (b) where we dynamically adjust the sample as in MS, such that the time at UI exhaustion always corresponds to the actual UI exhaustion date.

## Measure of Job Search Effort

MS main measure of search effort is the number of applications sent in a given month. Our measure of search effort is the number of minutes (the underlying question asks in hours) searched on the previous day. Both MS and our search effort measures are skewed with mass points at zero. MS report that in 67% of *quarters* there is no application observed, while in our case individuals respond zero search-effort on 32% of *dates* while unemployed. While MS job search variable is a count variable by construction, our measure is discrete, but shows mass-points at full- and, to a lesser extent, half hours.

## Nonemployment Definition

Both MS and our sample definition concentrates on unemployed workers. We use information on job-finding from both our survey and administrative data as described in section D. MS include individuals in their sample that are unemployed in the administrative data and have not yet found a job according to the administrative data. As a robustness check, we provide results based on a comparable “admin only” definition (see D.3).

## Main Specifications

MS estimate the search effort path to benefit exhaustion using a poisson count model, we estimate a linear model using OLS. The time-window around benefit exhaustion in MS and our paper is relatively similar: MS include the 5 months up to and 4 months after benefit exhaustion, while we include the 4 months before and 4 months after UI exhaustion into the main specification.

MS apply various specifications and sample restrictions. The versions that resembles closest our specification are column (3) in table III (panel A) and especially column (1) in panel E.2 for the search effort around benefit exhaustion. Column (3) of table 3 uses a specification with individual fixed effects but no time-trend that resembles most closely our column (3) estimate in table IV. Column (1) of E.2 in MS does include only eligible individuals and controls for individual fixed effect and controls in addition for time on unemployment.<sup>6</sup> Our column (4) in table IV does instead control for calendar month and weekday effects, but does not control for the time since unemployment, though we report a version controlling for key months since UI entry in table A.15 column (11) with similar findings to our main specification.

## Comparison of Results

MS report in their specification with full controls (column (1) of table E.2) an increase in search effort in the month of UI exhaustion of more than 125% relative to 4 months earlier. After UI exhaustion search drops in the following 4 months by about 30% relative to benefit exhaustion, but drops by 70% when not controlling for the time-path since unemployment start (column (3) of table 3). In our main specification (column (4) of table IV), search increases by about 6.5 minutes at UI exhaustion relative to 3 months earlier, and then drops in the following months by about 4.9 minutes.

---

<sup>6</sup> To avoid a non-identified time trend, MS estimate a joint coefficient for month  $\geq 3$  after UI exhaustion.

Both the MS and our specifications show a significant increase in search effort up to benefit exhaustion which is then followed by a significant decrease thereafter. In both papers, the decline post UI exhaustion is somewhat less pronounced than the increase prior to exhaustion. In our paper, and accounting for the one month longer observation month post exhaustion, the decrease is about 56% of the magnitude of the increase we observe pre-UI exhaustion. In MS the decline is only about 30% of the effect size of the increase in their full specification but drop by 70% in the specification without time controls. Comparing magnitudes of effect sizes (pre- as well as post UI exhaustion), our measure of within individual search responds an order of magnitude lower to benefit exhaustion than in MS, yet it's not obvious how to translate the purely input oriented measure of time spent searching in our paper to the number of applications sent out in MS.

# F Empirical Framework for Identification and Survey Response Bias

We are interested in how search effort varies with time in unemployment and around the UI exhaustion point. Let  $y_{it}$  be search effort of individual  $i$  at time  $t$ . Furthermore let  $D_{it}^U$  denote the time since the start of the UI spell and  $D_{it}^S$  be the time how long an individual has been participating in the survey.

Furthermore define:

- $T_i^U$  the time individual  $i$  entered unemployment
- $T_i^S$  the time individual  $i$  entered the survey
- $T_i^X$  the time individual  $i$  exits unemployment (finds a job)

so that:  $D_{it}^U \equiv t - T_i^U$ ,  $D_{it}^S \equiv t - T_i^S$

Consider a very general data generating process for search effort, such that effort is a function of unemployment duration  $D_{it}^U$ , an individual specific effect  $\xi_i$  and time effects  $\pi_t$ .

$$y_{it} = f(D_{it}^U) + \xi_i + \pi_t + \varepsilon_{it} \quad (\text{A.4})$$

In the following we discuss several issues when estimating this equation.

## Issue 1 - Selection bias

The first key problem is that we only potentially observe  $y_{it}$  if  $t \leq T_i^X$ . Mechanically individuals with different  $\xi_i$  will exit at different rates and thus the composition of  $\xi_i$  will vary with  $t$ . Therefore the average search effort at time  $t$  over all observed individuals is:

$$E[y_{it}|t] = f(D_{it}^U) + E[\xi_i|T_i^X \geq t]$$

and the problem is that  $E[\xi_i|D_i^{TU} \geq t] \neq 0$  and varying with  $t$ . If we estimated equation (A.4) via OLS (not controlling for individual fixed effects), this selection leads to a biased estimate



of the function  $f(\cdot)$  since  $\xi_i$  will be in the error term and due to the selection we have that:  $Cov(\xi_i, D_{it}^U) \neq 0$ .

The obvious solution in that case is to estimate equation (A.4) but controlling for individual fixed effects  $\xi_i$  so that  $f(\cdot)$  is identified only off of **within** person variation.

## Issue 2 - Non-identified linear trend

There is a second fundamental problem with estimating equation (A.4). As is well known in other contexts, with cohort (or person) effects and time effects there is an unidentified linear trend in the duration effect that is not identified. This can be clearly seen if we write unemployment duration as  $D_{it}^U \equiv t - T_i^U$ , since clearly  $T_i^U$  is absorbed by the individual effect while the remaining  $t$  is collinear with the linear component of the time effects  $\pi_t$ .

The common solution is to make some assumption to pin down this linear time trend. Since in our case the macroeconomic environment is very stable we impose that there is no systematic time trend. Instead we control for seasonality by including month dummies and day of week dummies. We also show as a robustness check that controlling for local unemployment rates (at monthly frequency) makes almost no difference for our results.

## Issue 3 - Survey Response Bias

Furthermore suppose there is a reporting bias, such that individuals over- or under-report search effort the longer they have been on UI. In particular let's assume that reported search effort is given by:

$$\tilde{y}_{it} = y_{it} + \gamma D_{it}^S + \zeta_i + u_{it} \quad (\text{A.5})$$

This equation states that observed search effort is equal to the true effort plus three sources of error:  $\zeta_i$  is some person specific fixed error term,  $u_{it}$  is some mean zero error and  $\gamma D_{it}^S$  is an error component that varies with the duration of the survey.

Based on the KM results we are in particular concerned that individuals may report lower search effort over time (perhaps because they become more honest or less careful in their responses), in that case  $\gamma < 0$ . Note that  $\zeta_i$  and  $u_{it}$  are not per se problems as long as we are not interested in obtaining unbiased estimates of the level of search effort overall as opposed to changes in search effort.

Plugging equation (A.4) into equation (A.5), the observed search effort can be written as:

$$\tilde{y}_{it} = f(D_{it}^U) + \gamma D_{it}^S + \omega_i + \pi_t + \epsilon_{it} \quad (\text{A.6})$$

where  $\omega_i \equiv \xi_i + \zeta_i$  and  $\epsilon_{it} = \varepsilon_{it} + u_{it}$ .

Note that:  $D_{it}^U = t - T_i^U$  and  $D_{it}^S = t - T_i^S$ , so we can write this as:

$$\tilde{y}_{it} = f(t - T_i^U) + \gamma(t - T_i^S) + \omega_i + \pi_t + \epsilon_{it} \quad (\text{A.7})$$

Therefore clearly if we control for individual fixed effect in a regression, then  $t - T_i^U$  and  $t - T_i^S$  are perfectly collinear, even if we do not control for time fixed effects.

### Testing for Survey Response Bias - Within and Between Comparison

Suppose for simplicity that  $f(\cdot)$  is a linear function, so that (A.7) can be written as:

$$\tilde{y}_{it} = \beta(t - T_i^U) + \gamma(t - T_i^S) + \omega_i + \pi_t + \epsilon_{it} \quad (\text{A.8})$$

If selection is not an issue for estimating equation (A.7), that is  $Cov(\omega_i, D_{it}^U) = 0$ , then this equation can be estimated via OLS to identify  $\beta$  and  $\gamma$ . Alternatively one could compare the within and between estimator. The within estimator essentially lumps  $T_i^U, T_i^S$  and  $\omega_i$  into one individual fixed effect ( $\tilde{\omega}_i$ ) so that the regression model becomes:

$$\tilde{y}_{it} = (\beta + \gamma)t + (-\beta T_i^U - \gamma T_i^S + \omega_i) + \pi_t + \epsilon_{it}$$

Thus the within estimator identifies  $(\beta + \gamma)$ .

The between estimator that only uses the first survey response of each individuals ( $t = T_i^S$ ) becomes:

$$\tilde{y}_{it} = \beta(t - T_i^U) + \pi_t + \epsilon_{it}$$

Since we assumed that  $Cov(\omega_i, D_{it}^U) = 0$ , this provides a consistent estimate of  $\beta$ . If the between and within estimates are the same, this implies that  $\gamma = 0$  and there is no survey response bias.

### Direct Test for Survey Response Bias

Given our sampling frame conditional on  $T_i^U$  and  $t$  it is random in whether a person is sampled by us in an earlier or later wave. Therefore:

$$Cov(\omega_i, T_i^S | T_i^U, t) = 0 \quad (\text{A.9})$$

Furthermore conditional on  $T_i^{UI}$  and  $t$  there is also no difference in unemployment duration or calendar date. Therefore if there is no survey response bias ( $\gamma = 0$ ), then there should be no correlation between survey start date (or survey duration) and observed search effort.

$$Cov(y_{it}, T_i^S | T_i^{UI}, t) = 0$$

This is a testable prediction and we can simply estimate:

$$\tilde{y}_{it} = \gamma (t - T_i^S) + \sum_j \sum_k \delta_{jk} \mathbf{1}(T_i^U = k, t = j) + \epsilon_{it} \quad (\text{A.10})$$

The estimate  $\hat{\gamma}$  should yield an unbiased estimate of the true survey response bias  $\gamma$ .

Note that estimating equation (A.10) may not have a lot of power. Alternatively we can impose a bit more structure and estimate:

$$\tilde{y}_{it} = \gamma (t - T_i^S) + \sum_k \delta_{jk} \mathbf{1}(D_i^U = k) + \pi_t + \epsilon_{it} \quad (\text{A.11})$$

This is the approach we use in the paper to estimate the survey response bias  $\gamma$ .<sup>7</sup>

---

<sup>7</sup> In KM  $T_i^S$  is the same for everyone. Therefore  $D_i^S$  is perfectly collinear with  $t$  and the vector of fixed effects  $\pi_t$ . Therefore this test does not work in the KM data.

## Correcting for Survey Response Bias

For our main variable we do not find any evidence of survey response bias using the tests outlined above (Table II in the main paper). We do however find evidence for a modest bias for some of our alternative outcome variables, like search intensity or dummies for searching above a certain minutes threshold. For estimates using those variables, which are reported in Tables A.11 to A.14, we present both the direct estimates, as well as estimate of the coefficients that are adjusted for survey response bias. We estimate equation (A.11) to obtain an estimate of the survey response bias coefficient  $\hat{\gamma}$ . We then report the dummy coefficients that capture the flexible relationship  $f(t - T_i^U)$  by subtracting  $\hat{\gamma}(t - T_i^S)$  and then re-centering to the same omitted category (such as the exhaustion month in the 'around UI exhaustion' regressions).

# G Reference Dependent Model

## G.1 General Setup

Each period a job seeker decides on search effort  $e_t \in [0, \bar{e}]$ , where  $\bar{e}$  denotes the maximum potential level of exerted effort (360 minutes in estimation). The probability of receiving a job offer at the end of period  $t$  and thus of being employed in period  $t + 1$  is a function of effort  $s_t = f(e_t) \in [0, \bar{s}]$ , where  $\bar{s} = f(\bar{e}) \leq 1$  denotes the maximum hazard rate. Search effort increases the probability of receiving a job offer ( $f(e_t) = 0$  and  $f'(e_t) > 0$ ) at a decreasing rate ( $f''(e_t) < 0$ ). Search costs are given by the function  $c(e_t)$ , which we assume to be twice continuously differentiable, increasing, and convex, with  $c(0) = 0$  and  $c'(0) = 0$ . Given the assumption on  $f(e_t)$  and  $c(e_t)$  we can define the search cost as a function of the hazard rate  $\tilde{c}(s_t) = \tilde{c}(f^{-1}(s_t))$ . In order to find an interior solution we assume that  $\tilde{c}''(s_t) > 0$ . In estimation we assume a search cost function of power form  $c(e_t) = \frac{k e_t^{1+\gamma}}{1+\gamma}$  and productivity of effort takes a power form as well  $f(e_t) = \min 1, \frac{E e_t^{1+\zeta}}{1+\zeta}$ . This implies that composite cost function equals:

$$\tilde{c}(s_t) = \frac{\tilde{k}}{1 + \tilde{\gamma}} s^{1+\tilde{\gamma}} \quad (\text{A.12})$$

where  $\tilde{\gamma} = \frac{\gamma-\zeta}{1+\zeta}$  and  $\tilde{k} = \left(\frac{1+\zeta}{E}\right)^{\tilde{\gamma}} \frac{k}{E}$ .

In each period individuals receive income  $y_t$ , either UI benefits  $b_t$  or wage  $w_t$ , and consume  $c_t$ . Consumers smooth consumption over time by accumulating (or running down) assets  $A_t$ . Assets earn a return  $R$  (equals 0 in estimation) per period so that consumers face a per-period budget constraint  $\frac{A_{t+1}}{1+R} = A_t + y_t - c_t$  and a borrowing constraint  $A_t \geq -L$  ( $L = 0$  in estimation).

### G.1.1 Consumption Utility

Flow utility is a function of current period consumption and the reference point:

$$u(c_t | r_t) = \begin{cases} v(c_t) + \eta [v(c_t) - v(r_t)] & \text{if } c_t \geq r_t \\ v(c_t) + \eta \lambda [v(c_t) - v(r_t)] & \text{if } c_t < r_t \end{cases} \quad (\text{A.13})$$

In the standard model, where  $\eta = 0$ , this simply collapses to:

$$u(c_t|r_t) = v(c_t)$$

### G.1.2 Reference Point

The reference point is a function of income over the  $N$  (possibly non-integer) previous periods:

$$r_t = \frac{1}{N} \sum_{k=t-[N]}^{t-1} y_k + \frac{N - \lfloor N \rfloor}{N} y_{t-[N]-1} \quad (\text{A.14})$$

## G.2 Model under exponential discounting

### G.2.1 Value Functions

The unemployed choose search effort  $s_t$  and the asset level for the next period  $A_{t+1}$ , which implicitly defines consumption  $c_t$ , in each period. The state variables that determine the value of employment and unemployment in period  $t$  consist of the asset level  $A_t$  at the beginning of the period and the income levels of that individual over the last  $N$  periods:  $\{y_{t-1}, y_{t-2}, \dots, y_{t-N}\}$  since these past income levels determine the future evolution of the reference point via equation (A.14). One could thus write the value of unemployment as:  $V_t^U(A_t, \{y_{t-1}, y_{t-2}, \dots, y_{t-N}\})$ . To save notation, we will not make this explicit and instead write  $V_t^U(A_t) \equiv V_t^U(A_t, \{y_{t-1}, y_{t-2}, \dots, y_{t-N}\})$ , which is without loss of generality, since conditional on being unemployed the past income path is deterministically determined by the current period  $t$ . For an employed individual the income path over the past  $N$  periods depends on the current period  $t$  but also on when the individual found a job. We therefore use the notation:  $V_{t|j}^E(A_t) \equiv V_t^E(A_t, \{y_{t-1}, y_{t-2}, \dots, y_{t-N}\})$  for the value of employment for an individual in period  $t$  who started a job in period  $j$ . Note that a job that starts in period  $j$  is found in the prior period  $j - 1$ .

The value of unemployment is given as:

$$V_t^U(A_t) = \max_{s_t \in [0,1]; A_{t+1}} u(c_t|r_t) - \tilde{c}(s_t) + \delta [s_t V_{t+1|t+1}^E(A_{t+1}) + (1 - s_t) V_{t+1}^U(A_{t+1})] \quad (\text{A.15})$$

The value of employment in period  $t$  for an individual who starts a job in period  $j$  is given by:

$$V_{t|j}^E(A_t) = \max_{A_{t+1} > 0} u(c_t|r_t) + \delta V_{t+1|j}^E(A_{t+1}). \quad (\text{A.16})$$

In both cases maximization is subject to the budget constraint:  $c_t = A_t + y_t - \frac{A_{t+1}}{1+R}$  and the liquidity constraint:  $A_t \geq -L$  for all  $t$ .

## G.2.2 Solving the Model

There are 3 steps for solving the model:

1. For each period  $j = 1, 2, \dots$  find the value of employment  $V_{j|j}^E(A_j)$  for an individual who starts a job in period  $j$ . This value will be a function of the asset level in period  $j$ :  $A_j$ . To do so, we first solve for the steady state value of employment which occurs when the environment becomes stationary at some point  $M$  periods (period  $j + M$ ) after taking on a job. From this steady state function we can solve the optimal consumption path between  $j$  and  $j + M$  and infer from that the value of employment when accepting a job  $V_{j|j}^E(A_j)$  for each asset level.
2. Once the value function of accepting a job at a given asset level is known, we can solve for the steady state value of unemployment at some point in the future  $S$  when the environment is stationary (and thus optimal effort is stationary as well) and then solve backwards for the optimal search intensity and consumption path in each period as a function of the asset level.
3. Finally, once we know the value of unemployment as a function of the asset level in each period, we use the initial asset level as a starting value to determine the actual consumption path and actual search intensity in each period.

## G.2.3 Calculating the value of accepting a job in each period

### Stationary environment in employment:

We assume that  $M$  periods after an individual takes on a job the environment for an employed individual becomes stationary. We require that an individual pays back his/her assets at this point so that we have that  $r_t = c_t = w$  and  $A_t = A_{t+1} = 0$ .<sup>8</sup> Note that the value of employment in this stationary environment is given as:

$$V_{j+M|j}^E(0) = v(w) + \delta V_{j+M|j}^E(0).$$

which immediately implies that:

$$V_{j+M|j}^E(0) = \frac{1}{1-\delta} v(w) \tag{A.17}$$

<sup>8</sup> This will hold if  $\delta \leq \frac{1}{1+R}$ , which is the case in all of our estimations.

## Backwards induction to solve for optimal consumption path during employment

One can use equation (A.16) together with equation (A.17) to solve for the value of accepting a job in period  $j$ , via backwards induction. Plugging the budget constraint into equation (A.16)

$$V_{t|j}^E(A_t) = \max_{A_{t+1}} u\left(A_t + y_t - \frac{A_{t+1}}{1+R} \middle| r_t\right) + \delta V_{t+1|j}^E(A_{t+1}). \quad (\text{A.18})$$

Note that the utility function has a kink at the reference point, so that one has to be careful using the first order conditions. Specifically, an Euler equation will determine the consumption path at employment on either side of the reference point but will break once there is a crossing of consumption and reference point. In practice we solve this problem numerically whenever there is potential for crossing, such that we find the optimal value of  $A_{t+1}$  for each possible value of  $A_t$  and then calculate the value of employment in period  $t$  using equation (A.18).

### G.2.4 Solving for the optimal search effort and consumption path during unemployment

#### General first order conditions

Substituting the budget constraint into equation (A.15):

$$V_t^U(A_t) = \max_{s_t \in [0,1]; A_{t+1}} u\left(A_t + y_t - \frac{A_{t+1}}{1+R} \middle| r_t\right) - \tilde{c}(s_t) + \delta [s_t V_{t+1|t+1}^E(A_{t+1}) + (1-s_t) V_{t+1}^U(A_{t+1})]$$

The first order condition for  $s_t$  is given as

$$\tilde{c}'(s_t) = \tilde{k} s_t^{\tilde{\gamma}} = \delta [V_{t+1|t+1}^E(A_{t+1}) - V_{t+1}^U(A_{t+1})] \Rightarrow s_t^* = \min \left\{ \bar{s}, \left( \frac{\delta [V_{t+1|t+1}^E(A_{t+1}) - V_{t+1}^U(A_{t+1})]}{\tilde{k}} \right)^{1/\tilde{\gamma}} \right\} \quad (\text{A.19})$$

which, given that  $c(\cdot)$  is invertible, directly determines the optimal search effort  $s_t$  as a function of:  $V_{t+1|t+1}^E(A_{t+1})$  and  $V_{t+1}^U(A_{t+1})$  and therefore as a function of  $A_{t+1}$ . If we write the mapping from future assets to the optimal search effort as  $s_t^*(A_{t+1})$ , then the value function can be written as:



$$V_t^U(A_t) = \max_{A_{t+1}} u\left(A_t + y_t - \frac{A_{t+1}}{1 + R_t} \mid r_t\right) - \tilde{c}(s_t^*(A_{t+1})) + \delta \left[ s_t^*(A_{t+1}) V_{t+1|t+1}^E(A_{t+1}) + (1 - s_t^*(A_{t+1})) V_{t+1}^U(A_{t+1}) \right] \quad (\text{A.20})$$

This can be solved numerically in a discrete asset space.

### Stationary environment in unemployment:

Once an individual is unemployed and a stationary environment  $t \geq S$  is reached, we have that:  $r_S = c_S = y_S$  and  $A_S = A_t = A_{t+1} = 0$ , if an individual is impatient enough (or the interest rate low enough) such that  $\delta < \frac{1}{1+R}$ . This implies that the value function of unemployment simplifies to:

$$V_S^U(0) = \max_{s_S \in [0,1]; A_S} v(b_S) - \tilde{c}(s_S) + \delta \left[ s_S V_{S|S}^E(0) + (1 - s_S) V_S^U(0) \right] \quad (\text{A.21})$$

In this case the first order condition for search intensity simplifies to:

$$\tilde{c}'(s_S) = \tilde{k} s_S^{\tilde{\gamma}} = \delta \left[ V_{S|S}^E(0) - V_S^U(0) \right] \Rightarrow s_S^* = \min \left\{ \bar{s}, \left( \frac{\delta \left[ V_{S|S}^E(0) - V_S^U(0) \right]}{\tilde{k}} \right)^{1/\tilde{\gamma}} \right\} \quad (\text{A.22})$$

In practice we numerically search for the value of  $s_S$  such that the equalities (A.21) and (A.22) hold.

### Backwards induction

Going backwards from the steady state we can solve for the optimal consumption path and search effort during unemployment using equations (A.19) and (A.20).

### G.3 Model with Present Bias

The naive present biased individual is present biased when it comes to the trade-off between current period search effort and consumption and the future return to search. The individual is naive in the sense that she assumes that in the future she will not be present biased and choose a consumption and search effort path as if she were a standard exponential discounter. The functions  $V_{t+1}^U$  and  $V_{t+1|t+1}^E$  are given by equations A.15 and A.16 above for the exponential discounters and the budget constraint is the same.

Effort is set using the individual's naive value function in unemployment:

$$V_t^{U,n}(A_t) = \max_{s_t \in [0,1]; A_{t+1}} u\left(A_t + y_t - \frac{A_{t+1}}{1 + R_t} \mid r_t\right) - \tilde{c}(s_t) + \beta\delta \left[ s_t V_{t+1|t+1}^E(A_{t+1}) + (1 - s_t) V_{t+1}^U(A_{t+1}) \right] \quad (\text{A.23})$$

The first order condition for  $s_t$  is given as

$$\tilde{c}'(s_t) = \tilde{k} s_t^{\tilde{\gamma}} = \beta\delta \left[ V_{t+1|t+1}^E(A_{t+1}) - V_{t+1}^U(A_{t+1}) \right] \Rightarrow s_t^* = \min \left\{ \bar{s}, \left( \frac{\beta\delta \left[ V_{t+1|t+1}^E(A_{t+1}) - V_{t+1}^U(A_{t+1}) \right]}{\tilde{k}} \right)^{1/\tilde{\gamma}} \right\} \quad (\text{A.24})$$

This adds one more step to the solution algorithm, since we first solve for all possible values of  $V_{t+1}^U$  and  $V_{t+1|t+1}^E$  before solving for the optimal consumption and search path given by  $V_{t+1}^{U,n}$  and  $V_{t+1|t+1}^{E,n}$ . Note that in practice we never have to solve for the optimal consumption path of the present biased individual, since only her (naively) predicted exponential consumption path enters the decision making process during unemployment. For completeness sake, the value function during employment for the naive present biased individual is provided here and could be used to solve for the consumption path during employment:

$$V_{t+1|t+1}^{E,n}(A_{t+1}) = \max_{A_{t+2} > 0} u(c_t \mid r_t) + \beta\delta V_{t+2|t+1}^E(A_{t+1}) \quad (\text{A.25})$$

## G.4 Model with Time Trend in Optimal Hazard Rate

### G.4.1 Time Trend in Search Cost

We consider a case where search cost increase over time. Search cost is of the following form:  $c_t(e) = \psi_k(t; \tau_k) k e^{1+\gamma} / (1 + \gamma)$  where  $\tau_k \geq 0$ . The standard search cost power function  $k e^{1+\gamma} / (1 + \gamma)$  is multiplied by a factor of  $\psi_k(t; \tau_k) \geq 1$ .  $\psi_k(t; 0) = 1$  is the benchmark case of no time trend in search cost.  $\tau_k > 0$  implies that  $\psi_k(t; \tau_k) > 1$  and  $\psi_k(t; \tau_k) \leq \psi_k(t + 1; \tau_k)$ . Furthermore, we assume that the trend in search cost is bounded after  $\bar{t}$  periods (8 or 18 periods in estimation). We set the stationary period to be after trend in cost or productivity end, i.e.,  $\bar{t} < S$ . Specifically, if  $\tau_k > 0$ ,  $\psi_k(t; \tau_k) < \psi_k(t + 1; \tau_k)$  for  $t < \bar{t}$  and  $\psi_k(t; \tau_k) = \psi_k(t + 1; \tau_k)$  when  $t \geq \bar{t}$ . We consider two specifications for the time trend in search cost:

#### Linear Time Trend

In this case  $\psi_k(t; \tau_k) = 1 + \tau_k \min\{t, \bar{t}\}$ . We define the composite of the actual cost of effort and the inverse of the production function  $\tilde{c}_t(s_t)$  which varies linearly over time. Specifically,

$$\tilde{c}_t(s_t) = \frac{\tilde{k} s_t^{1+\tilde{\gamma}} (1 + \tau_k \min\{t, \bar{t}\})}{1 + \tilde{\gamma}}$$

The optimal level of effort and consumption is set by replacing  $\tilde{c}(s_t)$  with  $\tilde{c}_t(s_t)$  in equations A.15, and A.19.

#### Exponential Time Trend

In this case  $\psi_k(t; \tau_k) = \exp(\tau_k \min\{t, \bar{t}\})$ . As done before we define the composite of the actual cost of effort and the inverse of the production function  $\tilde{c}_t(s_t)$  which now varies exponentially over time. Specifically,

$$\tilde{c}_t(s_t) = \frac{\tilde{k} s_t^{1+\tilde{\gamma}} \exp(\tau_k \min\{t, \bar{t}\})}{1 + \tilde{\gamma}}$$

Similarly to the linear case, the optimal level of effort and consumption is set by replacing  $\tilde{c}(s_t)$  with  $\tilde{c}_t(s_t)$  in equations A.15, and A.19.

## G.4.2 Time Trend in Productivity of effort

Productivity of effort can decrease over time as well. In this case we consider a linear time trend. Productivity of effort is of the following form (when hazard is below one):

$f_t(e) = (1 + \tau_E \min\{t, \bar{t}\}) E e^{1+\zeta} / (1 + \zeta)$  where  $\tau_E \leq 0$ . The standard productivity power function  $E e^{1+\zeta} / (1 + \zeta)$  is multiplied by a factor lower than one for  $\tau_E < 0$ .  $\tau_E = 0$  is the benchmark case of no change over time in the productivity of effort. As with search cost, we assume that the productivity of effort does not change after  $\bar{t}$  periods (8 or 18 periods in estimation). As with search cost, we set the stationary period to be after trend in cost or productivity end, i.e.,  $\bar{t} < S$ . Thus,  $\tilde{c}_t(s_t)$  which varies linearly over time.

$$\tilde{c}_t(s_t) = \frac{\tilde{k} s_t^{1+\tilde{\gamma}}}{(1 + \tilde{\gamma})(1 + \tau_E \min\{t, \bar{t}\})}$$

The optimal level of effort and consumption is set by replacing  $\tilde{c}(s_t)$  with  $\tilde{c}_t(s_t)$  in equations A.15, and A.19.

## G.5 Normalizing Search Cost by Consumption

A natural interpretation of our search cost parameters is to quantify the implied search cost in units of consumption. In this case we define  $\phi_t$  as the rate of consumption the individual is willing to forgo in order to avoid search cost, at period  $t$ .  $\phi_t$  is set conditional on the optimal level of consumption and the probability of receiving a job offer. When considering the standard model, the utility is defined as follows (we use  $u(c_t) = \log(c_t)$  in estimation):

$$V_t^U(A_t) = \max_{s_t \in [0,1]; A_{t+1}} \log(c_t) - k e^{1+\gamma} / (1 + \gamma) + \delta [s_t V_{t+1}^E(A_{t+1}) + (1 - s_t) V_{t+1}^U(A_{t+1})] \quad (\text{A.26})$$

which, by definition, equals the utility when there are no search cost and the agent consumes a share  $1 - \phi_t$  of the optimal level of consumption (when the probability of receiving a job offer is fixed).

$$V_t^U(A_t) = \max_{s_t \in [0,1]; A_{t+1}} \log(c_t(1 - \phi_t)) + \delta [s_t V_{t+1}^E(A_{t+1}) + (1 - s_t) V_{t+1}^U(A_{t+1})] \quad (\text{A.27})$$

By equating A.26 and A.27, we can analytically define the rate of consumption at period  $t$  the individual is willing to forgo in order to avoid search cost

$$\phi_t = 1 - \exp\left(-\frac{ke_t^{1+\gamma}}{1+\gamma}\right)$$

With regards to the reference dependent model,  $\phi_t$  is defined based on the relationship between optimal level of consumption and reference point.

$$\phi_t = \begin{cases} 1 - \exp\left(-\frac{ke_t^{1+\gamma}}{(1+\gamma)(1+\eta\lambda)}\right) & c_t < r_t \\ 1 - \exp\left(-\frac{ke_t^{1+\gamma}}{(1+\gamma)(1+\eta)}\right) & c_t \phi_t \geq r_t \\ 1 - \exp\left(\frac{\eta(1-\lambda)}{(1+\eta\lambda)} \log\left(\frac{c_t}{r_t}\right) - \frac{ke_t^{1+\gamma}}{(1+\gamma)(1+\eta\lambda)}\right) & \text{otherwise} \end{cases} \quad (\text{A.28})$$

For example, for the benchmark estimate of the 3-type standard model (Column 1 of Table VI), we compute that the cost of search can be measured, as a fraction of the average consumption, and averaging across the three types, as 0.6% of consumption in month 6, and 1.2% of consumption in month 12.

# H Estimation

## H.1 Reducing the Dimensionality of the Endogenous Savings Model from $|A|^2$ to $|A|$

In order to find the optimal consumption and search effort path we need to find the value functions (either at employment or unemployment) for every  $t$  for each pair of  $(A_t, A_{t+1})$  and then find the optimal  $A_{t+1}^*(A_t)$  that maximizes the value. In practice, we discretize the asset space to be of size  $|A| = L$ , so  $A_t \in \{A^1, A^2, \dots, A^L\}$ .

It is then clear that the problem becomes of complexity of  $L^2$  for every period  $t$ , which is highly demanding. But, we can reduce the complexity to be linear in  $L$ . Imagine you solved for the state variable  $A_t^l$ , obtaining the optimal  $A_{t+1}^*(A_t^l)$ . When considering the adjacent state variable,  $A_t^{l+1}$ , the optimal  $A_{t+1}^*(A_t^{l+1})$  will likely be in the neighborhood of  $A_{t+1}^*(A_t^l)$ . Specifically  $A_{t+1}^*(A_t^l) \in [A(A_t^l), \min\{A^L, A_t + y_t\}]$ . In practice, we find the global maximum for  $A_{t+1}^*(A_t^l)$ ;<sup>9</sup> then, for  $A_{t+1}^*(A_t^{l+1})$  we search for the numerical maximum only for  $A_{t+1}$ 's in a fixed size bandwidth around  $A_{t+1}^*(A_t^l)$ . This method is applied for both the value of employment and of unemployment.

We use a state space with increments of 100 and allow for 25 possible values in the baseline models (i.e. asset values of 0, 100, 200, ... 2400). We carefully check whether we get close to the upper bound of the state space in each estimation run and if so increase the state space.

## H.2 Optimization Algorithm

We estimate the model in Matlab and use the Matlab optimizer `fmincon` to find the vector of parameters that minimizes the objective function. We set the following optimization options:

- Maximum function evaluations: 3000
- Maximum iterations: 3000
- Function tolerance:  $10^{-8}$
- X tolerance:  $10^{-8}$
- Algorithm: `sqp`
- Large scale: `off`

---

<sup>9</sup> We also find the global maximum for  $l = 1$  and for some additional intermediates  $1 < l < L$  to verify we are not erring.

When estimating the model we draw starting values for each parameter from uniform distributions with upper and lower bounds that are wide but roughly economically reasonable, for example a  $\gamma$  between 0.1 and 15. We restrict the values of some parameters within an economically plausible range, for example for most of the estimated models  $N < 600$  (days),  $0.1 < \gamma \leq 15$ ,  $\lambda < 4.5$ , and  $\beta \geq 0.1$ . We estimate each model using at least 2000 random draws of starting values and carefully check convergence. In most cases the best 10 to 20 runs all converge to the same or virtually the same solutions. For some models convergence is less reliable and we increase the number of initial starting values.

Running time for a single specification on a server using 28 cores is usually in the the range of 18-30 hours. It depends on the number of types, and of course the number of parameters. Without the dimensionality reduction procedure described above, each run would have taken weeks to converge.

Another method we used to improve convergence was to do a three stage estimation. First, we draw a large number (e.g. 2000) of initial values from a uniform distribution with a large yet reasonable support of parameter values. Second, we draw a lower number (e.g. 300) of initial values from a tighter support around the first stage best estimates (e.g.  $\pm 20\%$  of first-stage best estimates). Lastly, we draw an even lower number (e.g. 100) of initial values from a tighter support around the second stage best estimates (e.g.  $\pm 5\%$  of first-stage best estimates). This method improves the fit considerably in a few cases, but mostly has very minor effects.

Standard errors are computed by inverting the numerically calculated Hessian matrix at the optimal solution.

# I Appendix Tables and Figures



---

**Table A.1: Amazon Take-Up Mean**

	(1)	(2)	(3)
	All Participants	Nonemployed at Survey Start	Full Participants & Nonemployed at Survey Start
Initial Voucher	0.590 (2913)	0.592 (2394)	0.694 (1636)
Middle Voucher	0.509 (1838)	0.505 (1504)	0.533 (1362)
Final Voucher	0.668 (991)	0.660 (810)	0.660 (809)
At least one Voucher	0.757 (991)	0.753 (810)	0.753 (809)

This table shows voucher take-up rates for participants in the survey conditional on receiving a voucher and observing take-up status. Number of observations are in parenthesis. Since we can verify the take-up status only for a subset of cases, the number of observations are lower than the number the number of individuals that received a particular voucher. Column (1) shows the mean of taking-up a particular voucher until December 12th 2019. Column (2) shows results for the subset of individuals which reportedly received all vouchers and column (3) further restricts to individuals that where nonemployed at the start of the survey. The N in brackets refers to the number of observations on which the respective take-up rate is based. The N at the bottom of the table refers to the number of individuals for which we have information on take-up behavior for at least one of the vouchers.

---

**Table A.2: Final Sampling Scheme**

	P=6	P=8	P=10	P=12	P=15
D=2	312	240	240	294	210
D=3					
D=4					
D=5	780	200	80	98	70
D=6					
D=7	260	300	200		
D=8				196	140
D=9		200	280		
D=10					
D=11				392	280
D=12					
D=13				196	140
Total	1352	940	800	1176	840

**Notes:** This table shows the final sample scheme as intended from wave 12 onwards. Earlier waves had lower number of observations and slightly different weights per cell. For the D=2 groups, in wave 9 and 10 an additional 1000 number of individuals were sampled. D refers to the months since UI-Start at time of intended contact and P refers to the months of UI eligibility at UI start.

**Table A.3: Wave Specific Dates, Sample Sizes and Randomization Schemes**

Wave No.	Retrieval Date	Contact Date Anticipated	Contact Date Actual	No. of Contacts	No. of Participants	Randomization Schemes
1	10/12/2017	11/09/2017	11/09/2017	504	37	incentives
2	10/12/2017	11/16/2017	11/16/2017	504	30	incentives
3	14/11/2017	12/19/2017	12/19/2017	3024	350	incentives + version
4	12/12/2017	01/23/2018	01/23/2018	3024	318	incentives + version
5	01/11/2018	02/20/2018	02/20/2018	3024	272	no
6	02/12/2018	03/20/2018	03/20/2018	3024	311	no
7	03/13/2018	04/24/2018	04/24/2018	3024	234	short vs. long number
8	04/11/2018	05/24/2018	05/24/2018	3024	272	no
9	05/14/2018	06/26/2018	06/26/2018	4024	370	no
10	06/12/2018	07/24/2018	07/24/2018	4024	369	no
11	07/12/2018	08/21/2018	08/21/2018	3024	248	no
12	08/13/2018	09/25/2018	09/25/2018	5108	493	no
13	09/11/2018	10/23/2018	11/06/2018	5108	477	no
14	10/11/2018	11/20/2018	11/27/2018	5074*	516	no
15	11/12/2018	01/08/2019	01/08/2019	5014*	459	no
16	12/11/2018	01/22/2019	01/22/2019	5069*	471	no
17	01/14/2019	02/26/2019	02/26/2019	5108	424	no
18	02/13/2019	03/26/2019	03/26/2019	5108	427	no
19	03/14/2019	04/30/2019	04/30/2019	5108	454	no
20	04/11/2019	05/28/2019	05/28/2019	5108	463	no
21	05/13/2019	07/02/2019	07/02/2019	5108	356	no
22	06/13/2019	07/30/2019	07/30/2019	5600	425	no

**Notes:** This table provides an overview of the wave-specific dates, sample-size and -if any- randomization schemes. Retrieval date refers to the date for which the information is valid, anticipated contact date the date at which individuals were thought to be contacted at time of sampling and actual contact date refers to the date the actual contact takes place. A \* refers to cases, in which the intended number of contacts (of 5108) could not be reached due to lower numbers of unemployed in some of these cells.

**Table A.4: Difference Between Participants and Non-Participants**

	(1)	(2)	(3)	
	Participants	Contacted	Difference between (1)	
	Month 1	Non-Participants	and (2), SE (right)	
<b>Demographics</b>				
Female	0.50	0.44	0.0574***	0.0059
Age	43.06	43.29	-0.2369**	0.0961
Non-German Nat.	0.16	0.29	-0.1236***	0.0053
Low Education	0.50	0.49	0.0173***	0.0059
High Education	0.26	0.14	0.1269***	0.0042
Cellphone	1.00	1.00	0.0000	0.0000
<b>UI Characteristics</b>				
P at UI start = 6 months	0.23	0.24	-0.0137**	0.0051
P at UI start = 8 months	0.20	0.21	-0.0118*	0.0048
P at UI start = 10 months	0.18	0.17	0.0091*	0.0045
P at UI start = 12 months	0.22	0.21	0.0119*	0.0049
P at UI start = 15 months	0.17	0.17	0.0045	0.0045
P at UI start = other	0.00	0.00	0.0000	0.0000
Nonemp. Duration in months	6.41	6.64	-0.2285***	0.0396
<b>Job-Characteristics Pre-Unemployment</b>				
No Match with Pre-UI data	0.00	0.00	-0.0003	0.0005
Montly Gross-Wage Pre-UI	2450.58	2539.13	400.1382***	18.5867
Worked Fulltime Pre-UI	0.54	0.55	0.0143*	0.0060
Firm Tenure in Years (Cap at 10 Years)	1.94	2.03	-0.0745*	0.0309
N	7805	77966		

**Notes:** This table summarizes characteristics of the participating and contacted non-participating UI recipients. Column (1) shows all individuals that participate in the survey, column (2) shows all individuals that were contacted but did not participate. Column (3) reports mean differences and corresponding standard errors between the contacted participants and the non-participants. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively. Survey outcomes (except job search) contain first (column 4) and last (column 5) observation of each participant.

---

**Table A.5: Effect of Survey Invitation on Job-Search**

	(1) Difference Contacted - Non-Contacted
<b>Panel A: Nonemployment Outcomes</b>	
Nonemp. Duration (cap 18 M)	0.018 [0.023]
Job 3 months after contact	-0.000 [0.002]
Job 6 months after contact	-0.000 [0.002]
<b>Panel B: Placebos</b>	
Female	0.002 [0.002]
Age in Years	0.030 [0.025]
Non-German Nationality	0.006*** [0.002]
Low Education	-0.004* [0.002]
High Education	0.001 [0.001]
Mean Indep. Var	0.144
N Observations	602761
N Individuals	377015
P x D x Wave - FE (Fully Saturated)	X

**Notes:** This table provides estimates of different variables on a treatment-indicator for being contacted for observations in the sample frame (i.e. individual x month observations for periods where individuals had a positive probability of being sampled). The sample includes all individual x month observations that fulfilled all the sample restrictions and thus had an a priori positive probability of being contacted. Robust SE in brackets. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.

**Table A.6: Missing Response/Attrition in Next Months by Current Response**

	Missing next Q. (1)	Missing Q. next Week (2)	Missing Q. next Month (3)
0 Minutes	0.0840 (32888)	0.100 (32888)	0.250 (32888)
60 Minutes	0.0740 (18286)	0.0913 (18286)	0.224 (18286)
120 Minutes	0.0909 (13968)	0.107 (13968)	0.253 (13968)
180 Minutes	0.0778 (6655)	0.0891 (6655)	0.225 (6655)
240 Minutes	0.0625 (4432)	0.0767 (4432)	0.217 (4432)
300 Minutes	0.0774 (2738)	0.0858 (2738)	0.231 (2738)
360 Minutes	0.0662 (4245)	0.0759 (4245)	0.219 (4245)
Non-Round Response	0.0679 (22931)	0.0803 (22931)	0.197 (22931)

This table shows the share of non-responses in the future (either due to temporary non-response or attrition) for individuals in the baseline sample by the current value of responses to job-search for all responses during nonemployment and restricting to the first 4 survey months. Each column refers to the time-dimension for which the share of missing responses is calculated. Column (1) calculates the share of non-responses in the next survey date, column (2) calculates the share in the next week, and column (3) the share in the next month (i.e. four weeks). Each row refers to the values of the job-search question for which the share of missing responses is calculated. The corresponding number of observations are in parenthesis.

Table A.7: Survey Questions

Question	Question English (Translation)	Question German (Original)	Frequency
<b>Panel A: Initial Contact Questions</b>			
Welcome Text	[Dear Mr/Ms XXX], we would like to ask you to participate in a survey of the institute of employment research (IAB). In the next 4 months we would like to ask you one or two short questions twice a week regarding job search activities. If you participate in the complete survey you will receive 20 Euros of amazon.de vouchers, of which you will receive 5 euros immediately after answering the first two questions. We sent you further further information via mail. You can also find it at <a href="http://www.iab.de/SMSFragen">www.iab.de/SMSFragen</a> .	[Sehr geehrte/r Herr/ Frau XXX], wir moechten Sie bitten, an einer Befragung des Instituts fuer Arbeitsmarkt- und Berufsforschung (IAB) teilzunehmen. In den kommenden 4 Monaten moechten wir Ihnen zweimal pro Woche ein bis zwei kurze Fragen zum Thema Arbeitssuche per SMS stellen. Bei Teilnahme an der gesamten Befragung erhalten Sie insgesamt 20 Euro Amazon.de Gutscheine, davon 5 Euro direkt nach Beantwortung der ersten beiden Fragen. Mehr Informationen haben wir Ihnen dazu per Post gesendet. Sie finden diese auch unter <a href="http://www.iab.de/SMS">www.iab.de/SMS</a> .	Once at beginning of survey
Consent	We would like to ask for your consent to link your responses with your employment data stored at the IAB. This includes e.g. information about your past jobs. Everything will be analysed anonymously without your name or cellphone number. Do you want to participate in this survey and do you consent to link your responses with your labor market data stored at the IAB? Please reply "Yes" if you agree.	Wir moechten Sie um Zustimmung bitten, dass wir Ihre Antworten mit Arbeitsmarktdaten verknuepfen duerfen, die beim IAB ueber Sie vorliegen. Das sind zum Beispiel Informationen ueber Ihre Beschaeftigungen. Alles wird anonym, ohne Ihren Namen und Ihre Telefonnummer, ausgewertet. Moechten Sie an der Befragung teilnehmen und stimmen Sie zu, dass Ihre Antworten mit den Daten des IAB verknuepft werden? Wenn ja, antworten Sie bitte mit "Ja".	

Question	Question English (Translation)	Question German (Original)	Frequency
<b>Panel B: Search Effort and Regular Questions</b>			
First Job Search Question	Thank you for your participation! Now we would like to ask you about your job search experience. How many hours did you spend searching for a job yesterday? For example looking for job postings, sending out applications, making a CV, etc. Please reply with the number of hours, for example: 0.5 or 2. If, for whatever reason, you did not spend time with job search yesterday, please simply reply with 0.	Danke fuer Ihre Teilnahme! Wir moechten Sie nun zur Arbeitssuche befragen. Wie viele Stunden haben Sie gestern mit Arbeitssuche verbracht, also z.B. nach Jobangeboten gesucht, Bewerbungen versendet, einen Lebenslauf erstellt, usw.? Bitte antworten Sie mit der Zahl der Stunden, z.B. 0,5 oder 2. Wenn Sie aus irgendeinem Grund keine Zeit mit Arbeitssuche verbracht haben, antworten Sie einfach mit 0.	Once after consent
Job-Search long	Hello. How many hours did you spend searching for a job yesterday? For example looking for job-postings, sending out applications or designing a cv? Please reply with the number of hours, for example: 0.5 or 2. If, for whatever reason, you did not spend time with job search yesterday, please simply reply with 0.	Guten Tag. Wie viele Stunden haben Sie gestern mit Arbeitssuche verbracht, z.B. nach Jobs gesucht, Bewerbungen versendet, einen Lebenslauf erstellt? Bitte antworten Sie mit der Zahl der Stunden, z.B. 0,5 oder 2. Wenn Sie aus irgendeinem Grund keine Zeit mit Arbeitssuche verbracht haben antworten Sie 0.	Twice a week (Tuesday/Thursday); short and long version are rotated
Job-Search short	Hello. How many hours did you spend searching for a job yesterday? For example looking for job-postings, sending out applications or designing a cv?	Guten Tag. Wie viele Stunden haben Sie gestern mit Arbeitssuche verbracht, z.B. nach Jobs gesucht, Bewerbungen versendet, einen Lebenslauf erstellt?	
Life Satisfaction	Taken all together, how satisfied are you with your life? Please reply with a number between 1 (not satisfied at all) and 5 (very satisfied).	Wie zufrieden sind Sie insgesamt mit Ihrem Leben? Bitte antworten Sie mit einer Zahl zwischen 1 (ueberhaupt nicht zufrieden) und 5 (sehr zufrieden).	Questions are sent to ALL individuals and rotated between weeks
Target Wage	Please recall the last job you applied for. What do you think is the typical monthly wage for such a job in Euros?	Bitte denken Sie an die letzte Stelle, auf die Sie sich beworben haben. Was meinen Sie ist der typische Monatsverdienst (brutto) dieser Stelle in Euro?	
Search Intensity	How hard did you search for a job last week? Please reply with a number from 1 (no search) to 10 (very hard search).	Wie intensiv haben Sie letzte Woche nach Arbeit gesucht? Bitte antworten Sie mit einer Zahl zwischen 1 (keine Suche) und 10 (sehr intensive Suche).	



Question	Question English (Translation)	Question German (Original)	Frequency
Job Found	We would like to know if your job search was successful. Please reply with 1 if you found a job and 2 if you are still searching for a job.	Wir wuerden gerne erfahren, ob Ihre Arbeitssuche mittlerweile erfolgreich war. Antworten Sie mit 1 falls Sie einen neuen Arbeitsplatz gefunden haben oder mit 2, falls Sie weiterhin suchen.	
<b>Panel C: Job Found Questions</b>			
Job-Start Date	Since when are you back in employment or when will your new employment start? Please reply with a date, e.g. 06/01/2018.	Seit wann sind Sie wieder beschaeftigt bzw. ab wann werden Sie Ihre neue Beschaeftigung aufnehmen? Antworten Sie bitte mit einem Datum, z.B. 01.06.2018.	Asked if participant replied "1" to job-found question
Job-Offer Date	Do you recall when you received the job offer from your new employer? Please reply with a date, e.g. 06/01/2018.	Wissen Sie noch, wann Sie die Zusage fuer den Arbeitsplatz von Ihrem neuen Arbeitgeber erhalten haben? Antworten Sie bitte mit einem Datum, z.B. 01.06.2018.	
Job-Acceptance Date	Did you accept the job offer right away or at a later time? Please reply with the date you accepted the job offer of your new employer. E.g. 06/01/2018.	Haben Sie das Stellenangebot sofort angenommen oder erst zu einem spaeteren Zeitpunkt? Antworten Sie bitte mit dem Datum, an dem Sie das Stellenangebot Ihres neuen Arbeitgebers angenommen haben. z.B. 01.06.2018.	
Job-Prospects	How do you assess your chances of finding a job within the next four weeks? Please reply with a number between 1 (chances are very low) and 10 (chances are very high)	Wie schaeetzen Sie Ihre Chance ein, in den naechsten vier Wochen einen neuen Arbeitsplatz zu finden? Bitte antworten Sie mit einer Zahl zwischen 1 (sehr geringe Chancen) und 10 (sehr hohe Chancen).	Asked if participant replied "2" to job-found question

Question	Question English (Translation)	Question German (Original)	Frequency
<b>Panel D: Vouchers</b>			
First Voucher	Thank you for your participation! You hereby receive your first amazon.de voucher of 5 euros: [Voucher-Code]. You can convert it at: <a href="http://www.amazon.de">www.amazon.de</a> . If you decide to keep participating in the survey you will receive another amazon.de voucher of 5 euros after completion of the first two months and one amazon.de voucher of 10 euros at the end of the survey.	Danke fuer Ihre Teilnahme! Hiermit erhalten Sie Ihren ersten 5 Euro Amazon.de Gutscheine: [Gutschein-Code]. Sie koennen ihn unter <a href="http://www.amazon.de">www.amazon.de</a> einloesen. Wenn Sie weiterhin an der Befragung teilnehmen, erhalten Sie einen zusaetzlichen 5 Euro Amazon.de Gutschein nach Abschluss der ersten 2 Monate und einen 10 Euro Amazon.de Gutschein zum Ende der Befragung.	Once after consent was given and first job-search question was answered
Second Voucher	Month 2 out of 4 of the sms-survey is hereby completed. You have replied to X of 7 questions in the last month. Thank you for your participation! We highly appreciate your help and would be glad if you continue to participate in the survey. As a reward for your participation in the survey up until now you hereby receive your amazon.de voucher over 5 Euros: [Voucher-Code]. You can convert it at <a href="http://www.amazon.de">www.amazon.de</a>	Hiermit ist Monat 2 von 4 der SMS-Befragung abgeschlossen. Sie haben im letzten Monat auf X von X Fragen geantwortet. Vielen Dank fuer Ihre Teilnahme! Wir wissen Ihre Bereitschaft sehr zu schaeetzen und wuerden uns freuen, wenn Sie auch weiterhin so engagiert an der Befragung teilnehmen. Als Dankeschoen fuer Ihre bisherige Teilnahme an der Befragung erhalten Sie hiermit Ihren 5 Euro Amazon.de Gutscheine: [Gutschein-Code]. Sie koennen ihn unter <a href="http://www.amazon.de">www.amazon.de</a> einloesen.	Once after second month of survey is completed and participant replied to at least 70% of questions
Final Voucher	Thank you for your participation! This is the end of the survey. Please reply "Yes" to this message if you want to receive two final amazon.de vouchers over 5 Euros. Please note that if you do not respond to this message or only respond "Yes" after two weeks we are unable to send you the vouchers.	Vielen Dank fuer Ihre Mitarbeit! Die Befragung ist hiermit abgeschlossen. Wenn Sie zwei weitere 5 Euro Amazon.de Gutscheine erhalten wollen, antworten Sie bitte mit JA auf diese SMS. Bitte beachten Sie, dass wenn Sie nicht auf diese SMS bzw. erst nach zwei Wochen mit JA antworten, Ihnen die Gutscheine nicht mehr uebermittelt werden koennen.	Once at end of survey if participant replied to at least 70% of questions.

**Table A.8: Search Behavior and Holidays**

	SMS Survey				KM Survey
	(1)	(2)	(3)	(4)	(5)
<b>Panel A: Public Holidays</b>					
Public holiday (national)	-32.90*** [3.539]	-30.69*** [3.905]	-30.50*** [3.702]	0 [.]	-29.20*** [6.273]
Public holiday (regional)	-28.15*** [4.057]	-16.97*** [3.361]	-16.63*** [3.262]	-10.33*** [3.036]	
Adj. R <sup>2</sup>	0.003	0.045	0.492	0.000	0.619
Mean Dep. Var	85.016	85.016	85.016	85.016	69.894
N Observations	115204	115204	115204	115204	21590
N Individuals	6349	6349	6349	6349	4813
<b>Panel B: School Holidays</b>					
School Holidays	-5.963*** [1.516]	-5.493*** [1.543]	-6.692*** [1.368]	-4.524*** [0.802]	
Adj. R <sup>2</sup>	0.001	0.042	0.490	0.000	
Mean Dep. Var	85.016	85.016	85.016	85.016	
N Observations	115204	115204	115204	115204	
N Individuals	6349	6349	6349	6349	
<b>Panel C: Descriptive Statistics</b>					
Mean Search				85.02 (96.14)	69.90 (88.61)
Share Job Search = 0				.314	.373
Share Job Search ≥ 60 min				.564	.548
Share Job Search ≥ 360 min				.04	.021
Individual Controls		X			
Individual FE			X	X	X
Month FE		X			
Day of Week FE		X			
Week FE			X		X
Date FE				X	
State FE		X	X	X	X

**Notes:** This table shows results from regressing job-search in minutes on dummies for public holidays (panel A) and school holidays (panel B) for nonemployed individuals. Column (1)-(4) present different specifications using different sets of controls. Individual controls contain: Gender, Education, Age (in Categories), Nationality (German/non-German), Wave, Eligibility Duration in Months at UI-Start, Nonemployment Duration at date of contact, Months since UI-exhaustion (daily info), Week of survey (relative to date of contact). Column 1-4 are based on all nonemployment observations in the SMS-survey and column 5 is based on the KM diary data using survey weights. For the KM data we restrict to weekday responses in the diary data, that individuals are nonemployed and restrict to individuals aged between 20 and 65. Standard Errors (in brackets) are clustered on daily level (for KM on the individual level). Values in parenthesis in panel C are standard deviations. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.

**Table A.9: Returns to Search: Association btw. Job Finding and Search Effort**

	(1)	(2)	(3)	(4)
<b>Panel A: Job Found within next month</b>				
Job Search (Hours per Day)	0.0085*** [0.0014]	0.0085*** [0.0014]	-0.0012 [0.0010]	-0.0009 [0.0010]
<b>Panel B: Job Found between 1 and 2 months from now</b>				
Job Search (Hours per Day)	0.0085*** [0.0011]	0.0083*** [0.0011]	0.0017* [0.0009]	0.0017* [0.0009]
<b>Panel C: Job Found within 2 and 3 months from now</b>				
Job Search (Hours per Day)	0.0064*** [0.0009]	0.0061*** [0.0009]	0.0005 [0.0009]	0.0003 [0.0009]
Adj. R <sup>2</sup>	0.002	0.013	0.545	0.551
Indep. Panel A	0.130	0.130	0.130	0.130
Indep. Panel B	0.090	0.090	0.090	0.090
Indep. Panel C	0.065	0.065	0.065	0.065
Mean Dep. Var	1.417	1.417	1.417	1.417
N Observations	115204	115204	115204	115204
N Individuals	6349	6349	6349	6349
Controls		X		
Individual FE			X	X
Time FE				X

**Notes:** This table provides estimates of the association between current search effort (in hours) and the probability of finding a job within the next months on the individual x day level using a linear probability model for all observations during nonemployment. Panel A examines the probability of finding a job within the next month, Panel B the probability of finding a job within the next two months and panel C the probability of finding a job within the next 3 months. SE (in brackets) are clustered on the individual level. \*, \*\* and \*\*\* indicate significance at the 10% 5% and 1% level.

**Table A.10: Test for Survey Response Bias, Robustness**

	Baseline	Full Participants	Constant Eligibility over Spell	Re-weighted to Match Contact Sample	Non- Response as Zero	Controlling for ALMP, Counseling & Sanctions	Winsorize Depvar at 480 min	Winsorize Depvar at 600 min
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Survey Duration in Months	0.3867 [0.7270]	1.2033 [0.8791]	0.0961 [0.8686]	-0.0936 [0.7436]	0.9375 [0.6772]	-0.3987 [0.7222]	0.5619 [0.7834]	0.5689 [0.7973]
Adj. R <sup>2</sup>	0.008	0.010	0.008	0.008	0.011	0.025	0.008	0.007
Mean Dep. Var	85.016	80.645	83.623	80.444	76.563	85.016	87.355	87.939
N Observations	115204	65483	86018	115204	127923	115204	115204	115204
N Individuals	6349	2107	4820	6349	6350	6349	6349	6349
P-Group X Unemp. Dur. FE	X	X	X	X	X	X	X	X

**Notes:** Survey duration is the difference between the first contact date and the day of the interview in months (where one month consists of 4 weeks). Sample Restrictions are that respondents are still non-employed, with a current unemployment duration of at most 5 months (i.e. 20 weeks or lower). UI-Entry FE are fixed effects for the week of UI-entry. Regressions with diary data and regressions include day of the week FE. Standard errors clustered at the individual level. Significance levels: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . The different columns represent different specifications of the seesaw tests that correspond to the robustness-specifications in table 5 and A.14.

**Table A.11: Tests for Survey Response Bias - Different Outcomes**

	(1)	(2)	(3)	(4)	(5)
<b>Panel A: Baseline Outcome Minutes Job Search</b>					
	Minutes Job Search				
Survey Duration in Months	0.3867				
	[0.7270]				
Adj. R <sup>2</sup>	0.008				
Mean Dep. Var	85.016				
N Observations	115204				
N Individuals	6349				
<b>Panel B: Threshold Definitions of Job-Search</b>					
	Any Search	≥ 60 min	≥ 120 min	≥ 180 min	≥ 240 min
Survey Duration in Months	-0.0127***	-0.0059*	0.0052	0.0059**	0.0050**
	[0.0031]	[0.0033]	[0.0032]	[0.0027]	[0.0022]
Adj. R <sup>2</sup>	0.011	0.007	0.005	0.005	0.005
Mean Dep. Var	0.686	0.564	0.338	0.187	0.115
N Observations	115204	115204	115204	115204	115204
N Individuals	6349	6349	6349	6349	6349
<b>Panel C: Other Outcomes</b>					
	Search Intensity (Scale 1-10)	Log Monthly Target Wage	Life Satisfaction (Scale 1-5)		
Survey Duration in Months	-0.1662***	-0.0172	-0.0213		
	[0.0586]	[0.0172]	[0.0225]		
Adj. R <sup>2</sup>	0.010	0.024	0.014		
Mean Dep. Var	5.171	7.750	3.045		
N Observations	11036	8490	14054		
N Individuals	4283	3780	4895		
P-Group X Unemp. Dur. FE	X	X	X	X	X

**Notes:** Survey duration is the difference between the first contact date and the day of the interview in months (where one month consists of 4 weeks). Sample Restrictions are that respondents are still non-employed, with a current unemployment duration of at most 5 months (i.e. 20 weeks or lower). UI-Entry FE are fixed effects for the week of UI-entry. Regressions with diary data and regressions include day of the week FE. Standard errors clustered at the individual level. Significance levels: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Table A.12: Search Effort Since Start of UI Spell – Up to 10 Months**

	(1)	(2)	(3)	(4)
[2, 3] months (omitted category)	0.00	0.00	0.00	0.00
	[.]	[.]	[.]	[.]
on UI since [3, 4] months	-0.77	-1.62	-3.31	-3.86
	[2.84]	[2.78]	[2.52]	[2.53]
on UI since [4, 5] months	1.26	-0.46	0.15	0.03
	[3.63]	[3.53]	[3.03]	[3.12]
on UI since [5, 6] months	-5.57	-6.56*	-2.42	-1.90
	[3.47]	[3.80]	[3.30]	[3.39]
on UI since [6, 7] months	-1.49	-2.39	3.14	3.77
	[4.49]	[4.42]	[3.82]	[3.90]
on UI since [7, 8] months	2.54	0.35	4.18	5.67
	[7.41]	[6.05]	[5.39]	[5.46]
on UI since [8, 9] months	3.12	2.02	4.60	7.07
	[4.53]	[6.44]	[5.44]	[5.57]
on UI since [9, 10] months	3.29	2.10	6.41	9.13
	[5.09]	[6.66]	[5.48]	[5.62]
on UI since [10, 11] months	0.77	-0.52	4.45	7.93
	[5.99]	[7.34]	[6.21]	[6.35]
Adj. R <sup>2</sup>	0.000	0.051	0.484	0.485
Mean Dep. Var	89.731	89.731	89.731	89.731
N Observations	23185	23185	23185	23185
N Individuals	1306	1306	1306	1306
Individual Controls		X		
Individual FE			X	X
Time FE				X

This table shows estimates of job-search in minutes on time on UI. Included are all job-search responses at time of nonemployment in the first 10 months of UI receipt with  $P \geq 12$  months of unemployment. SE (in brackets) are clustered on the individual level. Controls include dummies for gender, German nationality, wave, initial eligibility and UI duration, educational groups and age in years. Time-FE control for calendar months and weekday of survey. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.

**Table A.13: Robustness: Search Effort Since Start of UI Spell**

	Baseline	Full Participants	Constant Eligibility over Spell	Re-weighted to Match Contact Sample	Non- Response as Zero	Controlling for ALMP, Counseling & Sanctions
	(1)	(2)	(3)	(4)	(5)	(6)
[2, 3] months (omitted category)	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]
on UI since [3, 4] months	-1.45 [1.80]	-2.07 [2.45]	-1.42 [2.22]	-1.10 [1.89]	-2.56 [1.72]	-2.12 [1.82]
on UI since [4, 5] months	0.73 [2.38]	1.77 [2.83]	-1.18 [3.01]	-0.26 [2.55]	-1.06 [2.23]	-0.28 [2.35]
on UI since [5, 6] months	-0.82 [2.57]	0.23 [2.95]	-3.23 [3.49]	-0.72 [2.62]	-2.60 [2.39]	-2.03 [2.57]
on UI since [6, 7] months	1.06 [2.93]	3.74 [3.37]	1.07 [4.02]	0.26 [2.99]	-0.22 [2.76]	-0.53 [2.96]
Adj. R <sup>2</sup>	0.464	0.489	0.465	0.463	0.422	0.465
Mean Dep. Var	87.283	82.718	86.609	87.283	79.111	87.283
N Observations	28160	15519	18554	28160	31069	28160
N Individuals	1846	604	1267	1846	1847	1846
Individual FE	X	X	X	X	X	X
Time FE	X	X	X	X	X	X
Controls for UI Monitoring						X

This table shows estimates of job-search in minutes on time on UI. Included are all job-search responses at time of nonemployment in the examined range of UI duration of individuals with  $P \geq 8$ . SE (in brackets) are clustered on the individual level. Time-FE control for calendar months and weekday of survey. Column (1) replicates the results for the baseline sample. Column (2) restricts to individuals who participate the complete duration in the survey while also being nonemployed. Column (3) restricts the baseline sample to individuals with a constant eligibility during their UI period. Column (4) reweights to match the characteristics of individuals in the contact-sample using dummies for female, non-german nationality, high education and low education. Column (5) treats non-responses, conditional on individuals responding in the future, as zero. Column (6) includes time-varying controls on UI monitoring including information on the time of invitation to a case-worker meeting, the signing of an integration contract with the caseworker, and the receipt of a vacancy referral. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.



**Table A.14: Additional Robustness: Search Effort Since Start of UI Spell**

	Varying Nonemp. Definition		Exclude UI-II at UI-Start	Actual UI-Duration	Bi-weekly Level	Winsorize Depvar at		Exclude $\geq 5$ equal response	Restrict to Any UI-II	Restrict to Past UI-II exper.	Controlling for Local UR
	Admin Only	Survey Only				240 min	480 min				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
[2, 3] months (omitted category)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	[.]	[.]	[.]	[.]	[.]	[.]	[.]	[.]	[.]	[.]	[.]
on UI since [3, 4] months	-3.33*	-1.38	-1.62	-1.09	-1.10	-2.27	-0.85	-2.25	3.83	-1.34	-1.47
	[1.96]	[1.71]	[1.97]	[1.89]	[1.99]	[1.50]	[1.95]	[1.79]	[3.58]	[2.93]	[1.81]
on UI since [4, 5] months	-2.57	0.70	2.13	-1.79	1.42	-1.40	2.18	-0.56	10.61**	-3.57	0.64
	[2.66]	[2.19]	[2.67]	[2.42]	[2.68]	[1.97]	[2.61]	[2.38]	[4.91]	[3.92]	[2.40]
on UI since [5, 6] months	-5.32*	0.61	0.61	-0.45	-0.21	-2.34	0.05	-1.83	5.23	0.76	-0.99
	[2.89]	[2.37]	[2.89]	[2.59]	[2.95]	[2.12]	[2.75]	[2.59]	[4.75]	[4.16]	[2.63]
on UI since [6, 7] months	-3.46	1.27	2.17	1.06	0.92	-1.56	2.25	0.31	6.48	3.05	0.85
	[3.23]	[2.76]	[3.29]	[3.06]	[3.28]	[2.37]	[3.17]	[2.96]	[5.40]	[4.36]	[2.99]
Adj. R <sup>2</sup>	0.451	0.469	0.461	0.470	0.646	0.444	0.467	0.419	0.401	0.417	0.464
Mean Dep. Var	86.217	86.086	89.272	87.042	87.091	80.394	89.659	84.312	94.155	76.980	87.283
N Observations	23439	30355	22068	29717	8275	28160	28160	27202	8250	10243	28160
N Individuals	1472	2075	1424	2383	1788	1846	1846	1839	511	720	1846
Individual FE	X	X	X	X	X	X	X	X	X	X	X
Time FE	X	X	X	X	X	X	X	X	X	X	X
Local UR											X

This table shows estimates of job-search in minutes on time on UI. Included are all job-search responses at time of nonemployment in the examined range of UI duration of individuals with  $P \geq 8$ . SE (in brackets) are clustered on the individual level. Time-FE control for calendar months and weekday of survey. Column (1) presents results from a nonemployment-definition that is entirely based on the administrative data. It defines individuals as nonemployed as long as they are registered as job searcher and do not start a social security reliable job within the next 2 weeks. Column (2) defines individuals as nonemployed as long as they don't have a job found based on the survey data. Column (3) excludes individuals who receive besides UI also UI-II benefits (suggesting that the UI level is below the UI-II level and that those individuals do not experience a benefit cut at UI exhaustion). Column (4) uses the actual (instead of intent to treat) duration since the start of unemployment. Column (5) collapses the information to the bi-weekly level, where the outcome variable is calculated as the individual level mean over that period. Column (6) and (7) winsorize the dependent variable at 240 minutes and 480 minutes (instead of 360 minutes). Column (8) excludes observations where individuals respond 5 or more times in a row with the same, non-zero number at time of nonemployment. Column (9) restrict to individuals that exhaust their UI-benefit and enter UI-II within the first week after UI exhaustion. Column (10) restricts to individuals with any UI-II experience prior to the current unemployment spell. Column (11) controls for the monthly unemployment rate at the county (i.e. Kreis) level. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.

**Table A.15: Additional Robustness: Search Effort Around UI Exhaustion**

	Varying Nonemp. Definition		Exclude UI-II at UI-Start	Actual UI-Duration	Bi-weekly Level	Winsorize Depvar at		Exclude ≥ 5 equal response	Restrict to Any UI-II	Restrict to Past UI-II exper.	Controlling for UI-Duration	Controlling for Local UR
	Admin Only	Survey Only				240 min	480 min					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
[-4, -3] months since UI exhaustion	-2.63 [2.29]	-6.88*** [1.97]	-6.07*** [2.30]	-4.67** [2.10]	-7.16*** [2.30]	-4.22** [1.71]	-7.84*** [2.28]	-5.61*** [2.08]	-10.33** [4.20]	-9.48*** [3.42]	-6.48*** [2.10]	-6.40*** [2.12]
[-3, -2] months since UI exhaustion	-1.56 [2.08]	-4.00** [1.81]	-2.78 [2.07]	-3.93** [1.77]	-4.06* [2.09]	-2.36 [1.54]	-4.63** [2.05]	-2.96 [1.88]	-6.05 [3.76]	-6.98** [3.08]	-4.41** [1.97]	-3.66* [1.89]
[-2, -1] months since UI exhaustion	-3.02* [1.75]	-3.53** [1.55]	-4.18** [1.76]	-1.35 [1.25]	-4.68** [1.82]	-3.37*** [1.29]	-4.53*** [1.73]	-4.24*** [1.63]	-5.26* [3.14]	-4.63* [2.51]	-4.18** [1.65]	-4.18*** [1.59]
[-1, 0] months since UI exhaustion (omitted cat.)	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]
[0, 1] months since UI exhaustion	-3.94*** [1.21]	-1.93* [1.08]	-2.13* [1.24]	-3.09** [1.38]	-1.55 [1.24]	-2.10** [0.91]	-1.52 [1.18]	-2.13* [1.12]	-1.12 [2.18]	-3.70** [1.51]	-2.38* [1.27]	-1.79 [1.10]
[1, 2] months since UI exhaustion	-3.74** [1.67]	-3.17** [1.48]	-2.11 [1.72]	-4.15** [1.70]	-1.94 [1.64]	-2.02 [1.25]	-1.77 [1.63]	-2.62* [1.54]	1.45 [2.96]	-2.93 [1.91]	-1.96 [1.50]	-2.00 [1.52]
[2, 3] months since UI exhaustion	-7.09*** [1.93]	-4.57*** [1.66]	-4.22** [1.90]	-6.84*** [1.96]	-3.57* [1.91]	-4.06*** [1.41]	-3.86** [1.89]	-4.76*** [1.74]	-3.68 [3.51]	-4.53** [2.21]	-4.30** [1.81]	-4.24** [1.74]
[3, 4] months since UI exhaustion	-9.82*** [2.19]	-6.19*** [1.86]	-4.72** [2.13]	-6.24** [2.68]	-4.65** [2.14]	-4.61*** [1.65]	-4.68** [2.07]	-5.56*** [1.98]	-5.11 [3.76]	-6.69*** [2.45]	-5.47*** [2.07]	-5.16*** [1.97]
Adj. R <sup>2</sup>	0.498	0.498	0.507	0.505	0.677	0.486	0.502	0.462	0.492	0.445	0.501	0.501
Mean Dep. Var	82.703	84.128	86.886	84.251	84.306	77.628	86.665	81.347	99.233	75.602	84.291	84.291
N Observations	73677	91314	68625	71534	25081	84601	84601	81273	27448	39311	84601	84601
N Individuals	4419	5654	4072	4350	4971	5115	5115	5087	1614	2479	5115	5115
Individual FE	X	X	X	X	X	X	X	X	X	X	X	X
Time FE	X	X	X	X	X	X	X	X	X	X	X	X
Local UR												X

This table shows estimates of job-search in minutes on time on UI. Included are all job-search responses at time of nonemployment in the examined range around UI exhaustion. SE (in brackets) are clustered on the individual level. Time-FE control for calendar months and weekday of survey. Column (1) presents results from a nonemployment-definition that is entirely based on the administrative data. It defines individuals as nonemployed as long as they are registered as job searcher and do not start a social security reliable job within the next 2 weeks. Column (2) defines individuals as nonemployed as long as they don't have a job found based on the survey data. Column (3) excludes individuals who receive besides UI also UI-II benefits (suggesting that the UI level is below the UI-II level and that those individuals do not experience a benefit cut at UI exhaustion). Column (4) uses the actual (instead of intent to treat) duration since the start of unemployment. Column (5) collapses the information to the bi-weekly level, where the outcome variable is calculated as the individual level mean over that period. Column (6) and (7) winsorize the dependent variable at 240 minutes and 480 minutes (instead of 360 minutes). Column (8) excludes observations where individuals respond 5 or more times in a row with the same, non-zero number at time of nonemployment. Column (9) restrict to individuals that exhaust their UI-benefit and enter UI-II within the first week after UI exhaustion. Column (10) restricts to individuals with any UI-II experience prior to the current unemployment spell. Column (11) controls for selected months since UI-start: month 6,8,10, 12 and 15. Column (12) controls for the monthly unemployment rate at the county (i.e. Kreis) level. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.

**Table A.16: Search Effort Around UI-Exhaustion -Controlling for ALMP, Caseworker Interactions, Sanctions**

	(1)	(2)	(3)	(4)
[-4, -3] months since UI exhaustion	-3.32	-3.68	-6.71***	-7.18***
	[2.19]	[2.53]	[2.07]	[2.11]
[-3, -2] months since UI exhaustion	-1.05	-1.80	-3.91**	-4.35**
	[1.98]	[2.18]	[1.85]	[1.87]
[-2, -1] months since UI exhaustion	-0.56	-2.14	-4.25***	-4.51***
	[1.98]	[1.90]	[1.58]	[1.57]
[-1, 0] months since UI exhaustion (omitted cat.)	0.00	0.00	0.00	0.00
	[.]	[.]	[.]	[.]
[0, 1] months since UI exhaustion	-3.75***	-3.59***	-1.87*	-1.85*
	[1.29]	[1.28]	[1.09]	[1.09]
[1, 2] months since UI exhaustion	-4.89***	-5.08***	-2.09	-1.70
	[1.73]	[1.69]	[1.49]	[1.51]
[2, 3] months since UI exhaustion	-8.75***	-8.61***	-4.08**	-3.60**
	[2.08]	[1.97]	[1.71]	[1.73]
[3, 4] months since UI exhaustion	-11.74***	-11.20***	-5.23***	-4.35**
	[2.45]	[2.27]	[1.92]	[1.96]
CW Contract Week -2	3.12	3.13	3.20	3.40*
	[2.38]	[2.34]	[2.05]	[2.05]
CW Contract Week -1	3.98	4.10*	5.05**	5.29**
	[2.44]	[2.40]	[2.14]	[2.14]
CW Contract Today/Yesterday	11.53***	12.20***	13.06***	12.94***
	[3.58]	[3.51]	[3.08]	[3.08]
CW Contract Week +1	0.37	0.31	3.14	3.11
	[2.19]	[2.15]	[1.94]	[1.94]
CW Invite Week -2	7.27***	7.53***	5.57***	5.62***
	[1.95]	[1.91]	[1.73]	[1.73]
CW Invite Week -1	1.45	2.08	1.02	1.04
	[1.89]	[1.84]	[1.65]	[1.65]
CW Invite Today/Yesterday	0.31	1.15	5.71*	5.52*
	[3.75]	[3.65]	[3.00]	[3.00]
CW Invite Week +1	2.43	3.29*	2.16	2.05
	[1.88]	[1.82]	[1.63]	[1.63]
CW Referrals Week -2	3.95*	3.77*	2.79	2.84
	[2.15]	[2.10]	[1.95]	[1.95]
CW Referrals Week -1	0.00	0.00	0.00	0.00
	[.]	[.]	[.]	[.]
CW Referral Today/Yesterday	3.08	2.72	0.75	0.23
	[3.67]	[3.63]	[3.10]	[3.10]
CW Referrals Week +1	0.95	0.55	-0.54	-0.69
	[2.27]	[2.23]	[2.03]	[2.02]
Currently Sanctioned	-2.83	-2.70	-0.00	0.51
	[13.05]	[12.72]	[9.48]	[9.46]
Currently in ALMP	-2.29	-2.44	11.62**	11.33**
	[2.73]	[2.63]	[4.53]	[4.53]
UI-II Receipt Post Expiration	16.79***	14.82***	-3.99	-3.92
	[2.77]	[2.66]	[6.29]	[6.29]
Adj. R <sup>2</sup>	0.020	0.062	0.501	0.502
Mean Dep. Var	84.291	84.291	84.291	84.291
N Observations	84601	84601	84601	84601
N Individuals	5115	5115	5115	5115
Individual Controls		X		
Individual FE			X	X
Time FE				X

This table shows estimates of job-search in minutes on time since UI exhaustion. SE (in brackets) are clustered on the individual level. Controls include dummies for gender, German nationality, wave, initial eligibility and UI duration, educational groups and age in years. Time-FE control for calendar months and weekday of survey. All specifications also control for the month  $\times$  county-level unemployment rate. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.

**Table A.17: Search Effort Since Start of UI Spell: Heterogeneity Results**

	Gender		Education		Local UR	
	(1)	(2)	(3)	(4)	(5)	(6)
	<b>Female</b>		<b>High Educated</b>		<b>High Local UR</b>	
[2, 3] months (omitted category)	0.00	0.00	0.00	0.00	0.00	0.00
	[.]	[.]	[.]	[.]	[.]	[.]
on UI since [3, 4] months	-2.57	-2.72	-1.77	-2.12	2.03	1.98
	[2.21]	[2.22]	[3.54]	[3.57]	[2.45]	[2.49]
on UI since [4, 5] months	-1.49	-1.33	-1.69	-1.29	0.98	1.39
	[2.66]	[2.68]	[4.03]	[4.04]	[2.91]	[2.94]
on UI since [5, 6] months	-2.57	-2.30	-5.37	-4.95	-0.36	-0.10
	[2.09]	[2.10]	[3.43]	[3.41]	[2.28]	[2.29]
	<b>Male</b>		<b>Low Educated</b>		<b>Low Local UR</b>	
[2, 3] months (omitted category)	0.00	0.00	0.00	0.00	0.00	0.00
	[.]	[.]	[.]	[.]	[.]	[.]
on UI since [3, 4] months	-0.12	-0.65	-1.35	-1.67	-4.24*	-4.78**
	[2.57]	[2.62]	[1.86]	[1.88]	[2.29]	[2.29]
on UI since [4, 5] months	2.09	2.35	0.93	1.03	-0.52	-0.48
	[3.26]	[3.29]	[2.41]	[2.44]	[2.93]	[2.94]
on UI since [5, 6] months	-0.55	-0.39	-0.10	0.04	-2.68	-2.50
	[2.49]	[2.50]	[1.78]	[1.80]	[2.26]	[2.27]
Adj. R-Squared	0.462	0.464	0.462	0.464	0.462	0.464
Mean Dep. Var	87.283	87.283	87.283	87.283	87.283	87.283
N Observations	28160	28160	28160	28160	28160	28160
N Individuals	1846	1846	1846	1846	1846	1846
Individual -FE	X	X	X	X	X	X
Time - FE		X		X		X

This table shows heterogeneous estimates of job-search in minutes on time on UI. Included are all job-search responses at time of nonemployment in the examined range of UI duration for individuals with  $P \geq 8$ . SE (in brackets) are clustered on the individual level. Within each group, heterogeneous results are obtained by allowing for separate coefficients for each of the considered category. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.

**Table A.18: Search Effort Around UI Exhaustion: Heterogeneity Effects**

	Gender		Education		Local UR	
	(1)	(2)	(3)	(4)	(5)	(6)
	<b>Female</b>		<b>High Educated</b>		<b>High Local UR</b>	
[-4, -3] months since UI exhaustion	-2.34 [2.70]	-2.94 [2.72]	-2.95 [4.54]	-3.10 [4.57]	-5.41* [2.88]	-6.25** [2.90]
[-3, -2] months since UI exhaustion	-1.99 [2.44]	-2.55 [2.45]	-0.27 [4.05]	-0.50 [4.06]	-5.29** [2.61]	-5.93** [2.61]
[-2, -1] months since UI exhaustion	-1.73 [2.22]	-2.03 [2.22]	-2.35 [3.56]	-2.46 [3.55]	-4.74** [2.32]	-5.13** [2.33]
[-1, 0] months since UI exhaustion (omitted cat.)	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]
[0, 1] months since UI exhaustion	-1.84 [1.54]	-1.79 [1.54]	-1.22 [2.50]	-1.17 [2.50]	-1.78 [1.50]	-1.61 [1.49]
[1, 2] months since UI exhaustion	-2.67 [2.02]	-2.21 [2.03]	-2.50 [3.32]	-2.09 [3.33]	-4.47** [1.90]	-3.76** [1.90]
[2, 3] months since UI exhaustion	-4.91** [2.37]	-4.32* [2.39]	-5.91 [4.17]	-5.44 [4.19]	-8.14*** [2.24]	-7.29*** [2.23]
[3, 4] months since UI exhaustion	-6.77*** [2.54]	-5.79** [2.58]	-9.16** [4.58]	-8.23* [4.58]	-8.57*** [2.42]	-7.19*** [2.44]
	<b>Male</b>		<b>Low Educated</b>		<b>Low Local UR</b>	
[-4, -3] months since UI exhaustion	-9.66*** [3.10]	-10.29*** [3.11]	-7.06*** [2.23]	-7.88*** [2.25]	-6.19** [2.92]	-6.60** [2.92]
[-3, -2] months since UI exhaustion	-4.37 [2.80]	-4.92* [2.80]	-4.35** [2.04]	-5.04** [2.05]	-1.24 [2.64]	-1.69 [2.64]
[-2, -1] months since UI exhaustion	-6.04*** [2.26]	-6.38*** [2.25]	-4.47*** [1.73]	-4.88*** [1.73]	-3.08 [2.16]	-3.33 [2.16]
[-1, 0] months since UI exhaustion (omitted cat.)	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]
[0, 1] months since UI exhaustion	-1.86 [1.54]	-1.73 [1.54]	-2.07* [1.18]	-1.96* [1.19]	-1.94 [1.58]	-1.94 [1.59]
[1, 2] months since UI exhaustion	-2.22 [2.17]	-1.61 [2.18]	-2.40 [1.63]	-1.81 [1.64]	0.08 [2.34]	0.37 [2.37]
[2, 3] months since UI exhaustion	-4.65* [2.43]	-3.83 [2.43]	-4.38** [1.78]	-3.57** [1.78]	-0.72 [2.59]	-0.19 [2.61]
[3, 4] months since UI exhaustion	-5.51** [2.77]	-4.11 [2.78]	-5.08** [2.01]	-3.75* [2.04]	-3.14 [2.98]	-2.18 [3.02]
Adj. R-Squared	0.462	0.464	0.462	0.464	0.462	0.464
Mean Dep. Var	87.283	87.283	87.283	87.283	87.283	87.283
N Observations	28160	28160	28160	28160	28160	28160
N Individuals	1846	1846	1846	1846	1846	1846
Individual -FE	X	X	X	X	X	X
Time - FE		X		X		X

This table shows heterogeneous estimates of job-search in minutes on time since UI exhaustion. SE (in brackets) are clustered on the individual level. Within each group, heterogeneous results are obtained by allowing for separate coefficients for each of the considered category. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.

**Table A.19: Search Effort at UI-Start by Potential Benefit Duration**

	P = 6	P = 8	P = 10	P = 12	P = 15	ALL P
	(1)	(2)	(3)	(4)	(5)	(6)
[2, 3] months (omitted category)	0.00	0.00	0.00	0.00	0.00	0.00
	[.]	[.]	[.]	[.]	[.]	[.]
on UI since [3, 4] months	-2.38	-0.23	1.44	-2.66	-4.34	-1.45
	[3.59]	[3.87]	[3.34]	[3.05]	[4.27]	[1.80]
on UI since [4, 5] months	-1.43	2.49	0.53	0.87	-0.07	0.73
	[5.42]	[5.41]	[4.87]	[3.77]	[5.44]	[2.38]
on UI since [5, 6] months	-5.96	-5.48	4.83	0.91	-4.82	-0.82
	[4.78]	[4.93]	[5.75]	[4.59]	[5.46]	[2.57]
on UI since [6, 7] months	-10.80**	-8.08	3.96	9.21*	-2.39	1.06
	[5.03]	[5.33]	[6.81]	[5.22]	[6.29]	[2.93]
Adj. R <sup>2</sup>	0.461	0.490	0.421	0.472	0.471	0.464
Mean Dep. Var	83.410	87.087	85.706	89.062	86.939	87.283
N Observations	13171	7388	6669	7918	6185	28160
N Individuals	1105	567	430	472	377	1846
Individual FE	X	X	X	X	X	X
Time FE	X	X	X	X	X	X

This table shows estimates of job-search in minutes on time since UI exhaustion. SE (in brackets) are clustered on the individual level. Separate Regressions by P-Group. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.

**Table A.20: Search Effort around UI Exhaustion by Potential Benefit Duration**

	P = 6	P = 8	P = 10	P = 12	P = 15	ALL P
	(1)	(2)	(3)	(4)	(5)	(6)
[-4, -3] months since UI exhaustion	6.13 [4.60]	6.96 [6.87]	-19.28*** [7.07]	-12.52** [5.28]	-8.06*** [2.97]	-6.53*** [2.07]
[-3, -2] months since UI exhaustion	3.71 [4.77]	-1.47 [5.62]	-7.70* [4.16]	-9.59* [4.92]	0.27 [2.84]	-3.76** [1.87]
[-2, -1] months since UI exhaustion	4.58 [4.30]	-3.49 [4.55]	-3.75 [3.66]	-10.65*** [3.86]	-2.06 [2.52]	-4.24*** [1.59]
[-1, 0] months since UI exhaustion (omitted cat.)	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]
[0, 1] months since UI exhaustion	-4.92** [2.07]	-2.02 [2.57]	-1.83 [2.60]	-2.22 [2.37]	5.60** [2.82]	-1.74 [1.09]
[1, 2] months since UI exhaustion	-5.89** [2.99]	-1.10 [3.10]	-0.79 [3.29]	-4.13 [3.28]	9.17* [4.87]	-1.88 [1.50]
[2, 3] months since UI exhaustion	-6.56** [3.34]	-5.89 [3.76]	-5.55 [4.15]	-6.09* [3.45]	19.17*** [5.38]	-4.04** [1.72]
[3, 4] months since UI exhaustion	-6.76* [3.66]	-4.54 [4.05]	-5.94 [5.00]	-8.06** [3.75]		-4.88** [1.93]
Adj. R <sup>2</sup>	0.449	0.502	0.484	0.508	0.579	0.501
Mean Dep. Var	81.525	83.346	88.031	84.197	86.262	84.291
N Observations	22377	16355	13740	18089	14040	84601
N Individuals	1412	1089	891	1004	719	5115
Individual FE	X	X	X	X	X	X
Time FE	X	X	X	X	X	X

This table shows estimates of job-search in minutes on time since UI exhaustion. SE (in brackets) are clustered on the individual level. Separate Regressions by P-Group. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.

**Table A.21: RD-Estimates - Survey-Response Level**

	P=12 vs. P=15	
	11 Months Since UI Start (1)	14 Months Since UI Start (2)
<b>Panel A: Search Outcomes</b>		
Search Effort	-11.04 [9.25]	19.33 [12.66]
<b>Panel B: Validity and Placebos</b>		
N. Obs. per Age/Tenure Day	-0.08 [0.76]	-0.56 [0.66]
Female	0.04 [0.06]	0.05 [0.10]
Non-German	-0.05 [0.03]	-0.08 [0.06]
Low Education	-0.04 [0.06]	-0.07 [0.09]
High Education	0.06 [0.05]	0.08 [0.07]
N Observations	6016	2869
N Individuals	977	444
Wave - FE	X	X

**Notes:** This table provides RD-estimates for the different samples and different Outcomes. Each coefficient represents the RD-estimate from a separate regression. SE clustered on the tenure-day/ageday (the smallest unit of the running variable) in brackets. Bandwidth is 120 days for the experience thresholds (first two columns) and 5 years for the age-threshold (last two columns) on each side of the cutoff. SE clustered on the tenure-day/ageday (the smallest unit of the running variable) in brackets. It restricts to observations with a valid response to job-search, still being nonemployed, and the column-specific restrictions. We controls for the functional form of the running variable controlling for a linear trend allowing for different slopes on each side of the cutoff.



**Table A.22: Search Effort for Different Thresholds Since Start of UI Spell**

	Minutes Search (1)	Any Search (2)	Search ≥ 60 min (3)	Search ≥ 120 min (4)	Search ≥ 180 min (5)	Search ≥ 240 min (6)
<b>Panel A: Raw Coefficients</b>						
[2, 3] months (omitted category)	0.0000 [.]	0.0000 [.]	0.0000 [.]	0.0000 [.]	0.0000 [.]	0.0000 [.]
on UI since [3, 4] months	-1.4471 [1.8035]	-0.0457*** [0.0085]	-0.0258*** [0.0090]	-0.0009 [0.0091]	0.0078 [0.0076]	0.0043 [0.0062]
on UI since [4, 5] months	0.7308 [2.3837]	-0.0582*** [0.0107]	-0.0191* [0.0115]	0.0081 [0.0114]	0.0092 [0.0095]	0.0151* [0.0080]
on UI since [5, 6] months	-0.8205 [2.5695]	-0.0594*** [0.0124]	-0.0307** [0.0129]	0.0080 [0.0123]	0.0084 [0.0101]	0.0082 [0.0085]
on UI since [6, 7] months	1.0633 [2.9260]	-0.0672*** [0.0139]	-0.0336** [0.0147]	0.0174 [0.0136]	0.0189* [0.0113]	0.0194** [0.0095]
<b>Panel B: Coefficients Adjusted for Survey Response Bias</b>						
[2, 3] months (omitted category)	0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]
on UI since [3, 4] months	-1.9008 [1.9685]	-0.0302*** [0.0094]	-0.0190* [0.0111]	-0.0073 [0.0097]	0.0008 [0.0086]	-0.0014 [0.0085]
on UI since [4, 5] months	-0.1765 [3.3708]	-0.0271** [0.0132]	-0.0055 [0.0199]	-0.0047 [0.0141]	-0.0049 [0.0118]	0.0036 [0.0110]
on UI since [5, 6] months	-2.1816 [4.9202]	-0.0128 [0.0163]	-0.0104 [0.0235]	-0.0113 [0.0177]	-0.0128 [0.0133]	-0.0090 [0.0139]
on UI since [6, 7] months	-0.7514 [6.4290]	-0.0051 [0.0206]	-0.0064 [0.0312]	-0.0083 [0.0230]	-0.0093 [0.0203]	-0.0036 [0.0178]
Adj. R <sup>2</sup>	0.464	0.332	0.321	0.351	0.366	0.351
Mean Dep. Var	87.283	0.707	0.581	0.344	0.189	0.117
N Observations	28160	28160	28160	28160	28160	28160
N Individuals	1846	1846	1846	1846	1846	1846
Individual Controls	X	X	X	X	X	X
Individual FE	X	X	X	X	X	X
Time FE	X	X	X	X	X	X

This table shows estimates of job-search in minutes on time on UI. Included are all job-search responses at time of nonemployment in the examined range of UI duration of individuals with  $P \geq 8$ . Panel A shows unadjusted coefficients and panel B shows coefficients that adjust for survey-response bias stemming from a separate regression (see A.11). SE in panel A are clustered on the individual level and in panel B bootstrapped (clustered on the individual level and with 50 replications) to account for the increased noise stemming from the adjustment for survey-response bias. Controls include dummies for gender, German nationality, wave, initial eligibility and UI duration, educational groups and age in years. Time-FE control for calendar months and weekday of survey. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.

**Table A.23: Search Effort for Different Thresholds Around UI Exhaustion**

	Minutes Search (1)	Any Search (2)	Search ≥ 60 min (3)	Search ≥ 120 min (4)	Search ≥ 180 min (5)	Search ≥ 240 min (6)
<b>Panel A: Raw Coefficients</b>						
[-4, -3] months since UI exhaustion	-6.5314*** [2.0722]	0.0346*** [0.0093]	-0.0039 [0.0100]	-0.0384*** [0.0101]	-0.0400*** [0.0084]	-0.0305*** [0.0070]
[-3, -2] months since UI exhaustion	-3.7648** [1.8707]	0.0226*** [0.0083]	-0.0027 [0.0089]	-0.0236*** [0.0089]	-0.0175** [0.0075]	-0.0213*** [0.0063]
[-2, -1] months since UI exhaustion	-4.2367*** [1.5878]	-0.0047 [0.0072]	-0.0135* [0.0076]	-0.0225*** [0.0075]	-0.0170*** [0.0065]	-0.0102* [0.0056]
[-1, 0] months since UI exhaustion (omitted cat.)	0.0000 [.]	0.0000 [.]	0.0000 [.]	0.0000 [.]	0.0000 [.]	0.0000 [.]
[0, 1] months since UI exhaustion	-1.7375 [1.0922]	-0.0362*** [0.0054]	-0.0175*** [0.0057]	0.0016 [0.0055]	-0.0003 [0.0046]	0.0032 [0.0039]
[1, 2] months since UI exhaustion	-1.8812 [1.4995]	-0.0526*** [0.0071]	-0.0182** [0.0076]	0.0134* [0.0075]	0.0026 [0.0062]	0.0032 [0.0050]
[2, 3] months since UI exhaustion	-4.0446** [1.7161]	-0.0784*** [0.0083]	-0.0358*** [0.0084]	0.0115 [0.0082]	0.0026 [0.0071]	-0.0011 [0.0056]
[3, 4] months since UI exhaustion	-4.8796** [1.9268]	-0.0927*** [0.0099]	-0.0359*** [0.0104]	0.0139 [0.0099]	0.0031 [0.0080]	0.0021 [0.0062]
<b>Panel B: Coefficients Adjusted for Survey Response Bias</b>						
[-4, -3] months since UI exhaustion	-5.1704* [2.7609]	-0.0119 [0.0096]	-0.0242** [0.0112]	-0.0191 [0.0122]	-0.0189** [0.0090]	-0.0132 [0.0080]
[-3, -2] months since UI exhaustion	-2.8575 [1.9827]	-0.0084 [0.0082]	-0.0163* [0.0096]	-0.0107 [0.0100]	-0.0034 [0.0071]	-0.0098 [0.0069]
[-2, -1] months since UI exhaustion	-3.7831*** [1.4500]	-0.0202*** [0.0072]	-0.0203** [0.0089]	-0.0160** [0.0078]	-0.0099* [0.0058]	-0.0045 [0.0060]
[-1, 0] months since UI exhaustion (omitted cat.)	0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]
[0, 1] months since UI exhaustion	-2.1912* [1.3077]	-0.0207*** [0.0063]	-0.0107* [0.0063]	-0.0048 [0.0068]	-0.0074 [0.0056]	-0.0026 [0.0042]
[1, 2] months since UI exhaustion	-2.7885 [2.0054]	-0.0216*** [0.0076]	-0.0046 [0.0088]	0.0006 [0.0089]	-0.0115 [0.0080]	-0.0083 [0.0063]
[2, 3] months since UI exhaustion	-5.4056* [2.8396]	-0.0318*** [0.0112]	-0.0154 [0.0120]	-0.0078 [0.0111]	-0.0186* [0.0108]	-0.0184** [0.0079]
[3, 4] months since UI exhaustion	-6.6943* [3.7120]	-0.0306** [0.0139]	-0.0087 [0.0157]	-0.0118 [0.0156]	-0.0251* [0.0137]	-0.0210* [0.0109]
Adj. R <sup>2</sup>	0.501	0.358	0.358	0.393	0.405	0.389
Mean Dep. Var	84.291	0.683	0.559	0.336	0.185	0.113
N Observations	84601	84601	84601	84601	84601	84601
N Individuals	5115	5115	5115	5115	5115	5115
Individual Controls	X	X	X	X	X	X
Individual FE	X	X	X	X	X	X
Time FE	X	X	X	X	X	X

This table shows estimates of job-search in minutes on time since UI exhaustion. Included are all job-search responses at time of nonemployment in the examined range around UI exhaustion. Panel A shows unadjusted coefficients and panel B shows coefficients that adjust for survey-response bias stemming from a separate regression (see A.11). SE in panel A are clustered on the individual level and in panel B bootstrapped (clustered on the individual level and with 50 replications) to account for the increased noise stemming from the adjustment for survey-response bias. Controls include dummies for gender, German nationality, wave, initial eligibility and UI duration, educational groups and age in years. Time-FE control for calendar months and weekday of survey. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.

**Table A.24: Other Outcomes Since Start of UI Spell**

	Search Intensity (1)	Log Target Wage (2)	Life Satisfaction (3)
<b>Panel A: Raw Coefficients</b>			
[2, 3] months (omitted category)	0.0000 [.]	0.0000 [.]	0.0000 [.]
on UI since [3, 4] months	-0.1029 [0.1670]	0.0029 [0.0353]	-0.0656 [0.0537]
on UI since [4, 5] months	0.0745 [0.1922]	0.0015 [0.0317]	-0.0755 [0.0568]
on UI since [5, 6] months	-0.0881 [0.2026]	0.0373 [0.0407]	-0.1708*** [0.0638]
on UI since [6, 7] months	-0.5421** [0.2627]	0.0019 [0.0551]	-0.1425** [0.0668]
<b>Panel B: Seesaw Adjusted</b>			
[2, 3] months (omitted category)	0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]
on UI since [3, 4] months	0.0831 [0.1221]	-0.0026 [0.0246]	-0.0402 [0.0467]
on UI since [4, 5] months	0.4465*** [0.1681]	-0.0095 [0.0279]	-0.0247 [0.0652]
on UI since [5, 6] months	0.4699** [0.2155]	0.0207 [0.0399]	-0.0945 [0.0679]
on UI since [6, 7] months	0.2019 [0.2719]	-0.0202 [0.0506]	-0.0408 [0.0905]
Adj. R <sup>2</sup>	0.499	0.802	0.595
Mean Dep. Var	5.250	7.826	3.163
N Observations	2840	2149	3540
N Individuals	1266	1105	1453
Individual Controls	X	X	X
Individual FE	X	X	X
Time FE	X	X	X

This table shows estimates of job-search in minutes on time on UI. Included are all job-search responses at time of nonemployment in the examined range of UI duration of individuals with  $P \geq 8$ . SE (in brackets) are clustered on the individual level. Controls include dummies for gender, German nationality, wave, initial eligibility and UI duration, educational groups and age in years. Time-FE control for calendar months and weekday of survey. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.

**Table A.25: Other Outcomes Around UI-Exhaustion**

	Search Intensity (1)	Log Target Wage (2)	Life Satisfaction (3)
<b>Panel A: Raw Coefficients</b>			
[2, 3] months (omitted category)	0.0000 [.]	0.0000 [.]	0.0000 [.]
on UI since [3, 4] months	-0.1029 [0.1670]	0.0029 [0.0353]	-0.0656 [0.0537]
on UI since [4, 5] months	0.0745 [0.1922]	0.0015 [0.0317]	-0.0755 [0.0568]
on UI since [5, 6] months	-0.0881 [0.2026]	0.0373 [0.0407]	-0.1708*** [0.0638]
on UI since [6, 7] months	-0.5421** [0.2627]	0.0019 [0.0551]	-0.1425** [0.0668]
<b>Panel B: Seesaw Adjusted</b>			
[2, 3] months (omitted category)	0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]
on UI since [3, 4] months	0.0831 [0.1221]	-0.0026 [0.0246]	-0.0402 [0.0467]
on UI since [4, 5] months	0.4465*** [0.1681]	-0.0095 [0.0279]	-0.0247 [0.0652]
on UI since [5, 6] months	0.4699** [0.2155]	0.0207 [0.0399]	-0.0945 [0.0679]
on UI since [6, 7] months	0.2019 [0.2719]	-0.0202 [0.0506]	-0.0408 [0.0905]
Adj. R <sup>2</sup>	0.566	0.819	0.633
Mean Dep. Var	5.162	7.715	3.017
P-Value: Increase (t-4,..t-1)	0.117	0.010	0.019
P-Value: Decrease (t,..,t-3)	0.626	0.462	0.998
N Observations	7987	6177	10263
N Individuals	3332	2907	3899
Individual Controls	X	X	X
Individual FE	X	X	X
Time FE	X	X	X

This table shows estimates of job-search in minutes on time since UI exhaustion. Included are all job-search responses at time of nonemployment in the examined range around UI exhaustion. SE (in brackets) are clustered on the individual level. Time-FE control for calendar months and weekday of survey. "P-Values: Increase" refers to the p-value from a test of joint significance for the pre-exhaustion coefficients, while the "P-Values: Decrease" test for a joint significance of the post-exhaustion. Both tests are based on the seesaw adjusted results in panel B. \*, \*\* and \*\*\* denote significance on 10%, 5% and 1% significance level, respectively.

**Table A.26: Summary of Self-Reported Job-Found Information**

	(1)	(2)	(3)	(4)
	All Responses	Conditioning on Job Found		
		Before UI Exhaustion	Last Month of UI	After UI Exhaustion
<b>Panel A: All Responses to job-found question</b>				
Any Job Found	0.20	1.00	1.00	1.00
	11379	583	278	404
<b>Panel B: For those who found Job: Lags between Offer, Acceptance and Start</b>				
Days between Job-Offer and Start (cap at 180 days)	30.63 [1.04] (37.74)	26.28 [1.61] (34.39) {0.07}	31.69 [2.68] (36.86)	28.51 [2.01] (35.17) {0.34}
	1320	456	189	305
Days between Job-Offer and Acceptance (cap at 180 days)	7.60 [0.86] (29.28)	6.13 [1.27] (25.21) {0.60}	7.43 [2.32] (28.97)	2.82 [0.81] (12.82) {0.03}
	1167	394	156	249
Days between Job-Acceptance and Start (cap at 180 days)	28.40 [1.04] (36.51)	24.27 [1.62] (33.42) {0.43}	26.54 [2.28] (30.39)	29.27 [2.25] (38.13) {0.42}
	1237	428	177	288

This table summarizes the responses to the job-found question. All Variables in Panel B are capped at 180, whereas negative values are censored. SE of mean in brackets, SD in parenthesis. The p-value from a t-test of whether the value is different from the value in the month at UI exhaustion is in curly parenthesis. The last row for each variable shows the numbers of observations for this variable. The number of observations in Panel (B) is significantly lower, as the questions on job-dates is only asked when individuals report, that they found a job.

**Table A.27: Structural Estimates of Job Search Models: Benchmark Structural Models but with all Parameters**

	(1)	(2)	(3)	(4)	(5)
	Standard Model	Reference Dependence Model	Dependence Model	Duration Dependence Standard Model	Duration Dependence Ref. Dep. Model
	3 type	2 type	3 type		
<b>Parameters of Utility Function</b>					
Loss aversion $\lambda$	.	1.64	3.73	.	1.17
		[0.33]	[1.01]		[0.16]
Adjustment speed of ref. point N	.	149.1	349.8	.	141.8
		[24.6]	[61.8]		[17.1]
Discount factor (30 days) $\delta$	0.995	0.995	0.995	0.995	0.995
	[0]	[0]	[0]	[0]	[0]
Discount factor $\beta$	0.100	0.475	0.916	0.494	0.461
	[]	[0.196]	[0.0297]	[0.0175]	[0.270]
<b>Parameters of Search Cost and Productivity</b>					
Curvature of search cost $\gamma$	12.3	4.36	0.21	1.64	0.447
	[1.40]	[1.47]	[0.065]	[0.015]	[0.234]
Curvature of search effort productivity $\zeta$	7.28	1.83	0.00076	0.86	-0.08
	[0.0047]	[0.68]	[0.0041]	[0.040]	[0.30]
Composite curvature $\tilde{\gamma} = \frac{\gamma-\zeta}{1+\zeta}$	0.60	0.89	0.21	0.42	0.56
Search Cost for Type 1 (ln(k1))	-38.3	-23.0	-2.88	-3.52	-5.24
	[16.6]	[6.73]	[0.72]	[61.4]	[1.68]
Type 1 (ln(E1))	-21.6	-14.8	-5.00	-5.02	-6.32
	[12.7]	[2.79]	[0.43]	[43.2]	[1.01]
Search Cost for Type 2 (ln(k2))	-56.5	-25.6	-4.03	-10.9	-7.05
	[6.22]	[6.94]	[0.52]	[2.36]	[0.59]
Type 1 (ln(E2))	-35.0	-13.7	-7.83	-7.31	-4.59
	[3.16]	[2.90]	[0.092]	[1.62]	[1.31]
Search Cost for Type 3 (ln(k3))	-78.5	.	-40.4	-15.5	-9.31
	[9.16]			[0.089]	[0.22]
Type 1 (ln(E3))	-48.1	.	-6.86	-12.7	-7.91
	[0.37]		[0.17]	[0.21]	[1.51]
Share of Highest Cost Type p1	0.44	0.49	0.34	0.38	0.39
	[0.029]	[0.021]	[0.025]	[0.095]	[0.037]
Share of Highest Cost Type p2	0.38	.	0.53	0.40	0.40
	[0.051]		[0.026]	[0.027]	[0.021]
Time Trend - K	.	.	.	0.041	0.040
				[0.0088]	[0.017]
Time trend period cap	.	.	.	18	18
<b>Model Fit</b>					
Number of Moments Used	49	49	49	49	49
Number of Estimated Parameters	11	10	13	12	14
SSE for Hazard	53.9	66.3	65.2	45.5	59.2
SSE for Inital Effort	28.1	12.2	22.4	22.1	3.2
SSE for Effort around Exhaustion	97.2	60.1	16.3	22.5	8.1
Goodness of Fit (SSE)	179.2	138.5	103.9	90.1	70.5

**Notes:** The table shows the full set of parameter estimates for different search models. Parameter estimates for the standard model with 3 types are in column (1) and for the reference-dependent model with 2 and 3 types are in column (2) and (3) respectively. Column (4) and (5) show results with duration dependence in search costs by allowing for an 18 month time trend in K for the 3 types standard model (column (4)) and the 3 types reference-dependent model (column (5)). Estimation is based on minimum distance estimation. The targeted moments are 1) the within-person estimates of the evolution of search effort at the beginning of the spell, 2) the evolution of effort at UI exhaustion, and 3) the empirical hazards for the P=12 and P=15 month groups, that are estimated using a regression discontinuity design at the cutoff, to keep the composition between the two groups identical. Standard errors for estimated parameters are in brackets.

**Table A.28: Robustness Table I for Structural Estimation**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Estimate $\delta$ ; fix $\beta = 1$	Estimate $\delta$ and $\beta$	Estimate One Type Model	Estimate $\eta$ ; fix $\lambda = 1$	Pos. initial Assets	Effort not upweighted	No decline FE	Estimate using P=8/10 Group
<b>Standard Model - 3 Types</b>								
Discount factor (30 days) $\delta$	0.466 [0.108]	0.964 [0.128]	0.995 [0]	.	0.995 [0]	0.995 [0]	0.995 [0]	0.995 [0]
Discount factor $\beta$	1 [0]	0.100 [0.0188]	0.418 [301.1]	.	0.100 []	0.100 []	0.100 []	0.472 [0.100]
Curvature of search cost $\gamma$	0.57 [1.67]	12.0 [0.029]	60.1 [80.4]	.	12.3 [1.38]	12.4 [0.054]	11.9 [1.36]	0.097 [0.28]
Curvature of search effort productivity $\zeta$	0.18 [1.18]	7.06 [0.0042]	-0.63 [0.16]	.	7.37 [0.0044]	6.10 [0.040]	7.15 [0.0043]	-0.43 [0.15]
Composite curvature $\tilde{\gamma} = \frac{\gamma-\zeta}{1+\zeta}$	0.33	0.61	162.6	.	0.59	0.89	0.59	0.94
Number of Moments Used	49	49	49	.	49	49	45	49
Number of Estimated Parameters	11	12	5	.	11	11	11	11
SSE for Hazard	82.3	56.6	3290.7	.	54.4	46.9	54.8	72.2
SSE for Inital Effort	22.9	27.8	28.7	.	28.5	3.32	28.5	26.9
SSE for Effort around Exhaustion	92.0	94.4	201.9	.	96.2	11.8	96.4	113.6
Goodness of Fit (SSE)	197.2	178.8	3573.4	.	179.1	62.1	91.2	212.7
<b>Reference Dependent Model - 3 Types</b>								
Loss aversion $\lambda$	3.00 [0.53]	3.73 [1.01]	15.0 [0.059]	1 [0]	1.68 [0.37]	1.05 [0.16]	1.38 [0.13]	3.32 [1.54]
Eta $\eta$	1 [0]	1 [0]	1 [0]	4.31 [3.40]	1 [0]	1 [0]	1 [0]	1 [0]
Adjustment speed of ref. point N	357.7 [23.3]	349.8 [63.1]	226.4 [28.2]	190.7 [11.3]	140.8 [17.0]	202.3 [18.7]	88.0 [13.9]	359.2 [76.0]
Discount factor (30 days) $\delta$	0.982 [0.00163]	0.995 [0.00136]	0.995 [0]	0.995 [0]	0.995 [0]	0.995 [0]	0.995 [0]	0.995 [0]
Discount factor $\beta$	1 [0]	0.916 [0.0300]	1 []	0.483 [0.220]	0.196 [0.275]	0.817 [0.0219]	0.760 [0.0931]	0.593 [0.230]
Curvature of search cost $\gamma$	1.18 [0.051]	0.21 [0.071]	18.0 [0.0087]	5.94 [3.66]	3.01 [2.39]	5.09 [0.068]	3.18 [1.06]	3.74 [1.15]
Curvature of search effort productivity $\zeta$	0.81 [0.041]	0.00076 [0.0041]	16.9 [0.29]	2.57 [1.84]	0.93 [0.97]	3.65 [0.042]	1.90 [0.74]	1.56 [0.72]
Composite curvature $\tilde{\gamma} = \frac{\gamma-\zeta}{1+\zeta}$	0.20	0.21	0.062	0.94	1.08	0.31	0.44	0.85
Number of Moments Used	49	49	49	49	49	49	45	49
Number of Estimated Parameters	13	14	7	13	13	13	13	13
SSE for Hazard	88.9	65.2	1189.2	58.3	62.5	43.7	47.9	73.3
SSE for Inital Effort	23.4	22.4	32.7	18.7	16.1	2.50	14.7	22.3
SSE for Effort around Exhaustion	34.6	16.3	263.4	45.5	42.7	11.3	107.8	41.6
Goodness of Fit (SSE)	147.1	103.9	1511.0	122.6	121.4	57.6	80.8	137.1

**Notes:** The table shows parameter estimates for alternative specifications of the standard and the reference dependent model. Column (1) estimates the  $\delta$  discount factor keeping  $\beta$  fixed at 1. Column (2) estimates jointly both the  $\delta$  and the  $\beta$  discount factor. Column (3) reports estimates when shutting down heterogeneity by only allowing for one type. Column (4) provides estimates for  $\eta$  in the reference dependent model when fixing  $\lambda$  to one. Column (5) reports estimates that assume positive assets at unemployment starts amounting to two months of the average pre-unemployment earnings. Column (6) reports estimates without upweighting the search effort moments. Column (7) provides estimates that ignore the moments post benefit exhaustion from the estimation. The SSE for effort around exhaustion (marked with \*) includes the decline post expiration, but this part is not included in the overall SSE. Column (8) is based on the hazard moments for individuals with 8 and 12 months of potential benefit duration. Estimation is based on minimum distance estimation. The targeted moments are the same as in the previous table A.27 (except for column 8). Standard errors for estimated parameters in brackets. [.] indicates that the parameter estimate is on the boundary and thus the standard error is not well identified.

**Table A.29: Robustness Table II for Structural Estimation, Standard Model**

	(1)	(2)	(3)	(4)
	Heterogeneous $\gamma$	Linear time-trend in productivity	Exp. time-trend in search cost	8 month time-trend in search cost
<b>Parameters of Utility Function</b>				
Discount factor (30 days) $\delta$	0.995 [0]	0.995 [0]	0.995 [0]	0.995 [0]
Discount factor $\beta$	0.235 [1.289]	0.874 [0.0252]	0.454 [0.214]	0.306 [0.211]
<b>Parameters of Search Cost and Productivity</b>				
Curvature of search cost $\gamma$	12.7 [0]	1.73 [0.063]	1.88 [1.61]	0.81 [0.52]
Curvature of search cost $\gamma$ - Type 2	10.4 [11.1]	.	.	.
Curvature of search cost $\gamma$ - Type 3	12.3 [5.90]	.	.	.
Curvature of search effort productivity $\zeta$	7.53 [0.033]	1.45 [0.053]	0.97 [1.28]	0.098 [0.31]
Share of Highest Cost Type p1	0.44 [0.033]	0.57 [0.026]	0.38 [0.15]	0.33 [0.012]
Share of Highest Cost Type p2	0.35 [0.10]	0.25 [0.17]	0.41 [0.027]	0.41 [0.027]
Time Trend - K	.	.	0.029 [0.0069]	0.050 [0.013]
Time Trend - E	.	-0.0087 [0.0016]	.	.
Time trend period cap	.	18	18	8
<b>Model Fit</b>				
Number of Moments Used	49	49	49	49
Number of Estimated Parameters	13	12	12	12
SSE for Hazard	51.5	53.2	46.5	64.3
SSE for Initial Effort	30.1	28.9	26.8	19.2
SSE for Effort around Exhaustion	96.0	31.3	20.0	88.6
Goodness of Fit (SSE)	177.6	113.4	93.2	172.1

**Notes:** This table provides parameter estimates for additional alternative specifications of the standard model. Column (1) provides parameter estimates where each of the three types is also allowed to vary in the curvature of search costs  $\gamma$ . Column (2) provides estimates where we model a time trend (for 18 month) in the productivity of search E, rather than in the cost of search. In column (3) we return to a time trend in K but assume the trend is exponential rather than linear and column (4) estimates a linear time trend in K but puts a cap at 8 months. Targeted moments are the same as in table A.27. Standard errors for estimated parameters in brackets.



**Table A.30: Expert Survey, Summary Table**

	Expert Forecast	SMS Survey	Number of Respondents
<b>Question 1: Initial Search Effort</b>			
Effort in Month [2,3] since UI entry (minutes)		88.43 [2.08]	
Effort in Month [6,7] since UI entry (minutes)	71.5 [3.3]	87.6 [3.19]	35
<b>Question 2: Search Effort around UI Exhaustion</b>			
Effort [-4,-3] months since UI Exhaustion (minutes)	69.2 [2.4]	80.80 [2.08]	35
Effort last months of UI (minutes)		87.39 [1.4]	
Effort [2,3] months since UI Exhaustion (minutes)	72.5 [2.5]	82.5 [1.93]	35
Pattern of increasing search effort and then flat after UI exhaustion			6
Pattern of increasing search effort and then decreasing after UI exhaustion			24
<b>Question 3: Gap Between Job Offer and Start</b>			
Gap Between Job Offer and Start (days)	35.7 [1.8]	29.17 [.89]	35
Gap equal or longer than 30 days			25
Gap shorter than 30 days			10

**Notes:** This table summarizes the predictions from the expert-survey and contrasts them with the actual responses in the SMS survey. Standard Errors are in brackets. The number of respondents refers to the number of participants in the expert forecast. Rows that contain only responses for the SMS survey shows mean responses that the experts received information before they made their forecast. Due to slight sample adjustments after the expert survey was conducted, the actual numbers that are provided in the table differ slightly from the number that was given in the expert survey.

Figure A.1: Letter



*Institut für Arbeitsmarkt- und Berufsforschung*  
Regensburger Str. 104 · Re100 407 · 90478 Nürnberg

*Michaela Musterfrau*  
Musterstraße 1  
12345 Musterhausen

**Bei Rückfragen wenden Sie sich bitte an:**

Simon Trenkle  
Regensburger Str. 104, Re100 407  
90478 Nürnberg  
E-Mail: [IAB.SMS-Befragung@iab.de](mailto:IAB.SMS-Befragung@iab.de)  
Telefon: +49 (0)69 2547 2490

Anschreiben-ID: 52787  
Nürnberg, Datum

**Wissenschaftliche Studie zur Arbeitssuche**

Sehr geehrter Frau Musterfrau,

wie können die Erfolgchancen bei der Suche nach einem neuen Arbeitsplatz erhöht werden? Zu dieser Frage führt das Institut für Arbeitsmarkt- und Berufsforschung (IAB) eine wissenschaftliche Studie durch, bei der wir Ihre Mithilfe benötigen. Wir wollen mehr über Ihre Suche nach einem Arbeitsplatz erfahren und Sie daher bitten, an einer Befragung teilzunehmen. Durch Ihre Teilnahme unterstützen Sie das IAB in der Beratung der Bundesregierung und nehmen Einfluss auf eine Verbesserung der Arbeitsmarktpolitik.

**Kurz und knapp - Wir befragen Sie per SMS**

Die Befragung erfolgt bequem per SMS und sollte jede Woche weniger als 5 Minuten in Anspruch nehmen. Insgesamt wollen wir Sie gerne über 4 Monate hinweg befragen. Wir werden Sie in Kürze per SMS auf Ihrem Mobiltelefon kontaktieren.

**Ihre Angaben sind vertraulich**

Wir garantieren Ihnen, dass Ihre Angaben streng vertraulich nach den gesetzlichen Datenschutzbestimmungen behandelt und ausschließlich zu wissenschaftlichen Zwecken verwendet werden. Ihr Name und Ihre Mobilfunknummer werden nur für die Befragung verwendet und nach Abschluss der Befragung gelöscht. Ihre Antworten werden vertraulich behandelt und nicht mit Ihrer Person in Verbindung gebracht.

**Machen Sie mit – Amazon.de Gutscheine als Dankeschön**

Ihre Teilnahme ist selbstverständlich freiwillig. Als **Dankeschön für Ihre Teilnahme** an der gesamten Befragung erhalten Sie **Amazon.de Gutscheine im Gesamtwert von 20 Euro**. Den ersten Gutschein im Wert von 5 Euro senden wir Ihnen gleich zu Beginn der Befragung per SMS.

**Wir danken Ihnen für Ihre Mitwirkung und für Ihr Vertrauen!**

Mit freundlichen Grüßen

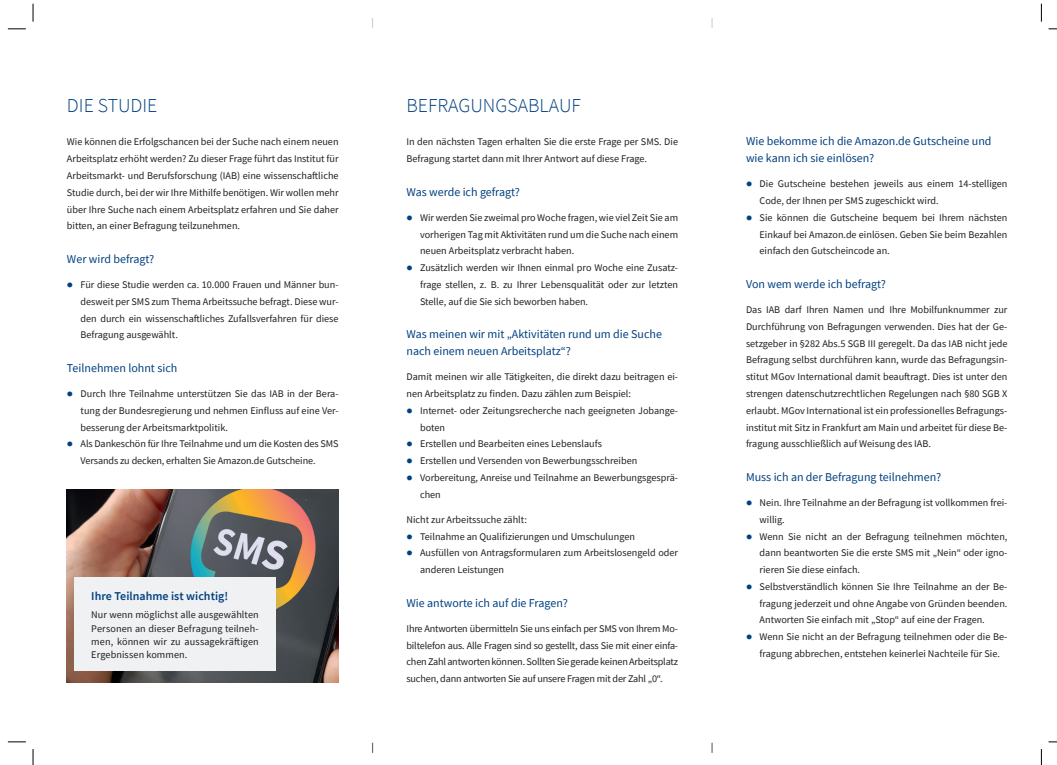
Prof. Dr. rer. pol. Ulrich Walwei  
Direktor (kommissarisch) des Instituts für Arbeitsmarkt- und Berufsforschung (IAB)

**Notes:** This figure shows the contact letter we used for contacting individuals.

Figure A.2: Flyer



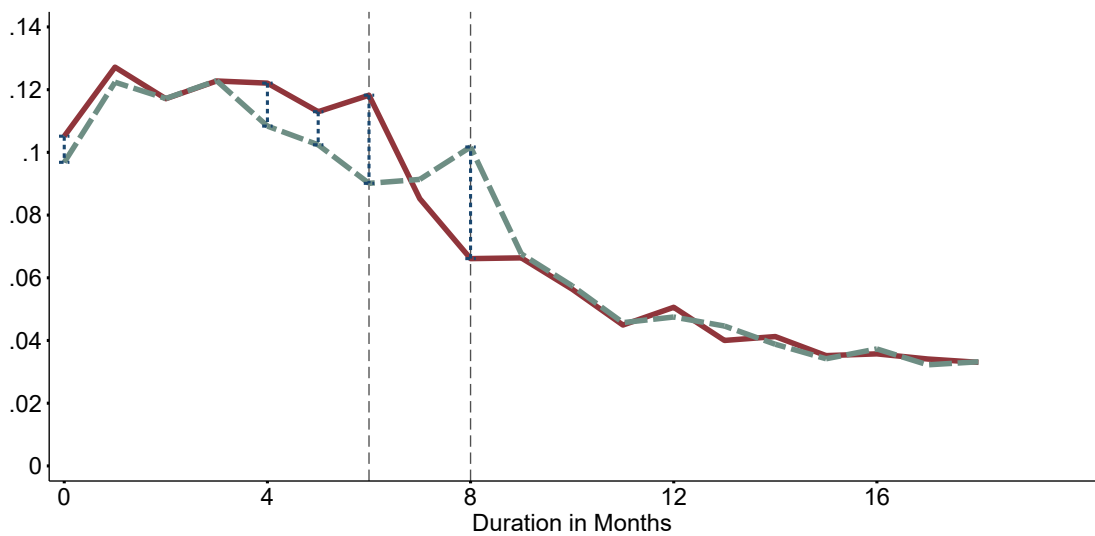
(a) Flyer - Frontpage



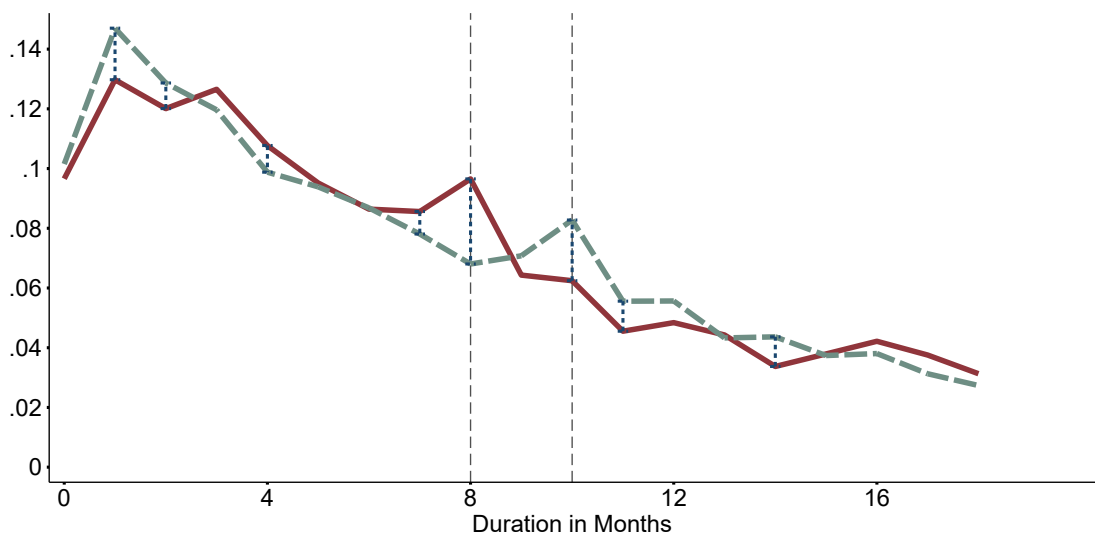
(b) Flyer - Backpage

**Notes:** This figure shows the flyer that we used for contacting individuals. It was sent together with the contact letter and contained more detailed informations on the process of the survey, some facts about data privacy protection and general information about the survey-structure.

**Figure A.3: Re-Employment Hazards - Short Contribution Durations**



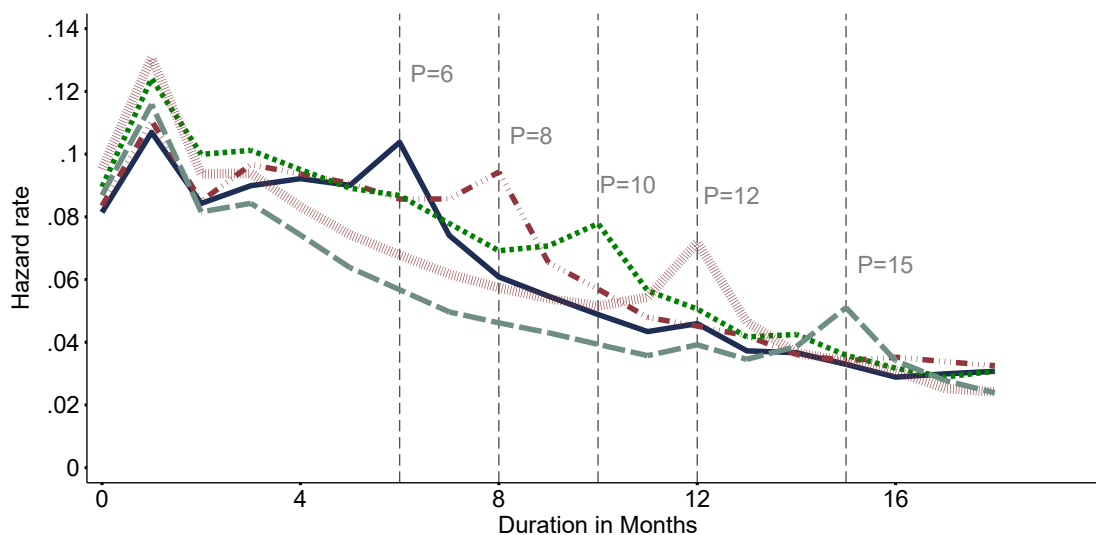
(a) 6 vs. 8 Months



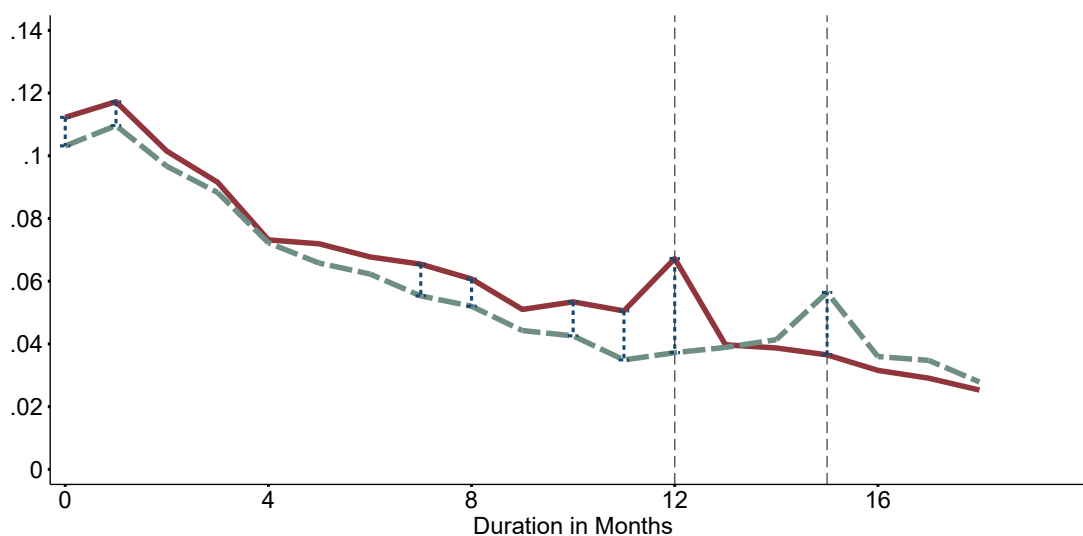
(b) 8 vs. 10 Months

**Notes:** This figure shows estimates for reemployment hazards comparing the 6 vs. 8 and 8 vs. 10 months of eligibility groups based on administrative data for UI entries between January 2017 and June 2017. Estimates stem from an RD-type regression, where we perform for each point in time a separate regression, controlling linearly for the contribution duration, with different slopes on each side of the cutoff. Numbers of observations in panel a) are 68105 for P=6, 48774 for P=8 and for panel b) 48773 for P=8 and 37396 for P=10.

**Figure A.4: Re-Employment Hazards - Excluding Recalls**



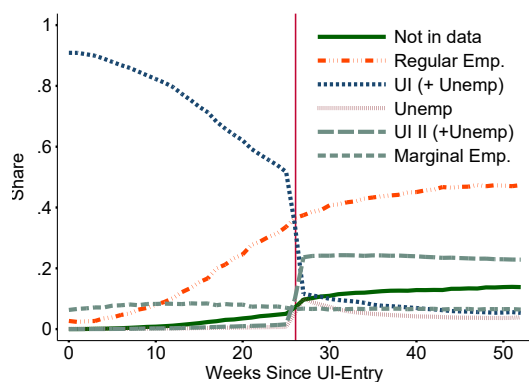
(a) Exit Hazard - Only Count Exits if New Employer



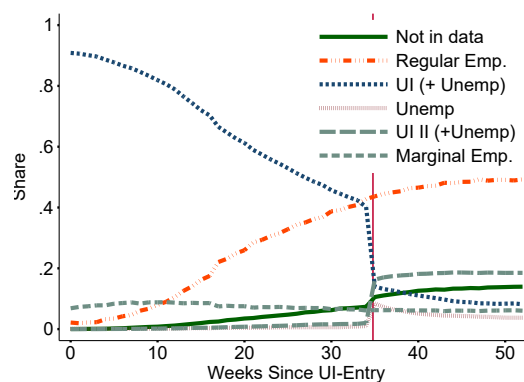
(b) RD Estimate 12 vs. 15 Months Eligibility - Only Count Exits if New Employer

**Notes:** This figure shows reemployment hazards to a different employer by PBD groups based on administrative data for UI entries between January 2017 and June 2017, excluding observations that are recalled to their pre-unemployment establishment from the risk set. Panel (a) shows hazard rates for all 5 PBD-groups, whereas figure (b) provides RD-estimates of the 12 vs. 15 month eligibility group around the discontinuity at age 50. The share of individuals that are recalled (and are therefore excluded from the sample) are by P=6: 14.8%, P=8: 16.3%, P=10: 15.0%, P=12: 11.1% and for P=15: 12.0%. We apply the same sample definition as in figure 1 with the same number of observations as in figure 1.

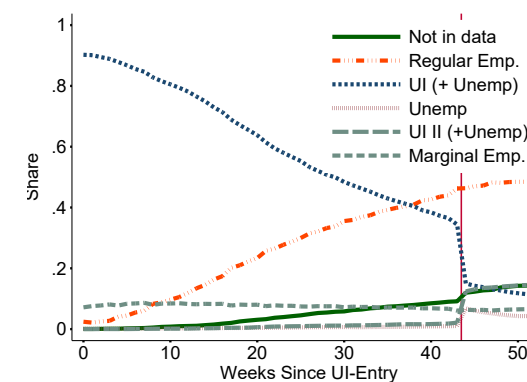
Figure A.5: Labor Market States After UI Entry



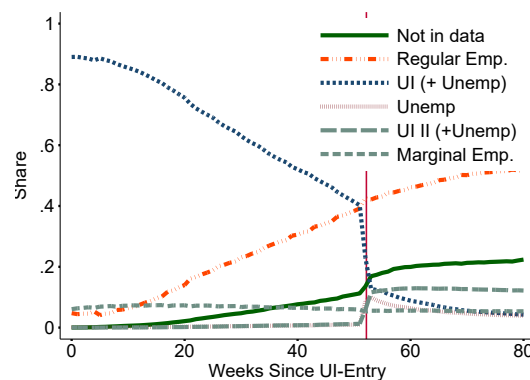
(a) P=6 Months of UI Eligibility



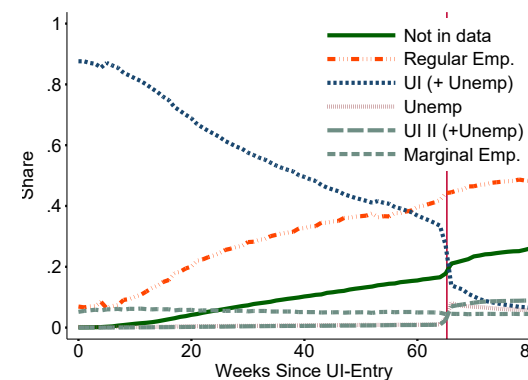
(b) P=8 Months of UI Eligibility



(c) P=10 Months of UI Eligibility



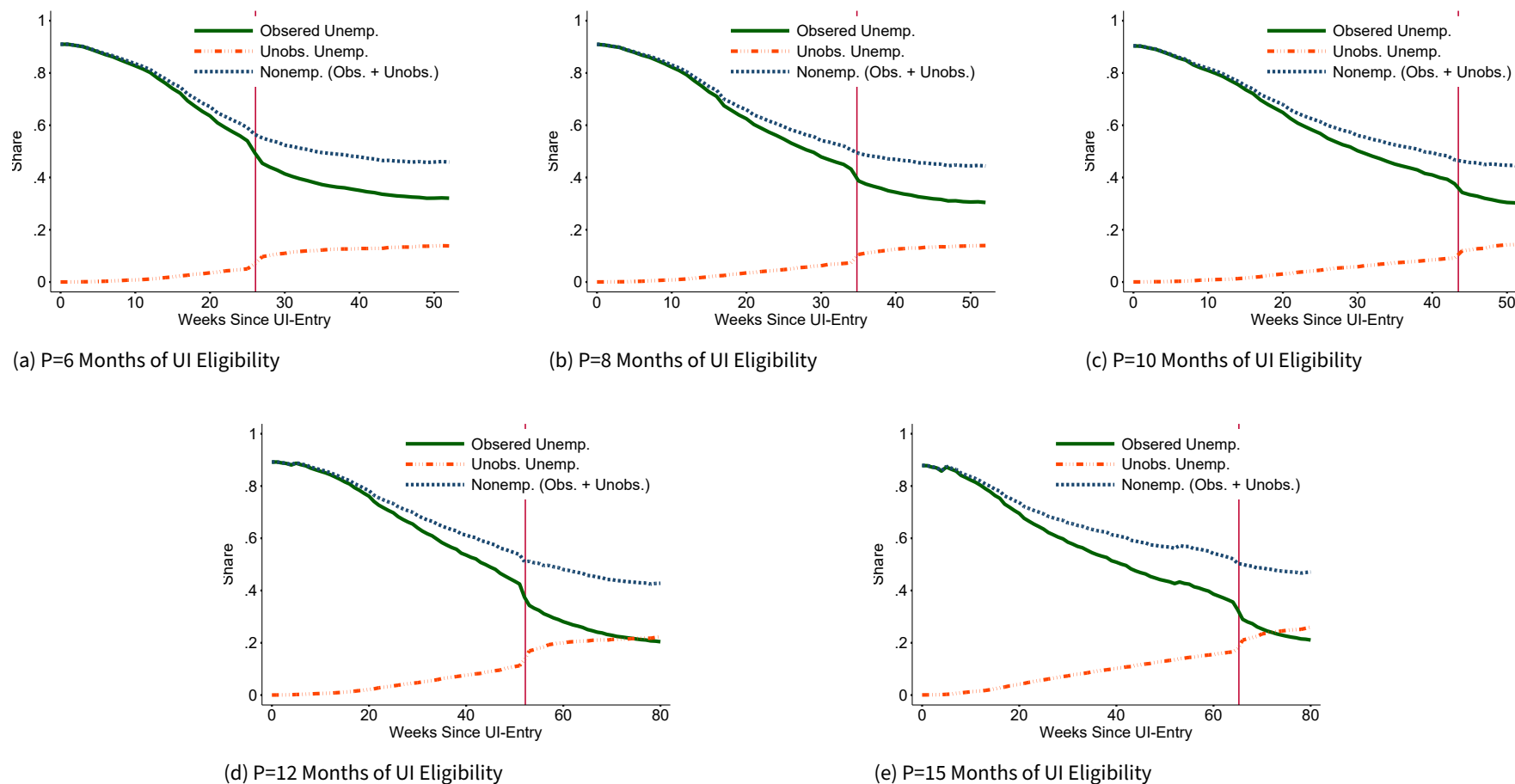
(d) P=12 Months of UI Eligibility



(e) P=15 Months of UI Eligibility

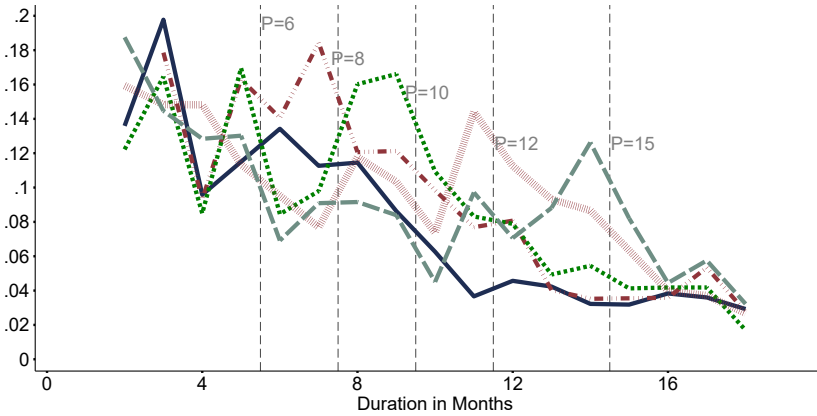
**Notes:** This figure takes all individuals in the sample frame (i.e. individuals with a positive a priori probability of being contacted, see column (2) of table 1) and plots based on the administrative data the share of different labor market states individuals are in since UI entry. To avoid right-censoring issues in the administrative data (the last date for the administrative data is 31st of December 2019), it restricts to individuals that enter UI before June 2018. Regular employment is defined as being in social security registered employment, UI is defined as an UI spell without any parallel regular employment spell, UI-II is defined as a UI-II spell without any parallel regular employment or UI receipt. Unemployment is defined as being registered as unemployed in the administrative data without any UI or UI II benefit receipt while also being not employed. Marginal employment is defined as any other observed employment-spell (consisting mostly off of mini-jobbers). Not in data refers to all states not observed in the administrative data, including self-employment, individuals exiting the labor force or other states.

Figure A.6: Labor Market States After UI Entry: Observed vs. Unobserved Nonemployment

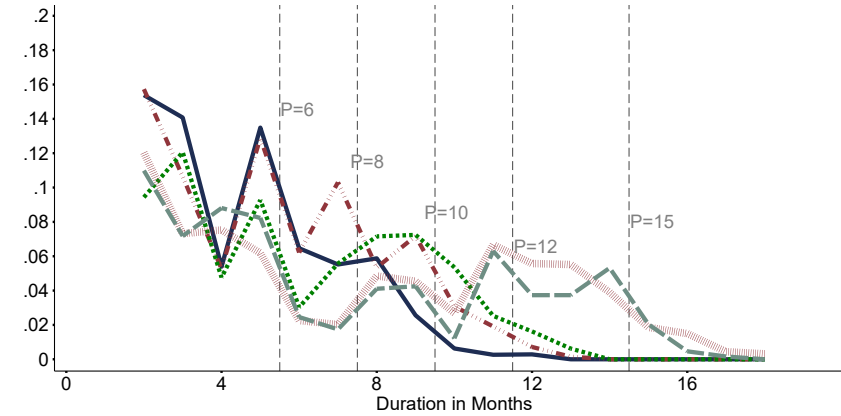


**Notes:** This figure takes all individuals in the sample frame (i.e. individuals with a positive a priori probability of being contacted, see column (2) of table 1) and examines based on the administrative data the evolution of observed unemployment (defined as any combination of UI, UI-II or registered unemployment) and unobserved unemployment (defined as neither being regularly employed nor being in observed unemployment) since UI entry. To avoid right-censoring issues in the administrative data (the last date for the administrative data is 31st of December 2019), it restricts to individuals that enter UI before June 2018.

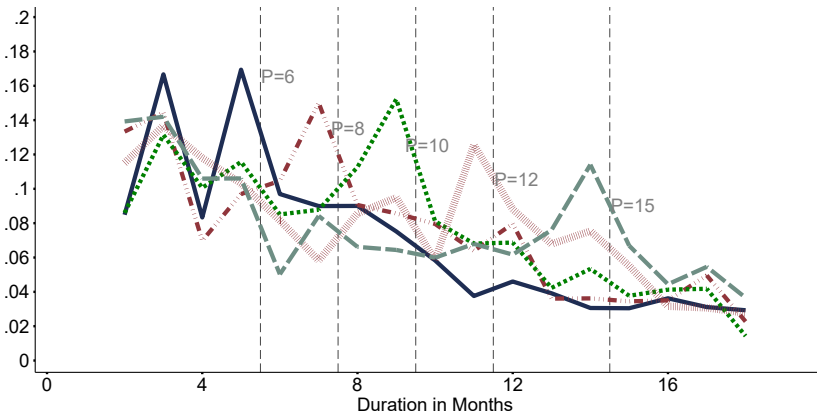
Figure A.7: Hazard Rate of Job-Finding for Survey Participants



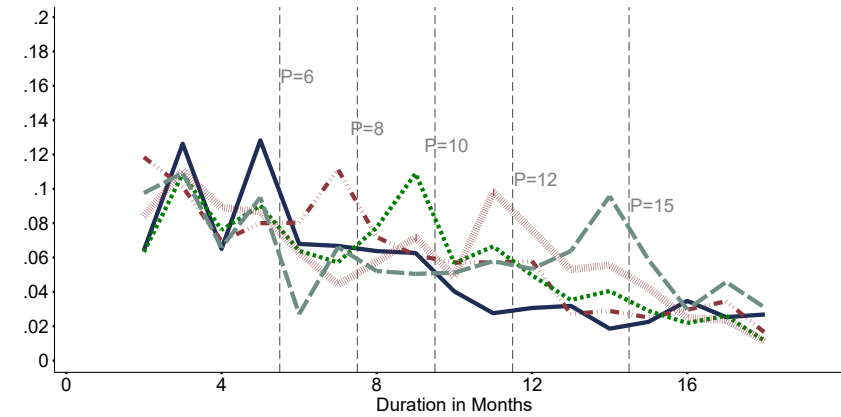
(a) Final Sample (Survey &amp; Admin Data)



(b) Survey Only



(c) Admin Only - Sample Definition

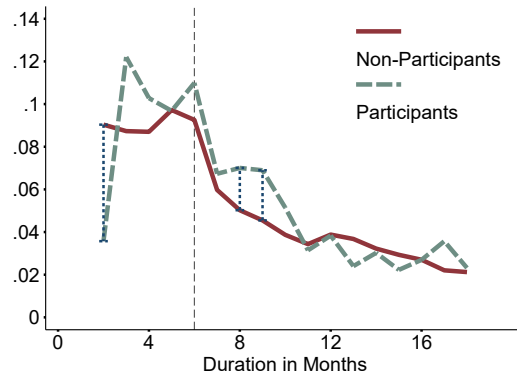


(d) Admin Only - Hazard Definition

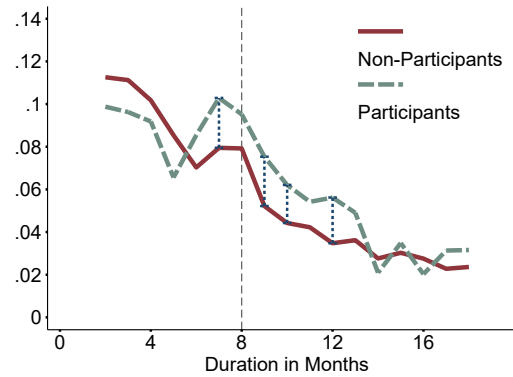
**Notes:** These figures show hazard rates of the (imputed) job found date for survey participants. Figure (a) depicts the job-found date from the combined admin and survey sample as it is used for the construction of the final sample. Figure (b) shows the hazard rates based on the survey only information. Figure (c) and (d) show hazard rates from the administrative data. Figure (c) defines the job-start date as the first social security job after UI entry, figure (d) shows the first social security reliable job that is accompanied by or succeeds an exit from UI (thereby excluding cases where individual take-up a social security job while remaining unemployed), which is the job-exit definition used for calculating hazard rates. For instances where only job-start information is available (as is the case for the administrative data and some survey responses), we impute the job-found date as the the job-start date from which we subtract 14 days.



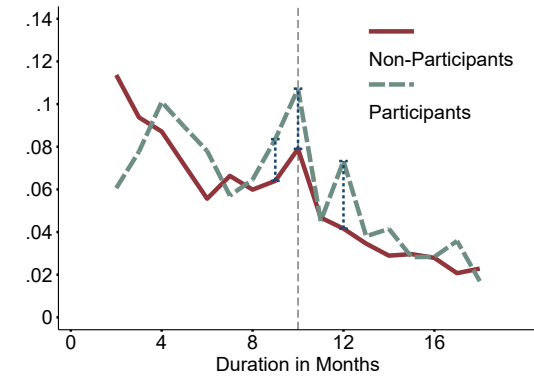
Figure A.8: Hazard Rates: Contacted vs. Participants



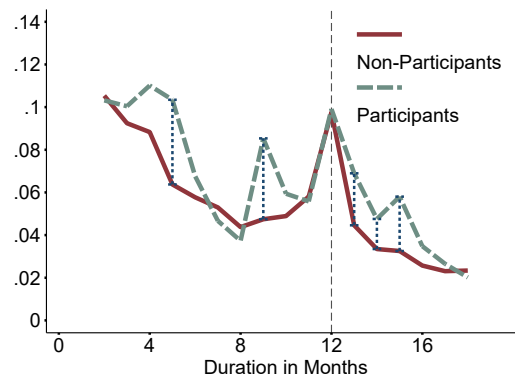
(a) P=6 Months of UI Eligibility



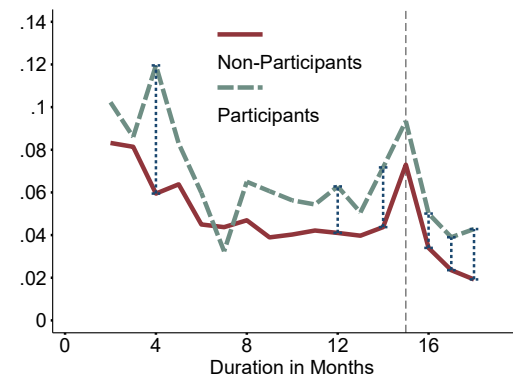
(b) P=8 Months of UI Eligibility



(c) P=10 Months of UI Eligibility



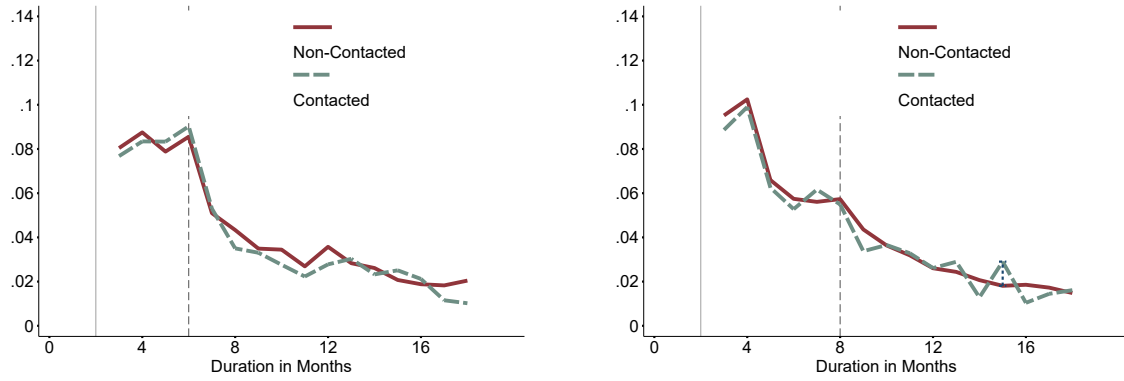
(d) P=12 Months of UI Eligibility



(e) P=15 Months of UI Eligibility

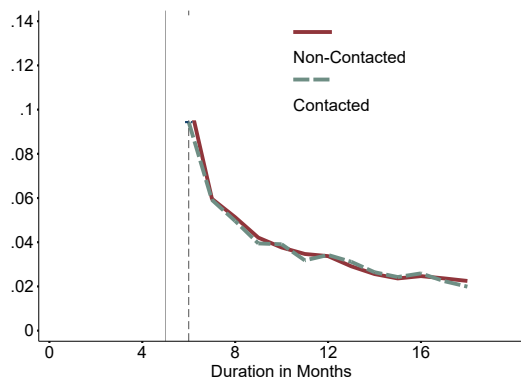
**Notes:** These figures show hazard rates for exiting nonemployment for survey participants separately by eligibility group and whether individuals participate the complete survey or drop out of the survey before. Hazard rates are calculated excluding left-censored (before individuals were contacted for the survey) or right censored observations (after december 2019) from the risk set. Vertical dashed lines indicate a significant difference in the hazard rate between the two groups at the 5% level.

**Figure A.9: Hazard Rates of Contacted vs. Non-Contacted in Sample-Frame, Selected D and P Groups**

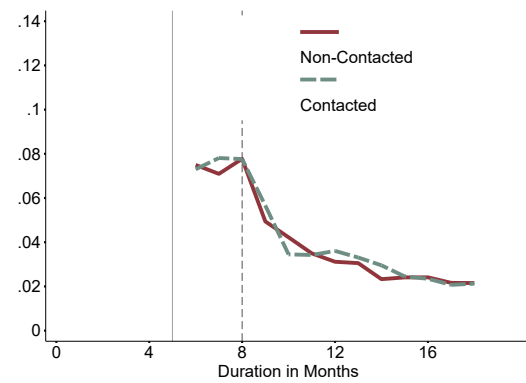


(a) P=6 Months Group, D=2 Months

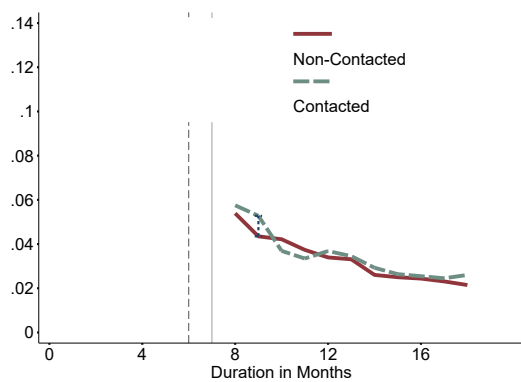
(b) P=8 Months Group, D=2 Months



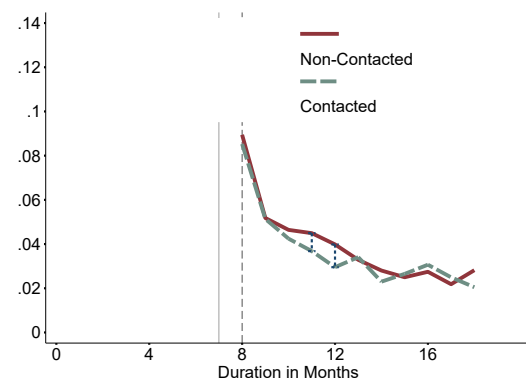
(c) P=6 Months Group, D=5 Months



(d) P=8 Months Group, D=5 Months



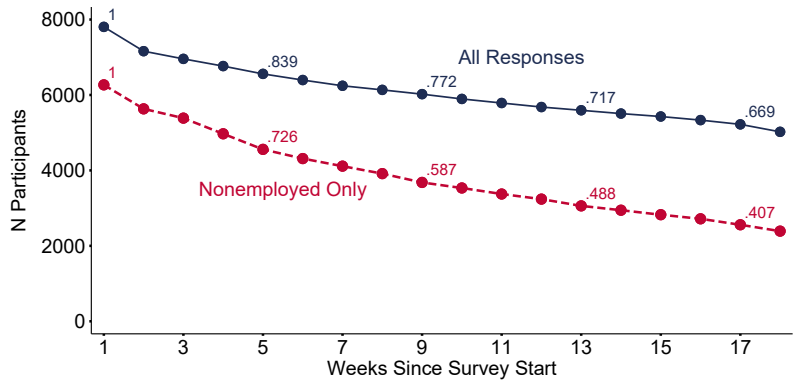
(e) P=6 Months Group



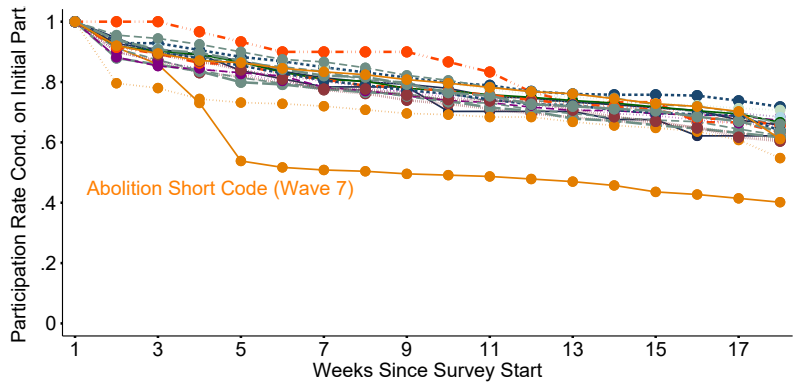
(f) P=8 Months Group

**Notes:** This figure shows hazard rates for observations in the sample-frame (i.e. individuals that had an a priory positive probability of being sampled) and compares individuals that where sampled with those that were not for each PxD group separately.

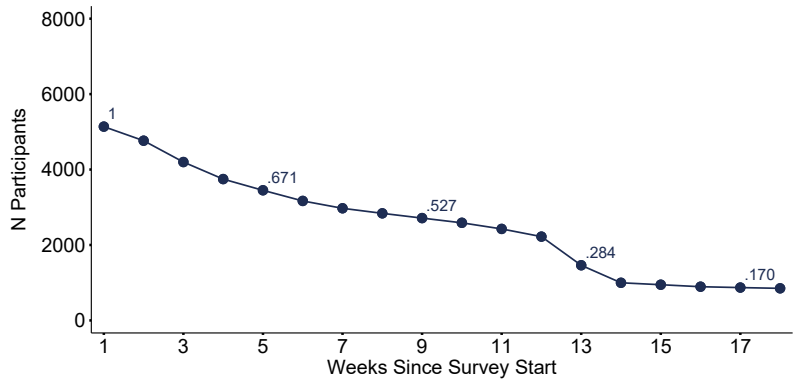
**Figure A.10: Survey Attrition over Time**



(a) Overall Attrition over Time



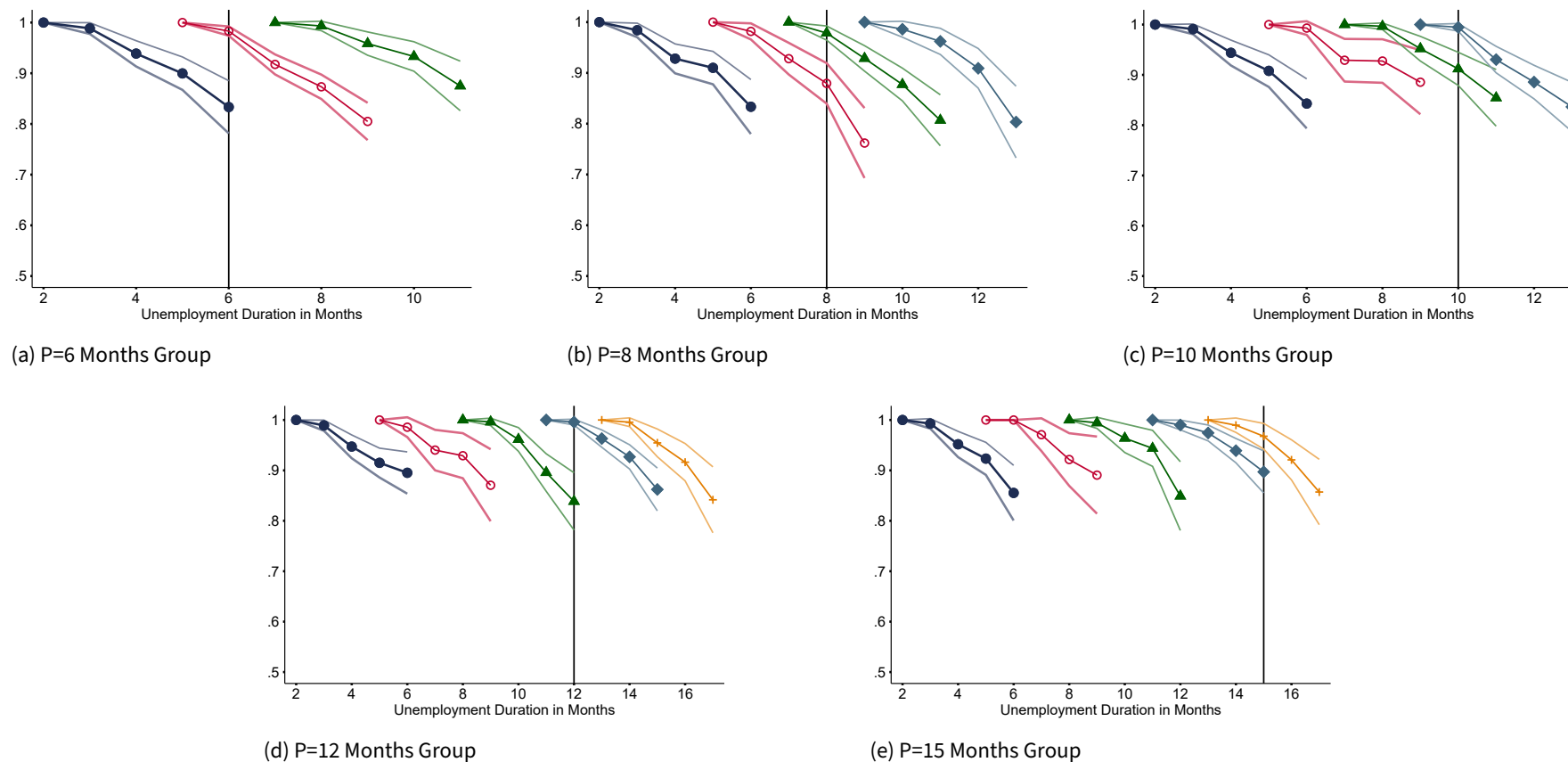
(b) Attrition by Wave over Time



(c) Attrition over Time - KM Analysis

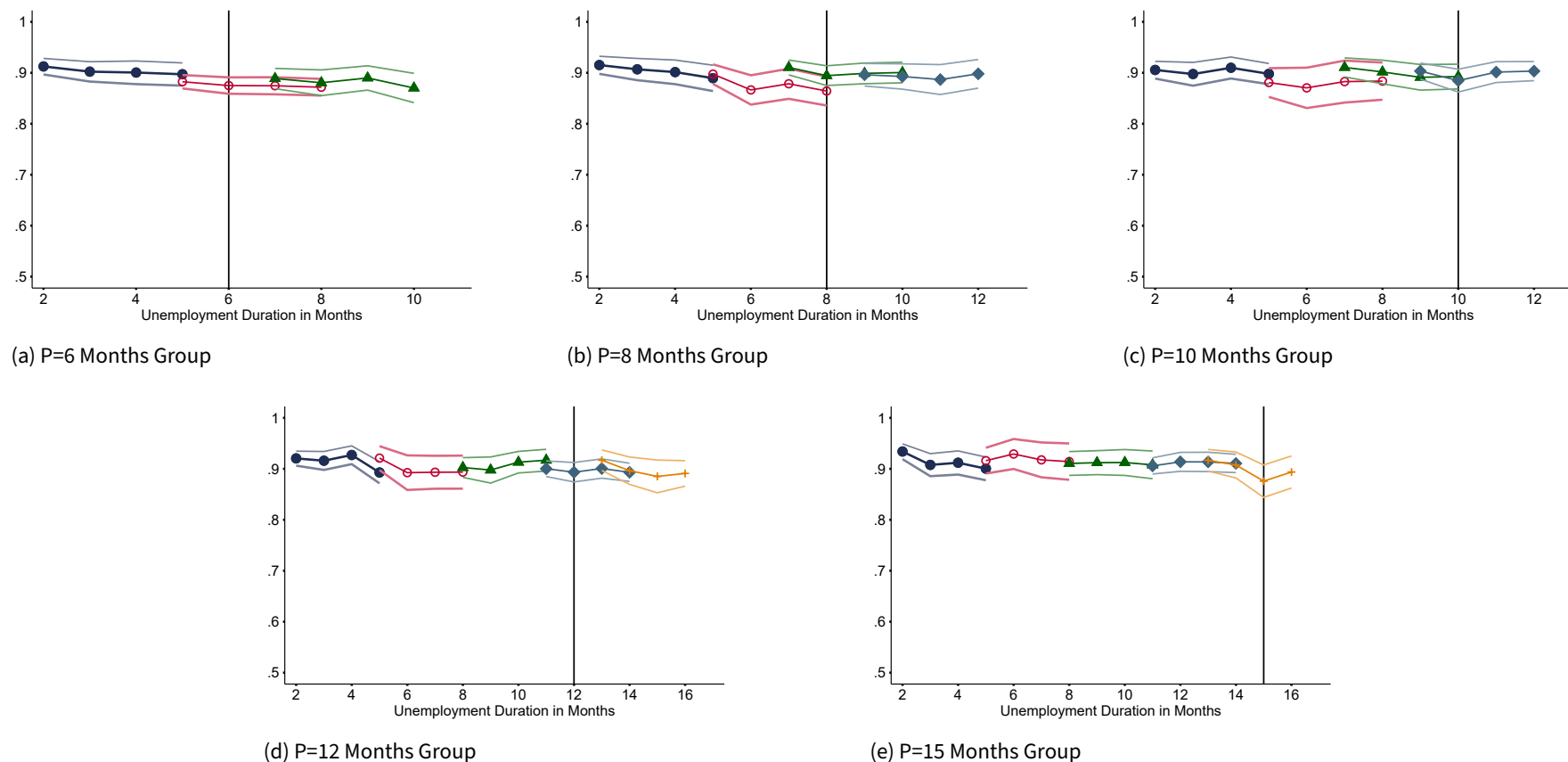
**Notes:** The upper figure shows the weekly attrition rate over time (since survey start), conditioning on responding to at least one survey question for all survey participants and for nonemployed individuals. Attrition for all (solid blue line) is defined as never having a valid response to job-search again, whereas attrition from nonemployment (dashed red line) is defined as never responding to a question of job-search while nonemployed. The middle figure shows the weekly response-rate split by wave over time (since survey start) for individuals consented initially. The lower figure refers to the Krueger and Mueller data.

Figure A.11: Survey Attrition over the Unemployment Spell by Survey Cohort



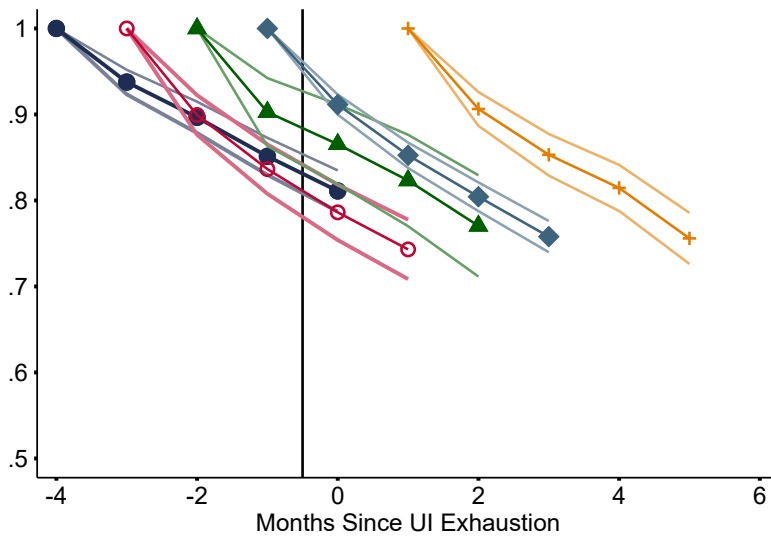
**Notes:** This figure shows cohort plots for P=6 to P=15 months. 95% CI (SE clustered on individual level) are displayed as outer lines (CI values outside the displayed range are censored for the ease of exposition). Attrition is defined as never having a valid response to job search again. A cohort is defined as the duration in months on UI at time of first contact. It contains the months 2,3,5,8,11,13. Values that are -due to slight differences in definition of cohorts in earlier waves- outside those range are increased by one month such that they fit in the listed month range. One dot represents observations from 4 weeks. Since responses are restricted to the regular survey duration (up to 18 weeks), the last dot of each cohort contains only observations from two weeks.

Figure A.12: Response Share to Job-Search Question Conditioning on no final attrition

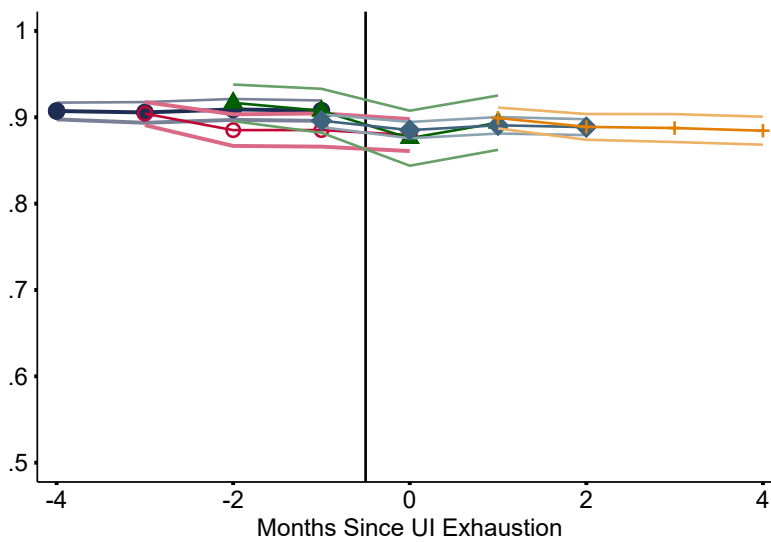


**Notes:** This figure shows cohort plots for P=6 to P=15 months. 95% CI (SE clustered on individual level) are displayed as outer lines (CI values outside the displayed range are censored for the ease of exposition). The response variable is equal one if individuals responding to a job search question, zero if they don't respond and missing, in case individuals do not have any future response. We exclude the last survey month as the conditioning on a future response would lead to an automatic upward bias in survey response when approaching the end of the survey. A cohort is defined as the duration in months on UI at time of first contact. It contains the months 2,3,5,8,11,13. Values that are -due to slight differences in definition of cohorts in earlier waves- outside those range are increased by one month such that they fit in the listed month range. One dot represents observations from 4 weeks. Since responses are restricted to the regular survey duration (up to 18 weeks), the last dot of each cohort contains only observations from two weeks.

Figure A.13: Survey Attrition and Response Rate



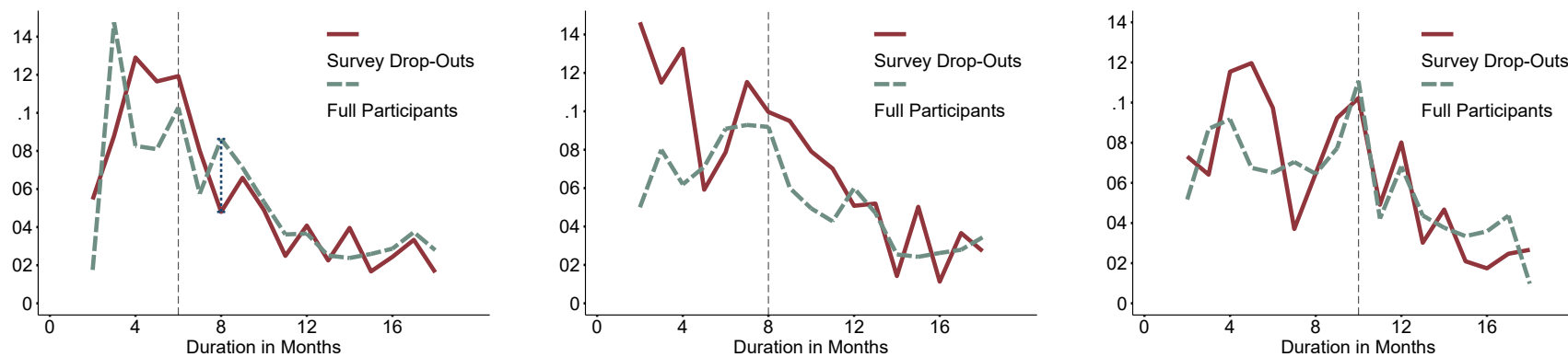
(a) Survey Attrition



(b) Response Rate Conditional on Future Response

**Notes:** This figure shows cohort plots for (a) survey attrition and (b) response rate conditional on future response around UI exhaustion, pooling different cohorts that start at identical months since UI exhaustion

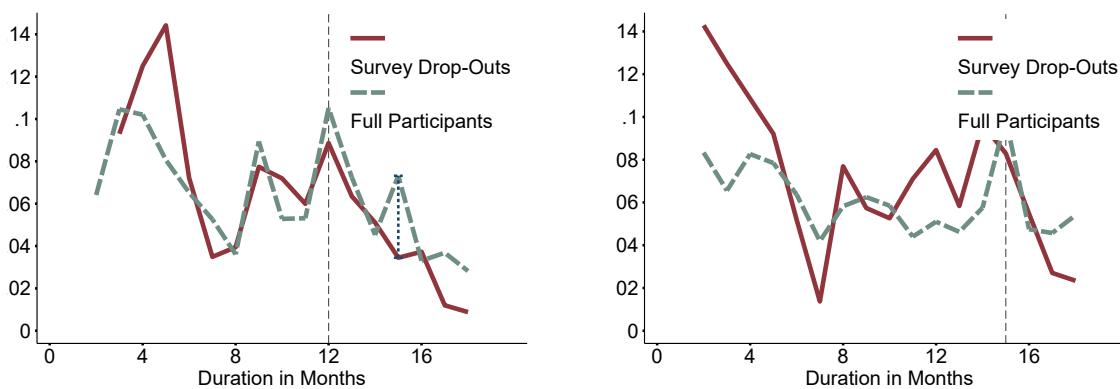
**Figure A.14: Hazard Rates: Full Participants vs. Early Dropouts**



(a) P=6 Months of UI Eligibility

(b) P=8 Months of UI Eligibility

(c) P=10 Months of UI Eligibility

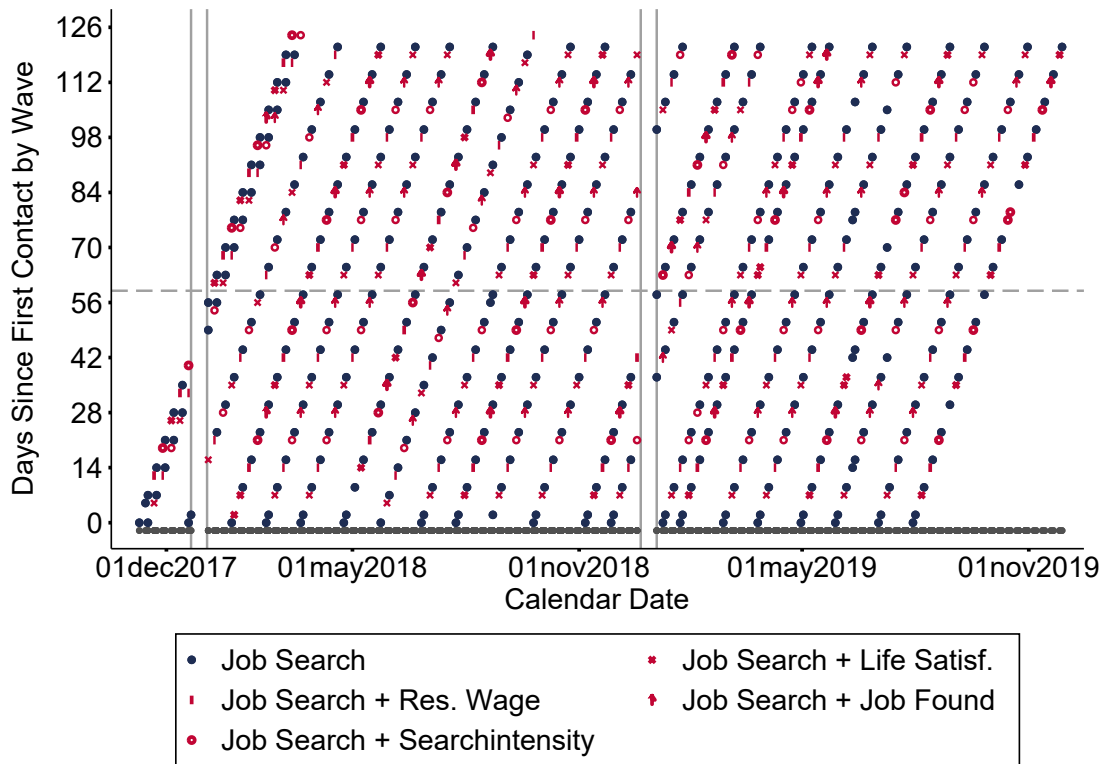


(d) P=12 Months of UI Eligibility

(e) P=15 Months of UI Eligibility

**Notes:** These figures shows hazard rates for exiting nonemployment for survey participants separately by eligibility group and whether individuals participate the complete survey or drop out of the survey before. Hazard rates are calculated excluding left-censored (before individuals where contacted for the survey) or right censored observations (after december 2019) from the risk set. Vertical dashed lines indicate a significant difference in the hazard rate between the two groups at the 5% level.

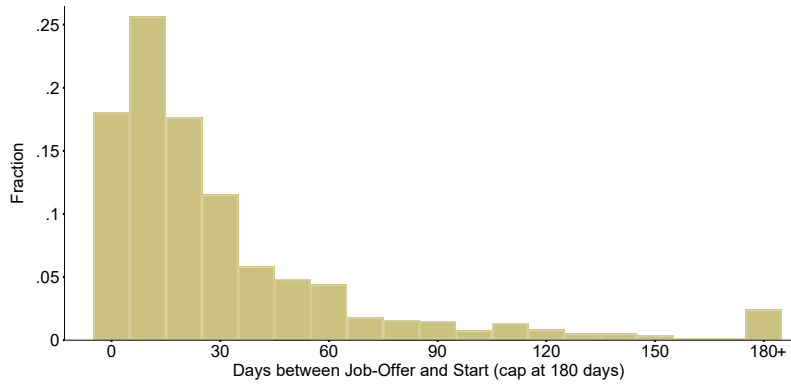
Figure A.15: Question-Day by Wave over Time



**Notes:** This figure shows the dates by wave at which individuals were asked about (and responded to) a job-search question both as calendar date and relative to the wave-specific contact date. Solid vertical lines around the year ends mark the holiday season where we do not contact. (December 25th, December 26th and January 1st are full-day holidays, December 24th and 31st are half-day holidays in Germany.)



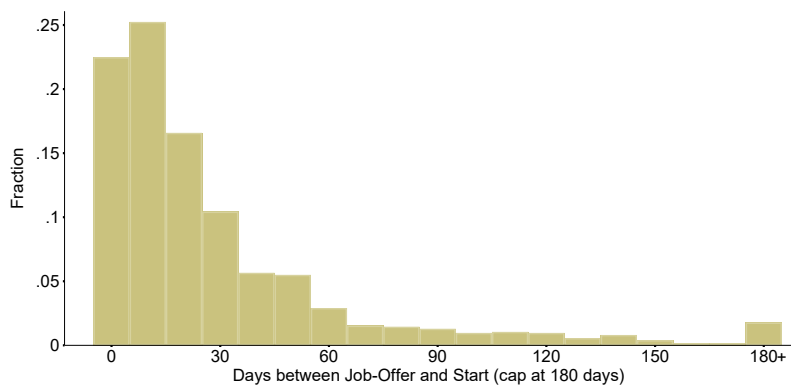
**Figure A.16: Distribution of Job-Offer, Job-Acceptance, and Job-Start**



(a) Job-Offer until Job-Start



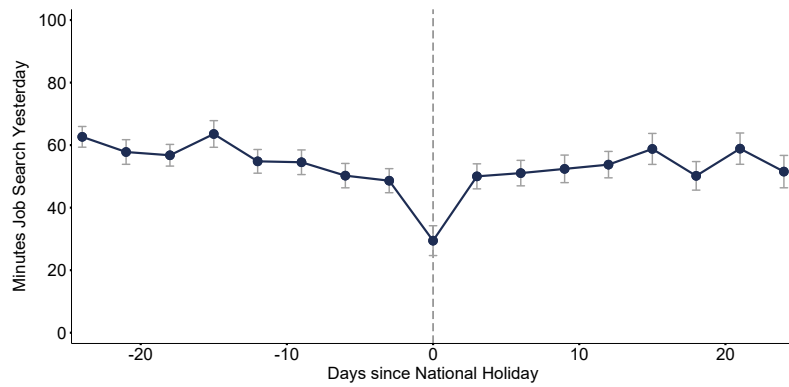
(b) Job-Offer until Job-Acceptance



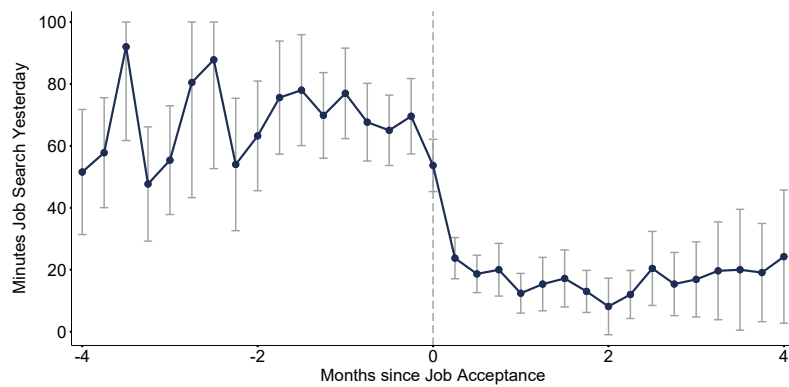
(c) Job-Acceptance until Job-Start

**Notes:** The upper figure shows the distribution of days between job-offer and job-start, the second one the days between job-offer and job-acceptance and the third one the days between job-acceptance and job-start, provided that the response to both dates used in the relevant figures are non-missing. In all graphs, negatives values are set to missing, values above 180 days are winsorized.

**Figure A.17: Validation of Search Effort in the KM Survey: Search Effort at Holidays and around Job Acceptance**



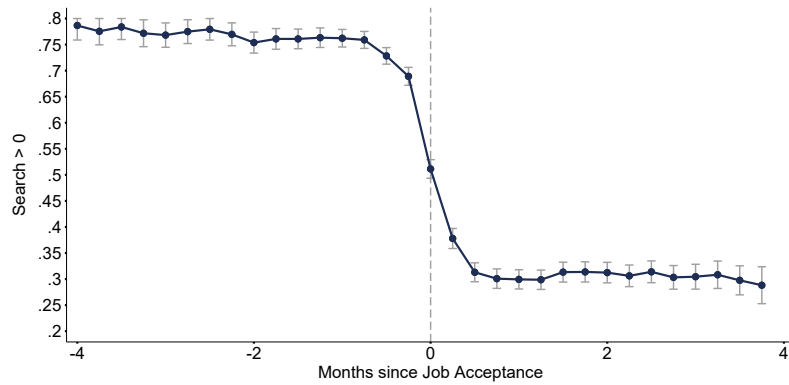
(a) Search Effort Around Holidays



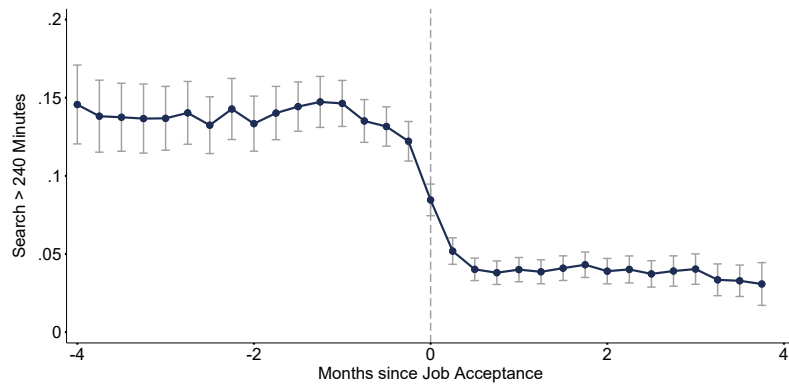
(b) Search Effort Around Job Acceptance

**Notes:** This figure shows search effort around job-acceptance and around holidays in the KM diary data. 95% CI (based on SE clustered on the individual level) are indicated with grey horizontal lines. Holidays in figure (a) include Thanksgiving, Christmas, New Year, MLK day and Presidents day.

Figure A.18: Validation of Search Effort: Distribution of Search Effort around Job Acceptance



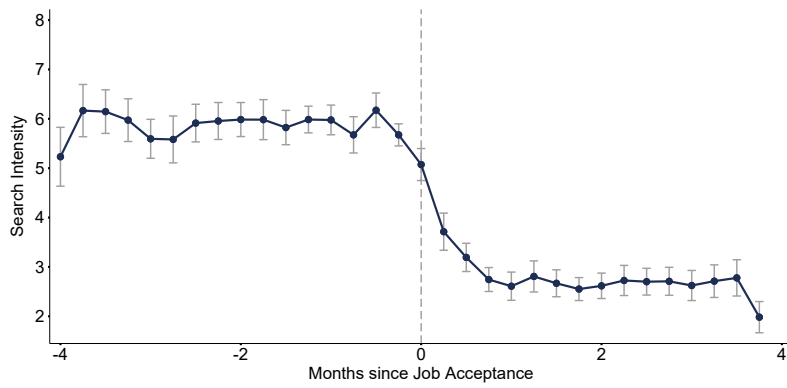
(a) Any Search Around Job Acceptance



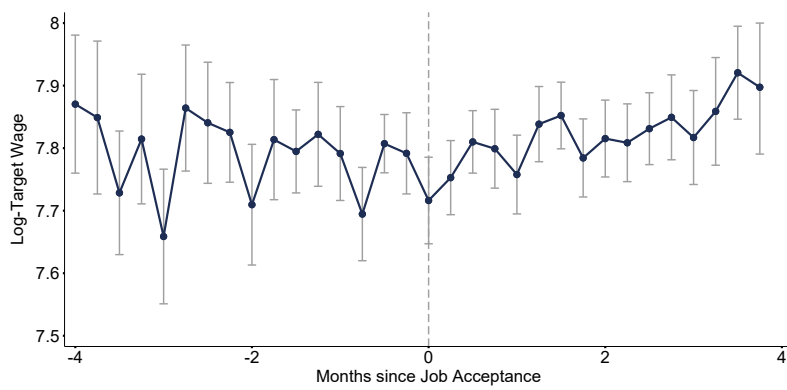
(b) Search  $\geq 240$  min. Around Job Acceptance

**Notes:** This figure shows different threshold definitions of search effort around job-acceptance. Event dates are normalized to zero. SE are clustered on individual level.

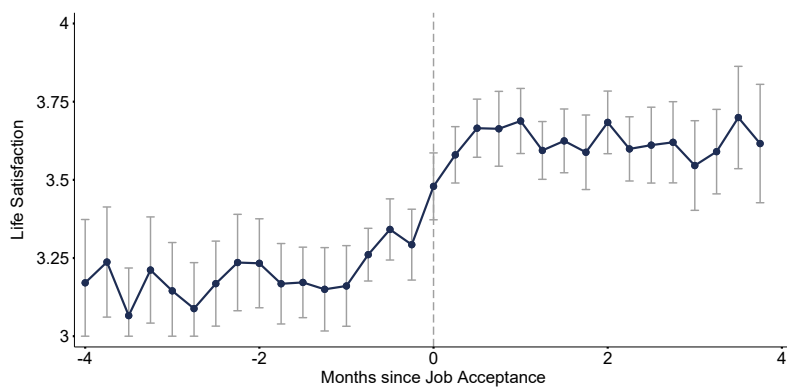
**Figure A.19: Validation of Search Effort: Search Intensity, Target Wage and Life Satisfaction around Job Acceptance**



(a) Search Intensity Around Job Acceptance



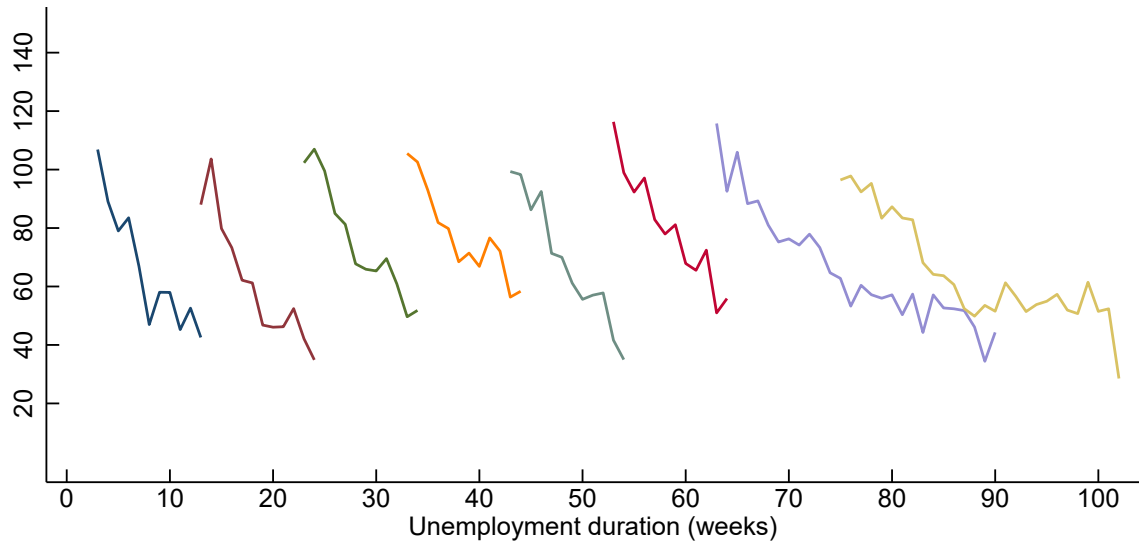
(b) Log Target Wage Around Job Acceptance



(c) Life Satisfaction Around Job Acceptance

**Notes:** This figure shows other mean of outcomes around job-acceptance. Event dates are normalized to zero. SE are clustered on individual level.

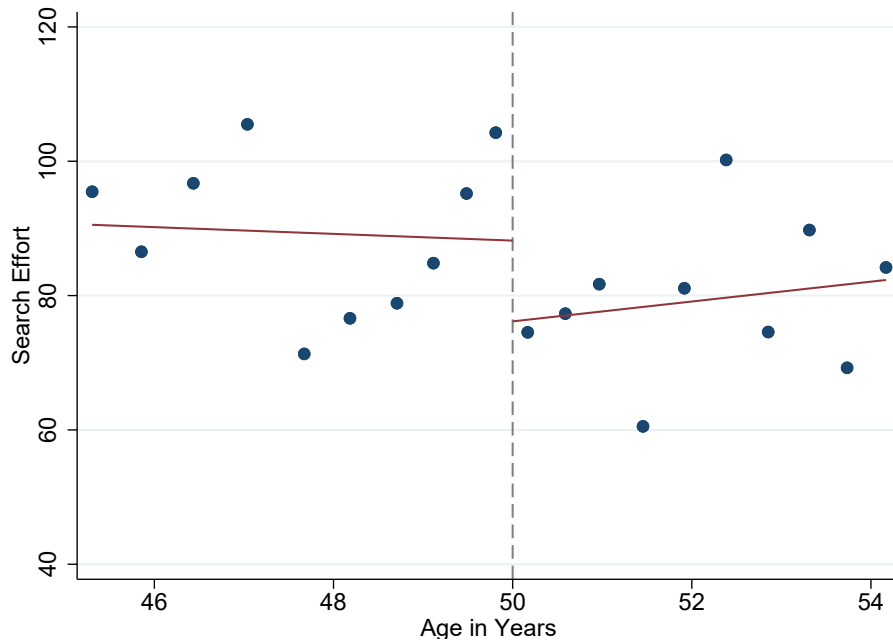
Figure A.20: Within- and Between-Person Job Search Effort in Krueger and Mueller (2011)



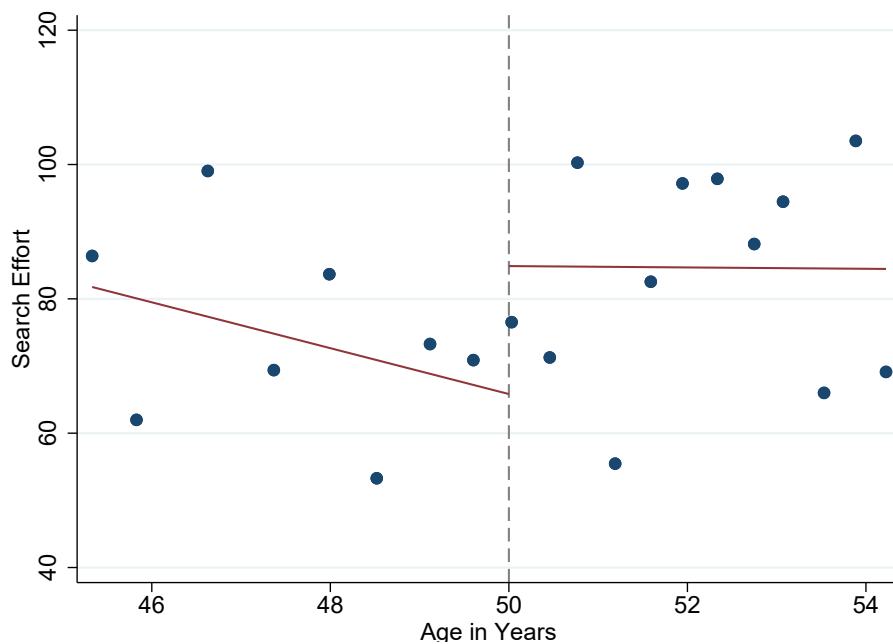
(a) Minutes of Job Search on Previous Day (time diary)

**Notes:** The figure replicates Figure 3 Panel A from Krueger and Mueller (2011) based on their publicly available data set. Each line shows the evolution of job search for a separate cohort (that is a group of individuals who were sampled at the same time at a specific unemployment duration). The figure is based on time diary information in the KM data and reports the minutes searched per day.

Figure A.21: Job-Search Around Age-Cutoff where P increased from 12 to 15 Months



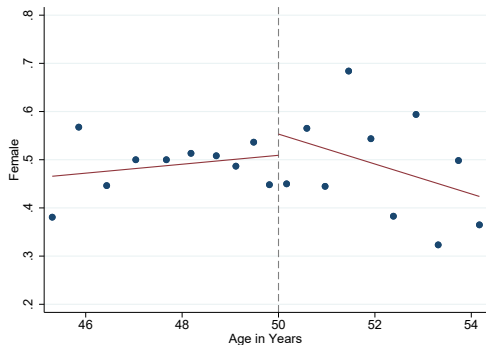
(a) 11 Months Since UI Start



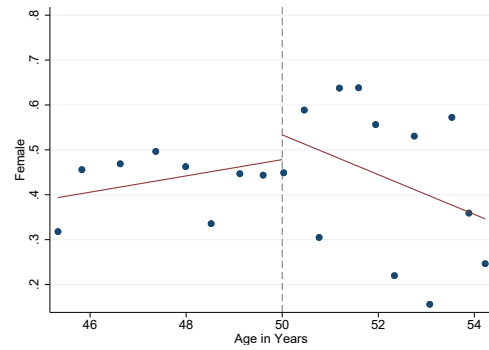
(b) 14 Months Since UI Start

**Notes:** This figure shows RDD results from an increase in UI eligibility from 12 to 15 months. It is based on the age-cutoff at age 50 where UI increases sharply from 12 to 15 months. It restricts to observations with a valid response to job-search, still being nonemployed, a band-width of 5 age-years on each side of the cutoff, and to responses in the 11th month of the nonemployment spell (figure a) and the 14th month of the nonemployment spell (figure b).

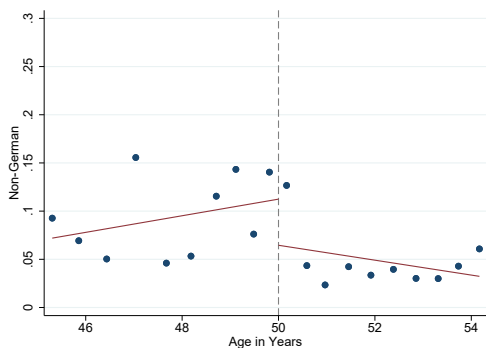
**Figure A.22: Predetermined Variables Around Cutoff**



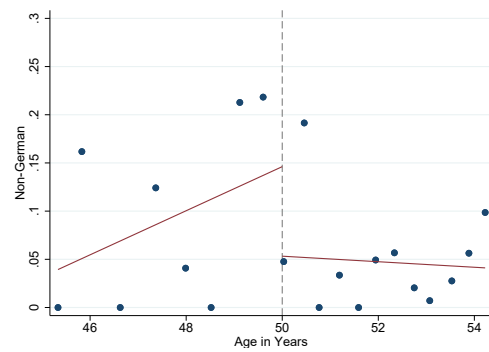
(a) Female, 11 Months Since UI Start



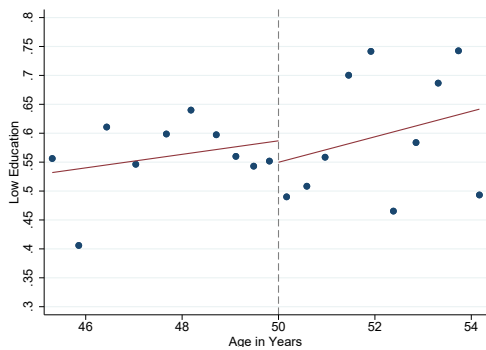
(b) Female, 14 Months Since UI Start



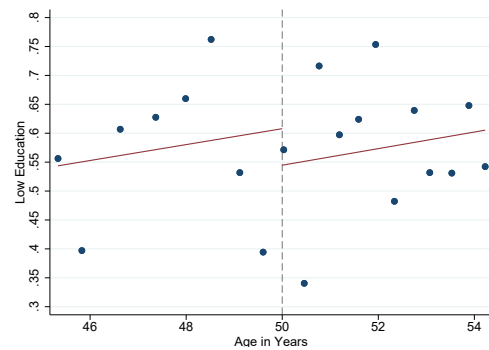
(c) Non-Ger., 11 Mon. Since UI Start



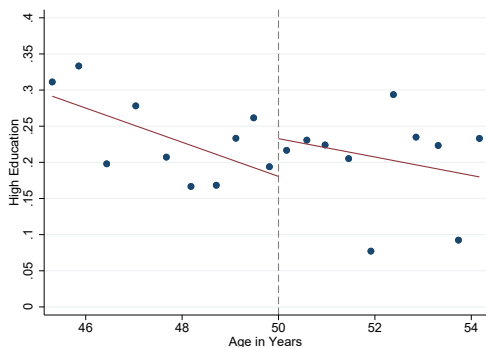
(d) Non-Ger., 14 Mon. Since UI Start



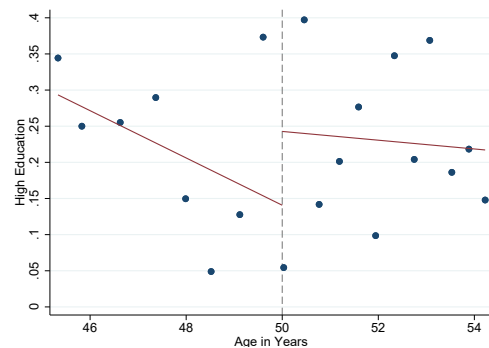
(e) Low-Edu., 11 Mon. Since UI Start



(f) Low-Edu., 14 Mon. Since UI Start



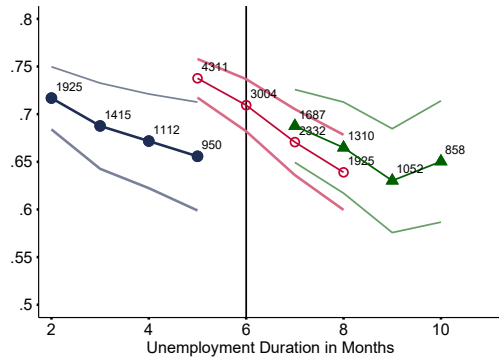
(g) High-Edu., 11 Mon. Since UI Start



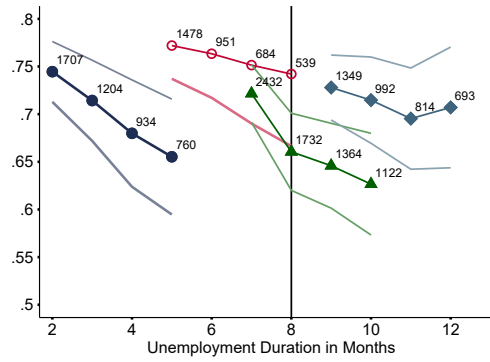
(h) High-Edu., 14 Mon. Since UI Start

**Notes:** This figure shows RDD results from an increase in UI eligibility from 12 to 15 months. It is based on the age-cutoff at age 50 where UI increases sharply from 12 to 15 months. days of working experience during the previous 5 years where UI eligibility increases sharply from 8 to 10 months. It restricts to observations with a valid response to job-search, still being nonemployed, a band-width of 5 age-years on each side of the cutoff, to being contacted first at month 11 of the unemployment spell, and to responses in the 14th month of the nonemployment spell.

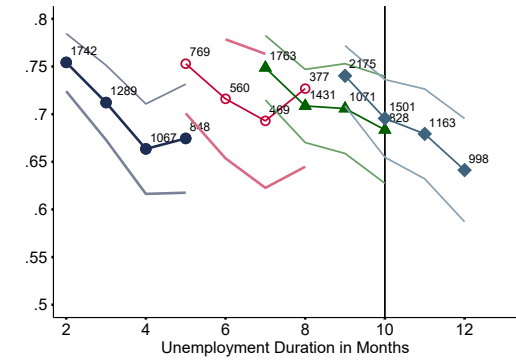
Figure A.23: Dummy: Search > 0 over the Unemployment Spell by Survey Cohort



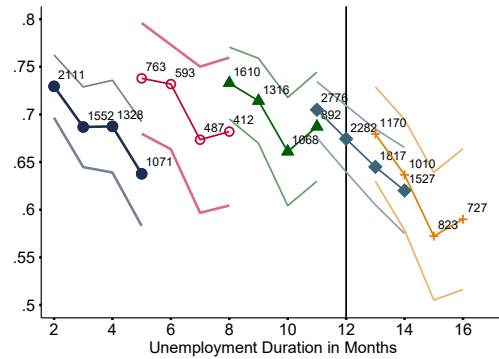
(a) P=6 Months Group



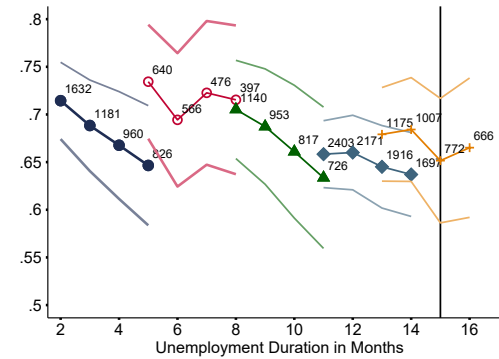
(b) P=8 Months Group



(c) P=10 Months Group



(d) P=12 Months Group



(e) P=15 Months Group

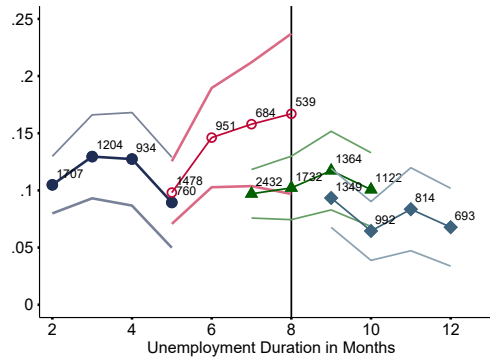
**Notes:** This figure shows cohort plots for P=6 to P=15 months. 95% CI (SE clustered on individual level) are displayed as outer lines (CI values outside the displayed range are censored for the ease of exposition). Numbers at a dot refer to the numbers of observations on which the dot is based. A cohort is defined as the duration in months on UI at time of first contact. It contains the months 2,3,5,8,11,13. Values that are -due to slight differences in definition of cohorts in earlier waves- outside those range are increased by one month such that they fit in the listed month range. One dot represents observations from 4 weeks. Since responses are restricted to the regular survey duration (up to 18 weeks), the last dot of each cohort contains only observations from two weeks.



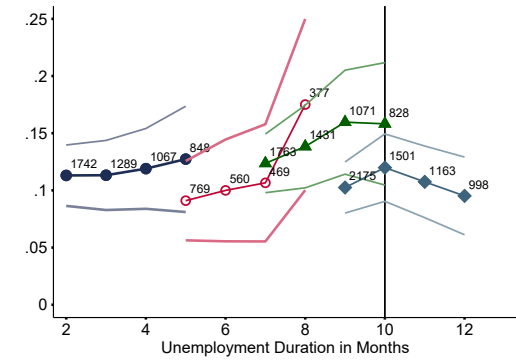
Figure A.24: Dummy: Search  $\geq 240$  Minutes over the Unemployment Spell by Survey Cohort



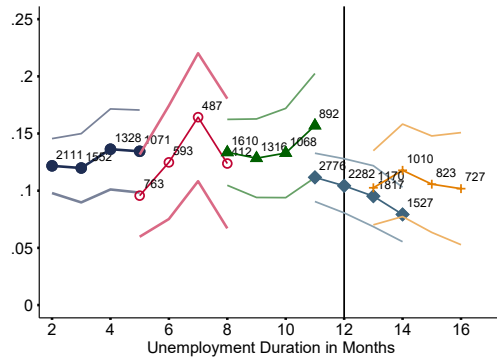
(a) P=6 Months Group



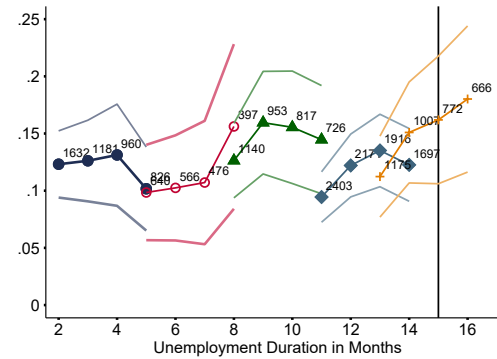
(b) P=8 Months Group



(c) P=10 Months Group



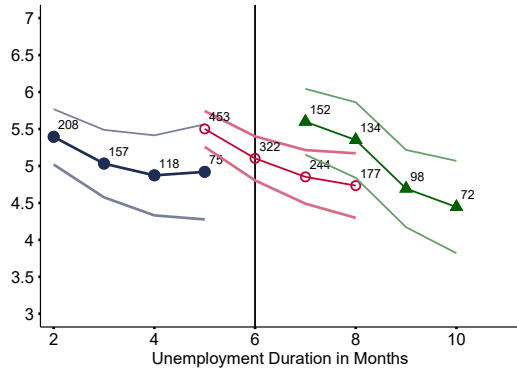
(d) P=12 Months Group



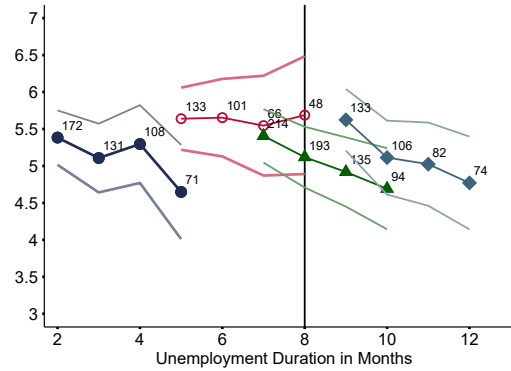
(e) P=15 Months Group

**Notes:** This figure shows cohort plots for P=6 to P=15 months. 95% CI (SE clustered on individual level) are displayed as outer lines (CI values outside the displayed range are censored for the ease of exposition). Numbers at a dot refer to the numbers of observations on which the dot is based. A cohort is defined as the duration in months on UI at time of first contact. It contains the months 2,3,5,8,11,13. Values that are -due to slight differences in definition of cohorts in earlier waves- outside those range are increased by one month such that they fit in the listed month range. One dot represents observations from 4 weeks. Since responses are restricted to the regular survey duration (up to 18 weeks), the last dot of each cohort contains only observations from two weeks.

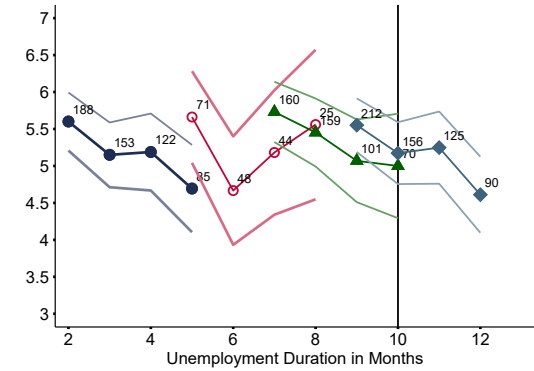
Figure A.25: Qualitative Search Intensity (Scale 1 to 10) over the Unemployment Spell by Survey Cohort



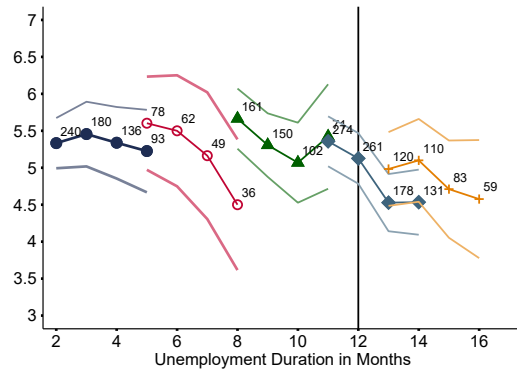
(a) P=6 Months Group



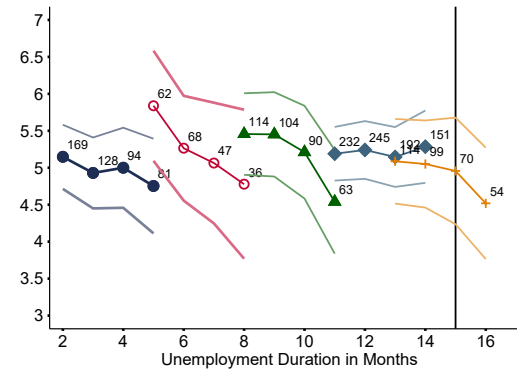
(b) P=8 Months Group



(c) P=10 Months Group



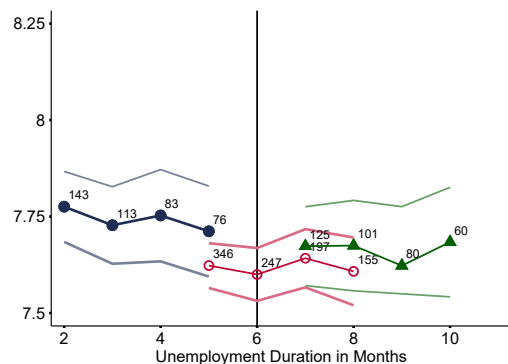
(d) P=12 Months Group



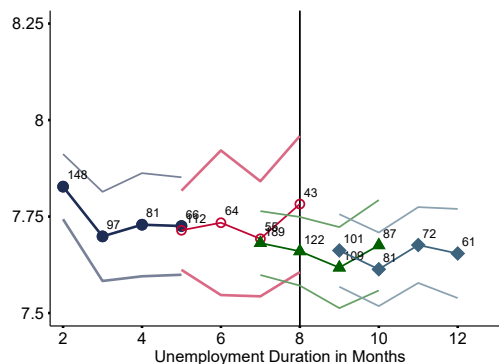
(e) P=15 Months Group

**Notes:** This figure shows cohort plots for P=6 to P=15 months. 95% CI (SE clustered on individual level) are displayed as outer lines (CI values outside the displayed range are censored for the ease of exposition). Numbers at a dot refer to the numbers of observations on which the dot is based. A cohort is defined as the duration in months on UI at time of first contact. It contains the months 2,3,5,8,11,13. Values that are -due to slight differences in definition of cohorts in earlier waves- outside those range are increased by one month such that they fit in the listed month range. One dot represents observations from 4 weeks. Since responses are restricted to the regular survey duration (up to 18 weeks), the last dot of each cohort contains only observations from two weeks.

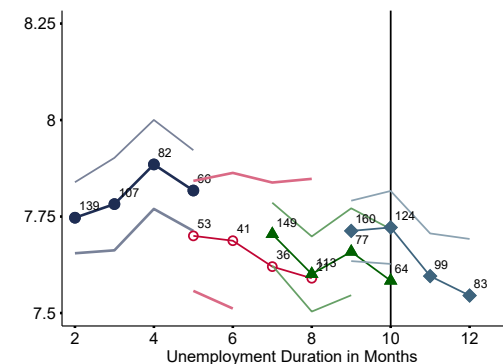
Figure A.26: Log-Target Wage over the Unemployment Spell by Survey Cohort



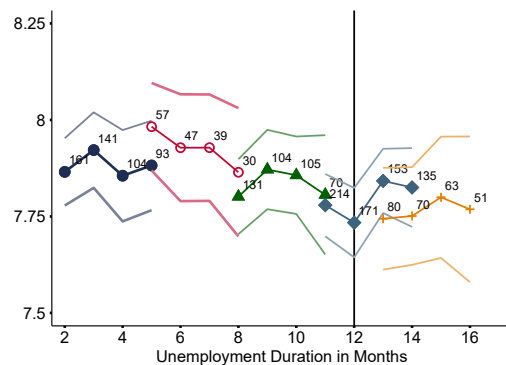
(a) P=6 Months Group



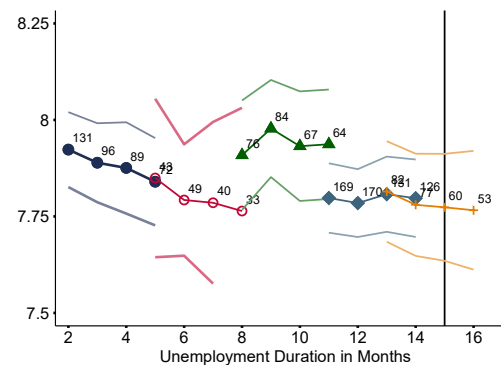
(b) P=8 Months Group



(c) P=10 Months Group



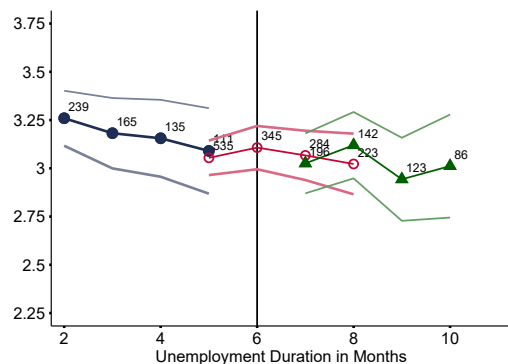
(d) P=12 Months Group



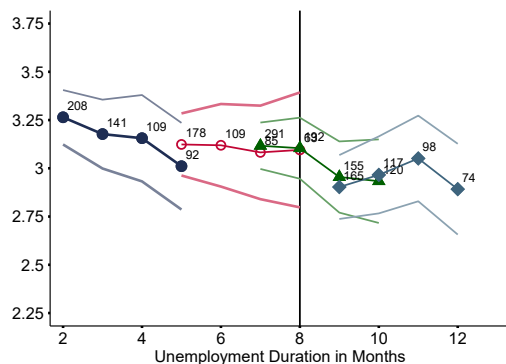
(e) P=15 Months Group

**Notes:** This figure shows cohort plots for P=6 to P=15 months. 95% CI (SE clustered on individual level) are displayed as outer lines (CI values outside the displayed range are censored for the ease of exposition). Numbers at a dot refer to the numbers of observations on which the dot is based. A cohort is defined as the duration in months on UI at time of first contact. It contains the months 2,3,5,8,11,13. Values that are -due to slight differences in definition of cohorts in earlier waves- outside those range are increased by one month such that they fit in the listed month range. One dot represents observations from 4 weeks. Since responses are restricted to the regular survey duration (up to 18 weeks), the last dot of each cohort contains only observations from two weeks.

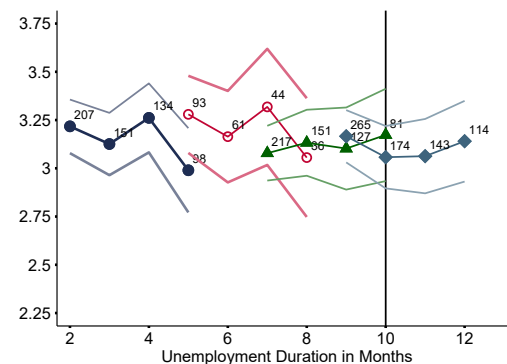
Figure A.27: Life Satisfaction (Scale 1 to 5) over the Unemployment Spell by Survey Cohort



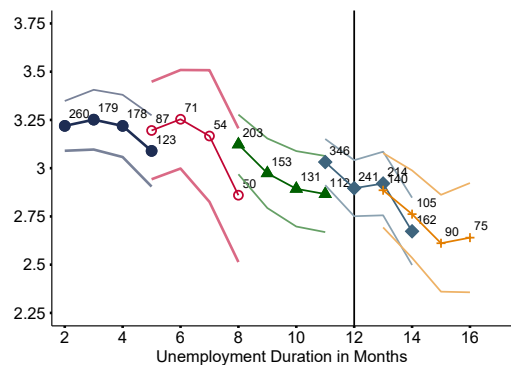
(a) P=6 Months Group



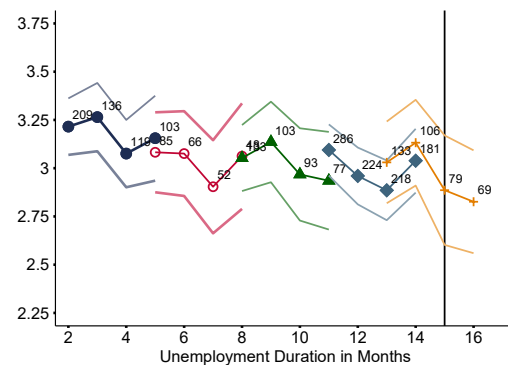
(b) P=8 Months Group



(c) P=10 Months Group



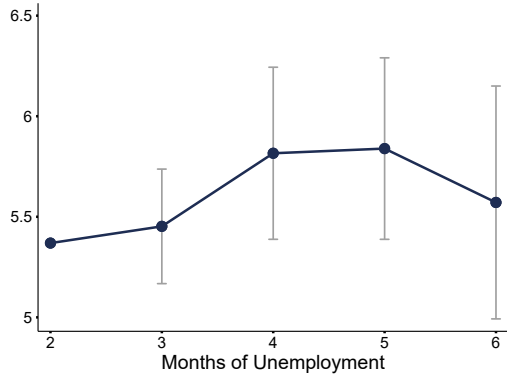
(d) P=12 Months Group



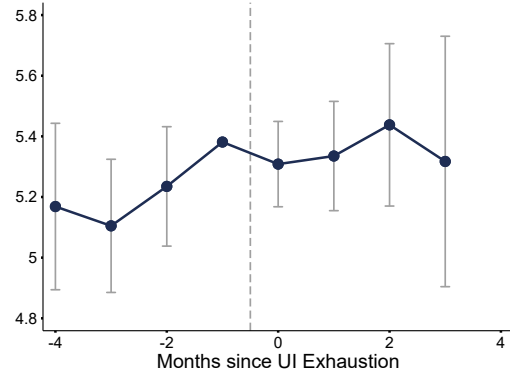
(e) P=15 Months Group

**Notes:** This figure shows cohort plots for P=6 to P=15 months. 95% CI (SE clustered on individual level) are displayed as outer lines (CI values outside the displayed range are censored for the ease of exposition). Numbers at a dot refer to the numbers of observations on which the dot is based. A cohort is defined as the duration in months on UI at time of first contact. It contains the months 2,3,5,8,11,13. Values that are -due to slight differences in definition of cohorts in earlier waves- outside those range are increased by one month such that they fit in the listed month range. One dot represents observations from 4 weeks. Since responses are restricted to the regular survey duration (up to 18 weeks), the last dot of each cohort contains only observations from two weeks.

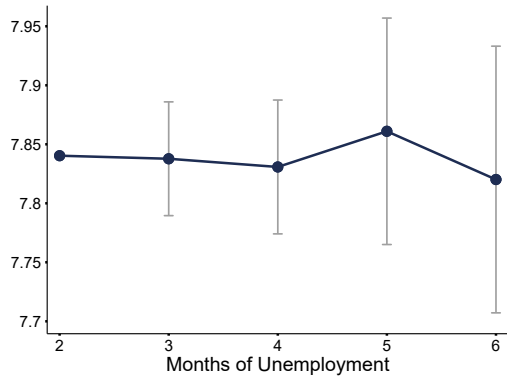
Figure A.28: Alternative Outcomes



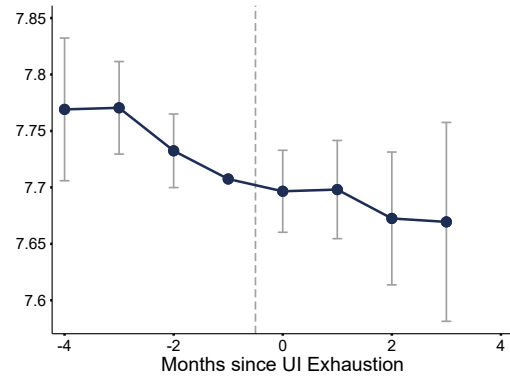
(a) Initial Months, Search Intensity (Qualitative)



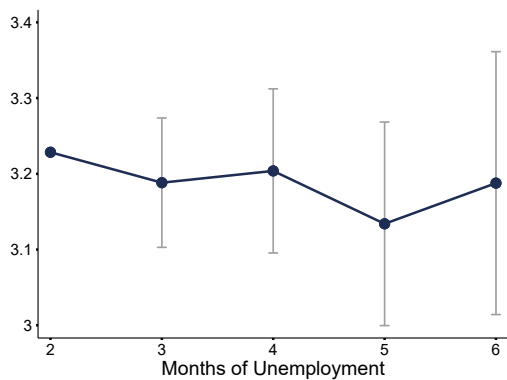
(b) Around Exhaustion, Search Intensity (Qualitative)



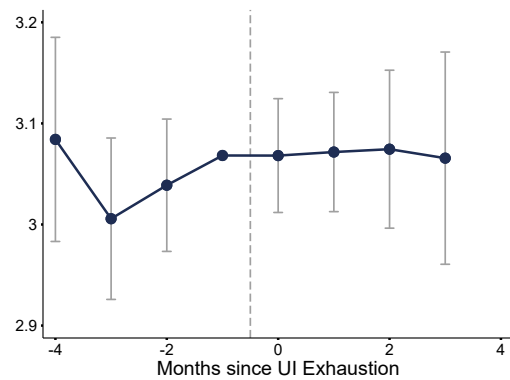
(c) Initial Months, Log Target Wage



(d) Around Exhaustion, Log Target Wage



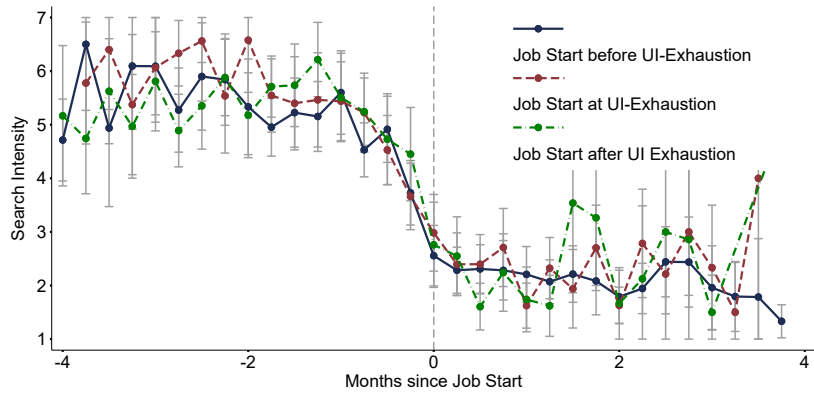
(e) Initial Months, Life Satisfaction



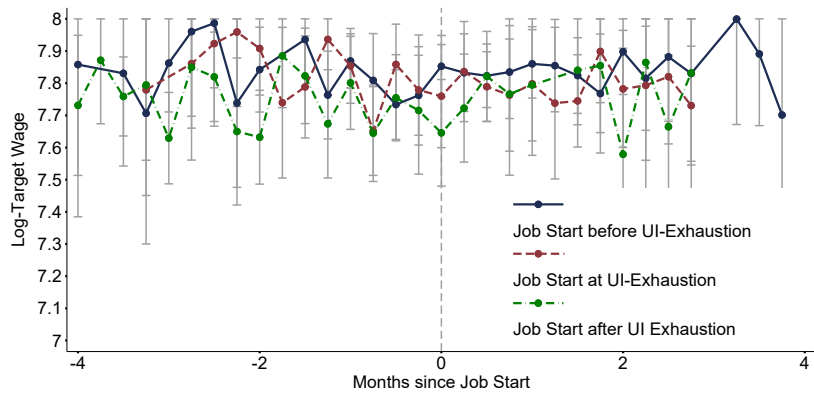
(f) Around Exhaustion, Life Satisfaction

**Notes:** This figure plots coefficients from alternative regressions, controlling for individual and time FE and after adjusting for survey response bias. SE (indicated as grey horizontal line) are bootstrapped (clustered on the individual level) with 50 replications. Figure (a) and (b) show results for search intensity (on a scale from 1 to 10), figure (c) and (d) the monthly log target wage, and figure (e) and (f) life satisfaction on a scale from 1 to 5.

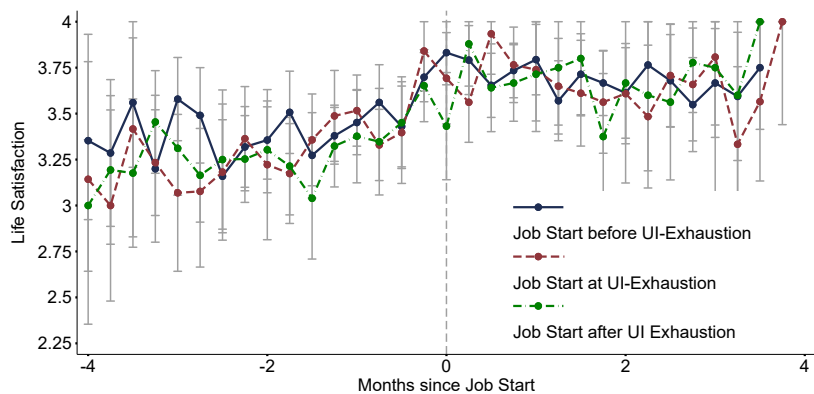
**Figure A.29: Evidence about Storable Offer Model**



(a) Search Intensity by Job Found and Date of UI Exhaustion



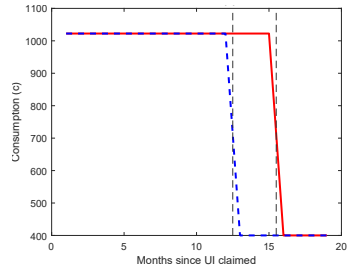
(b) Log Reswage by Job Found and Date of UI Exhaustion



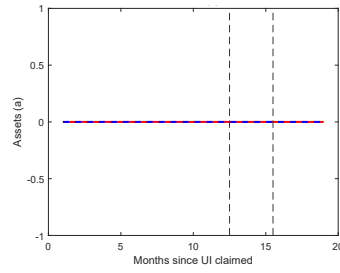
(c) Life Satisfaction by Job Found and Date of UI Exhaustion

**Notes:** This figure shows the alternative outcomes —search intensity, log reservation wage and life satisfaction— around job start by whether individuals start their job around UI exhaustion (+/- one month around UI exhaustion) or at other points of their unemployment spell. Vertical grey lines indicate the 95% CI for the displayed values. CI-values outside the y-axis range are winsorized, mean values outside the range are dropped (along with the corresponding CI values).

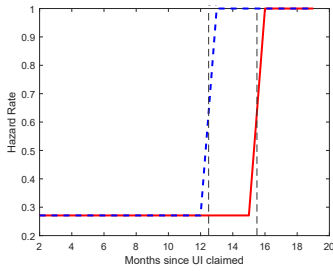
**Figure A.30: Model Details - Standard Model, 3 Types**



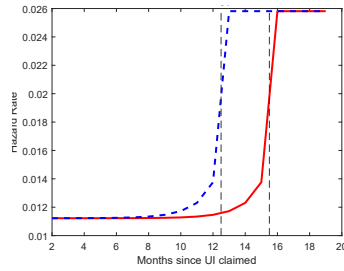
(a) Aggregate Consumption



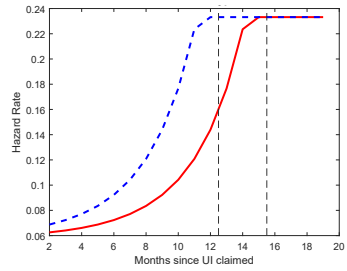
(b) Aggregate Assets



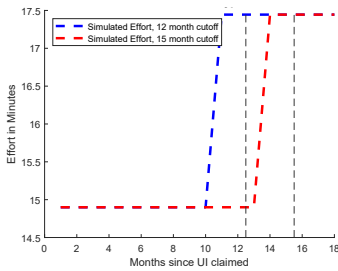
(c) Hazard Rate - Type 1



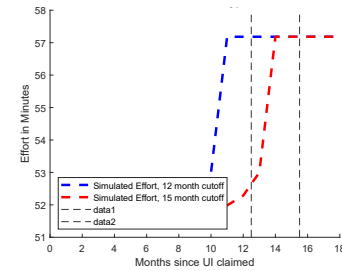
(d) Hazard Rate - Type 2



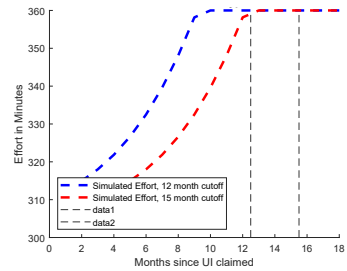
(e) Hazard Rate - Type 3



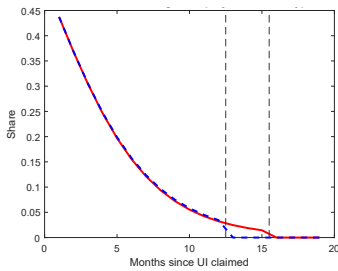
(f) Search Effort - Type 1



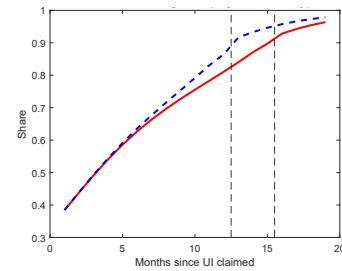
(g) Search Effort - Type 2



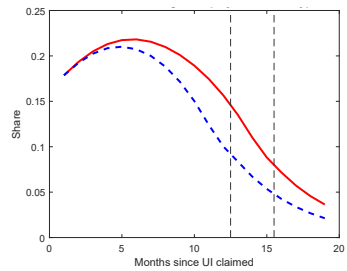
(h) Search Effort - Type 3



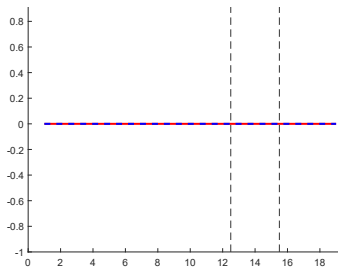
(i) Share - Type 1



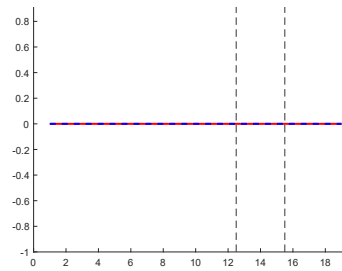
(j) Share - Type 2



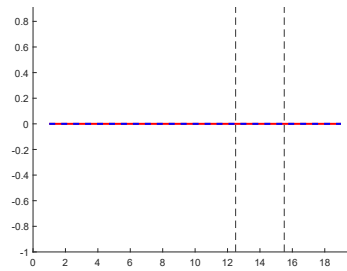
(k) Share - Type 3



(l) Assets - Type 1



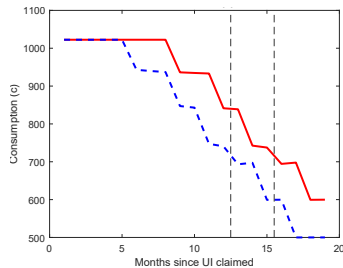
(m) Assets - Type 2



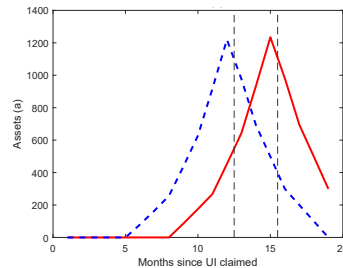
(n) Assets - Type 3

**Notes:** This figure provides model details for the standard model with 3 types (table 6, col. 1).

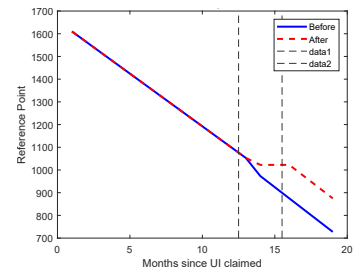
**Figure A.31: Model Details -Reference Dependent Model, 3 Types**



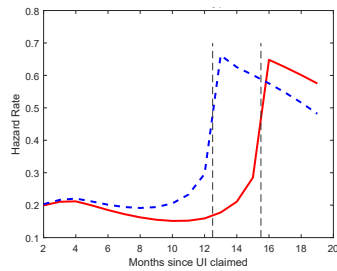
(a) Aggregate Consumption



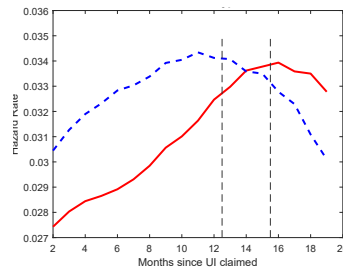
(b) Aggregate Assets



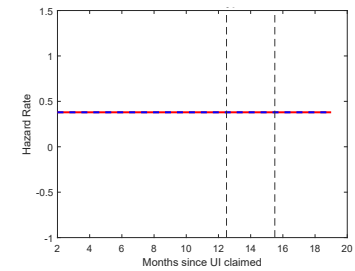
(c) Reference Point



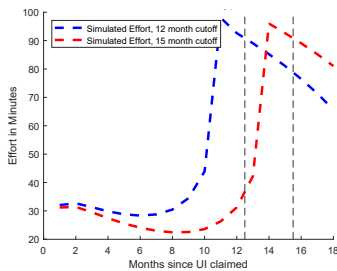
(d) Hazard Rate - Type 1



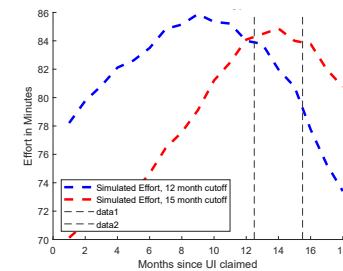
(e) Hazard Rate - Type 2



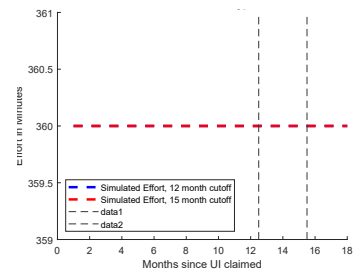
(f) Hazard Rate - Type 3



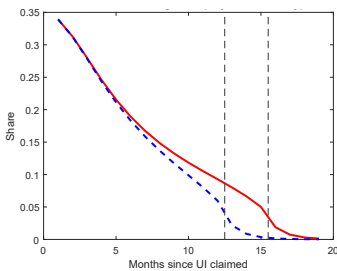
(g) Search Effort - Type 1



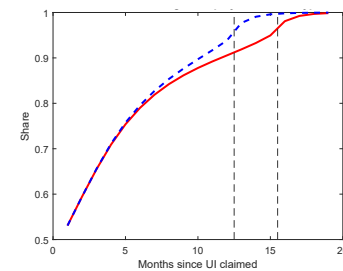
(h) Search Effort - Type 2



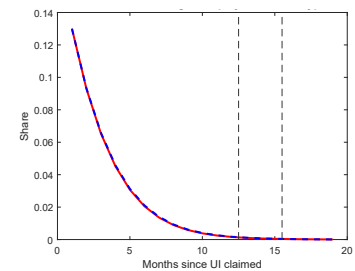
(i) Search Effort - Type 3



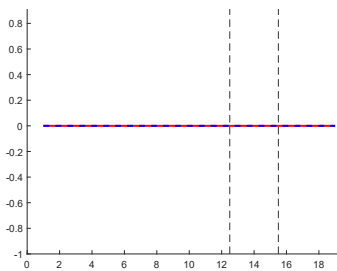
(j) Share - Type 1



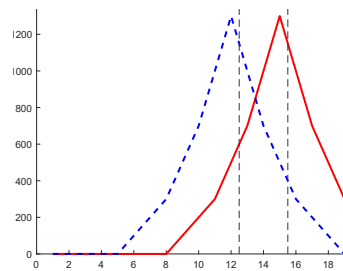
(k) Share - Type 2



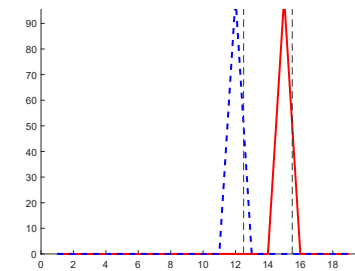
(l) Share - Type 3



(m) Assets - Type 1



(n) Assets - Type 2

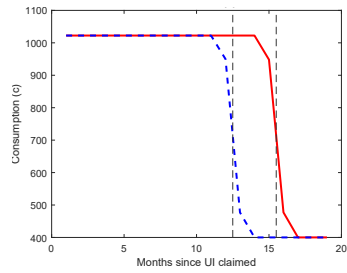


(o) Assets - Type 3

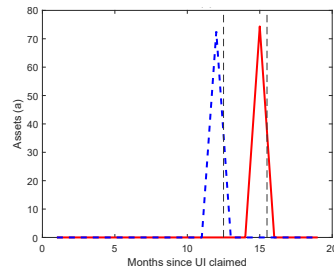
**Notes:** This figure provides model details for the reference dependent model with 3 types (table 6, col. 3).



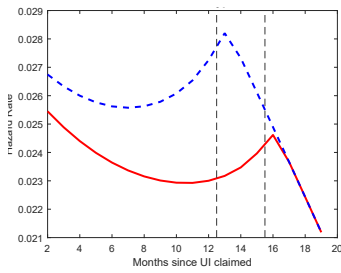
**Figure A.32: Model Details - Duration-Dependence Model, 3 Types**



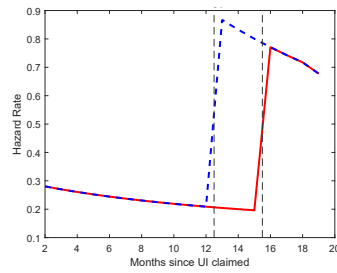
(a) Aggregate Consumption



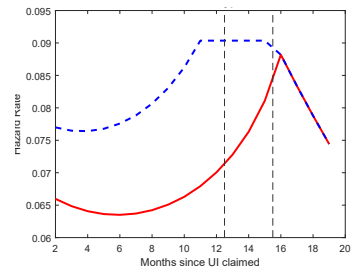
(b) Aggregate Assets



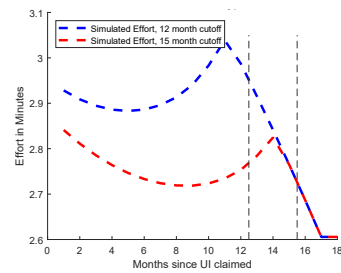
(c) Hazard Rate - Type 1



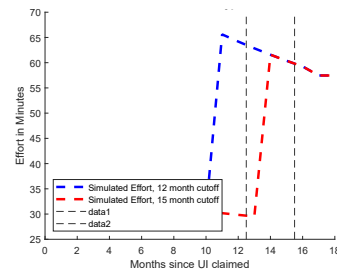
(d) Hazard Rate - Type 2



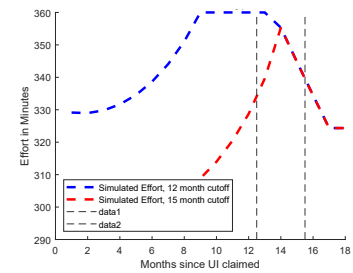
(e) Hazard Rate - Type 3



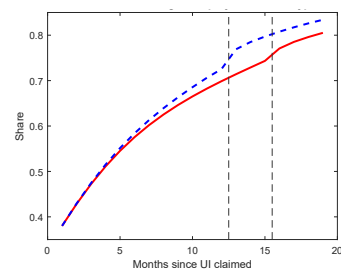
(f) Search Effort - Type 1



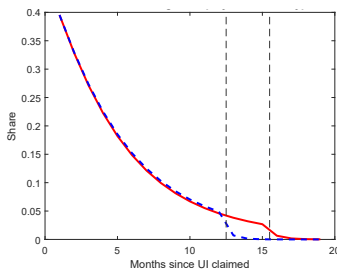
(g) Search Effort - Type 2



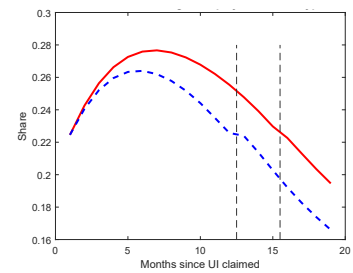
(h) Search Effort - Type 3



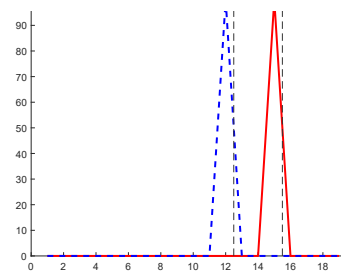
(i) Share - Type 1



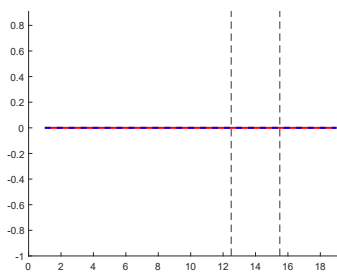
(j) Share - Type 2



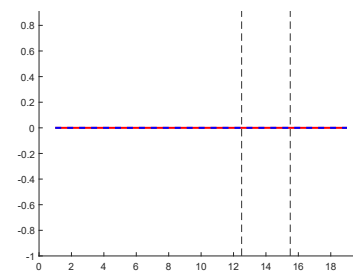
(k) Share - Type 3



(l) Assets - Type 1



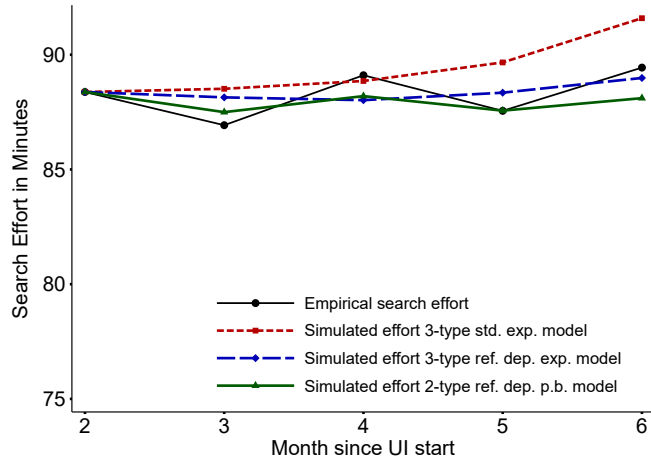
(m) Assets - Type 2



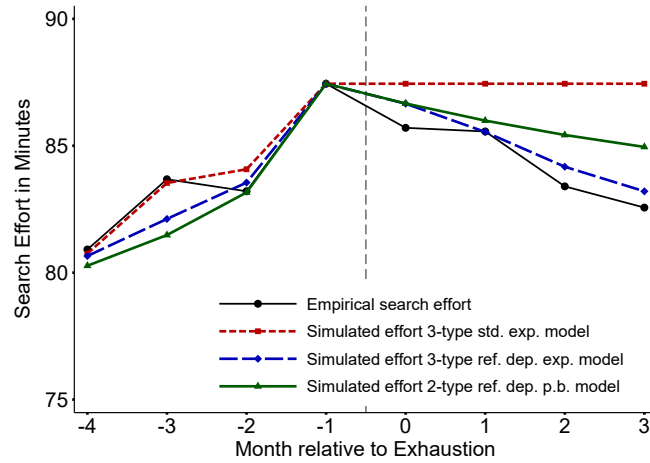
(n) Assets - Type 3

**Notes:** This figure provides model details for the standard model with 18 months time trend and with 3 types (table 6, col. 4).

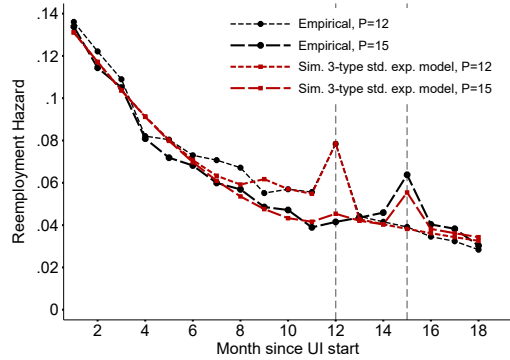
Figure A.33: Empirical and Predicted Moments, Alternative Specifications I



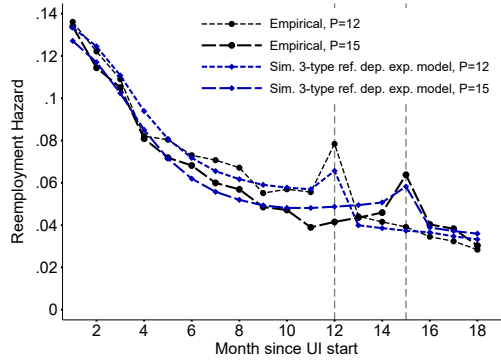
(a) Search effort at beginning of UI spell



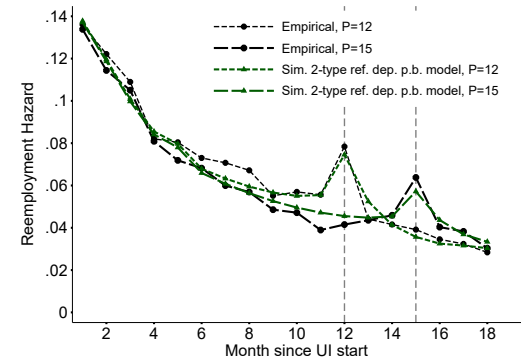
(b) Search effort around UI exhaustion



(c) Hazard rate for 3-type standard model, exp. discounting



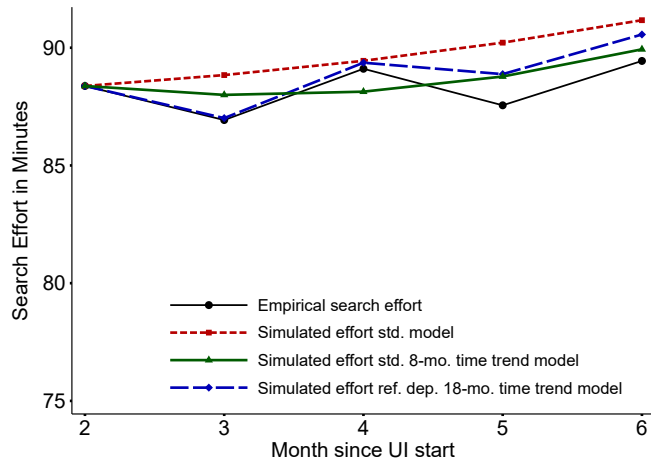
(d) Hazard rate for 3-type ref. dep. model, exp. discounting



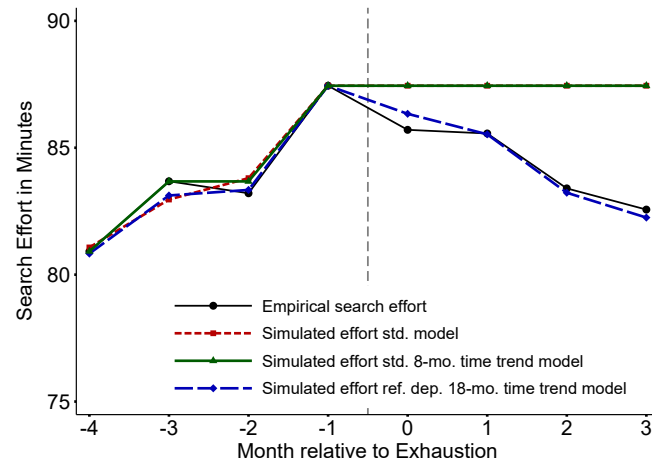
(e) Hazard rate for 2-type ref. dep. model, beta-delta disc.

**Notes:** The figure shows the empirical moments that we use in the structural estimation and the predicted moments from the estimated standard and reference-dependent models.

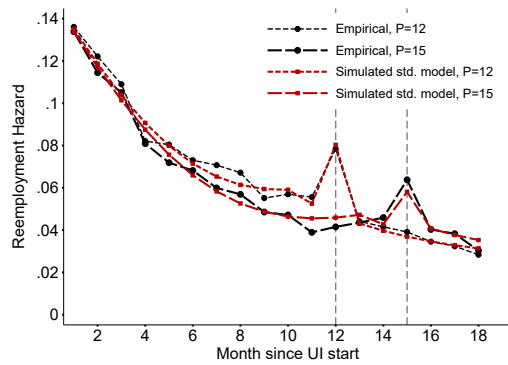
Figure A.34: Empirical and Predicted Moments, Alternative Specifications II



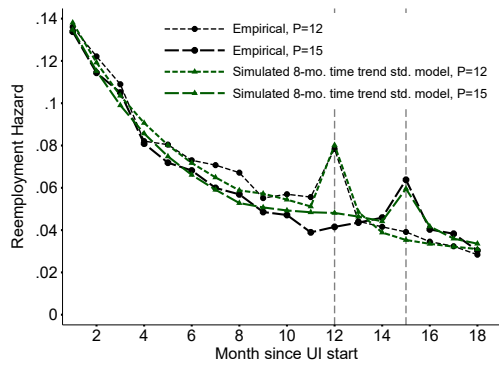
(a) Search effort at beginning of UI spell



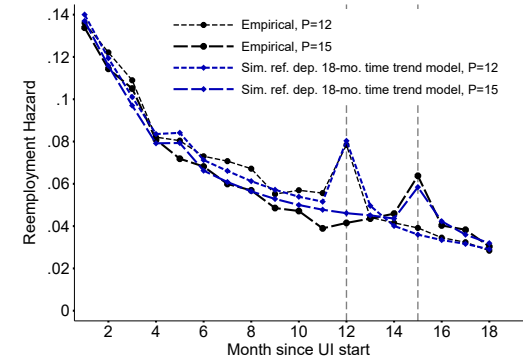
(b) Search effort around UI exhaustion



(c) Hazard rate for standard model



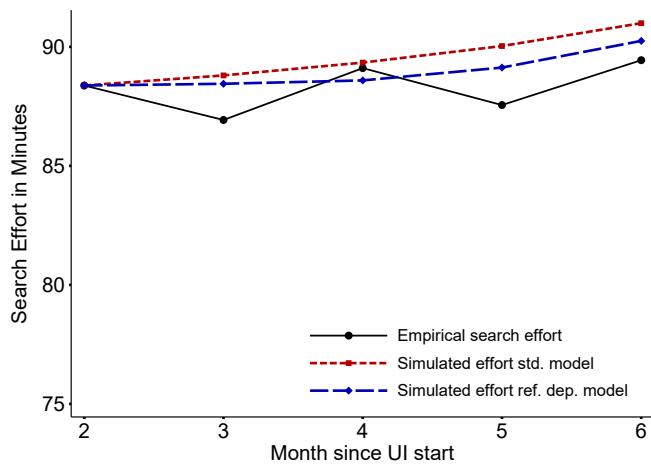
(d) Hazard rate for 8-mo. time trend standard model



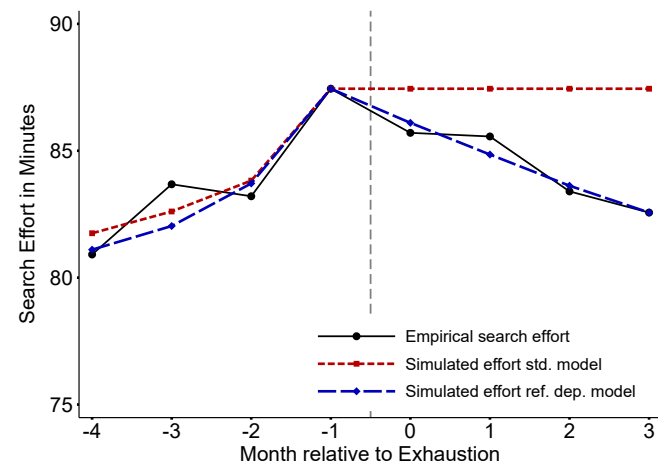
(e) Hazard rate for 18-mo. time trend ref. dep. model

**Notes:** The figure shows the empirical moments that we use in the structural estimation and the predicted moments from the estimated standard models with and without 8-month time trend in K and a reference dependence model with an 18-months time trend in K.

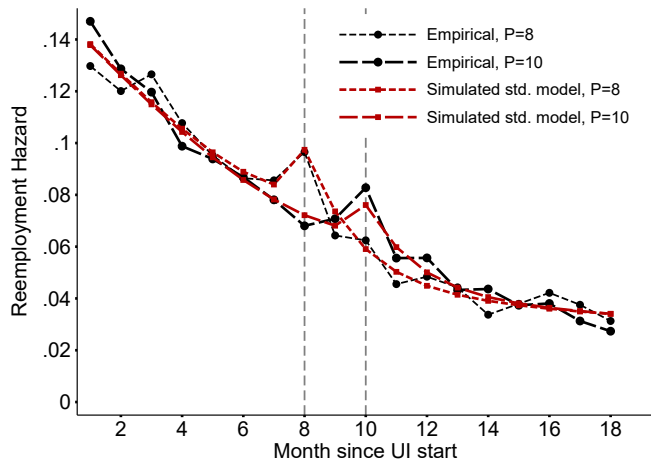
Figure A.35: Empirical and Predicted Moments, 8 and 10 Months PBD Duration



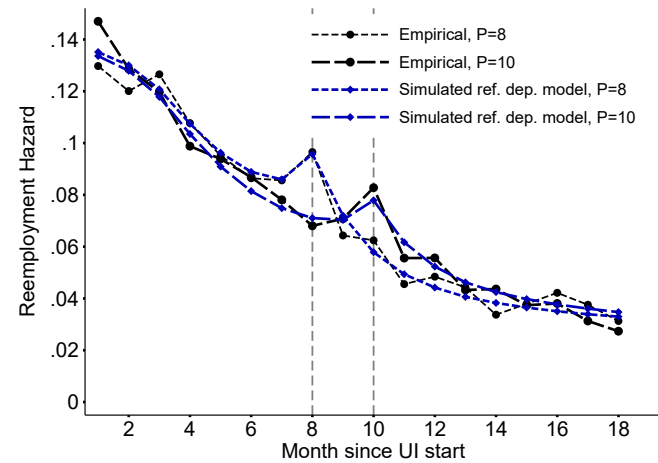
(a) Search effort at beginning of UI spell



(b) Search effort around UI exhaustion



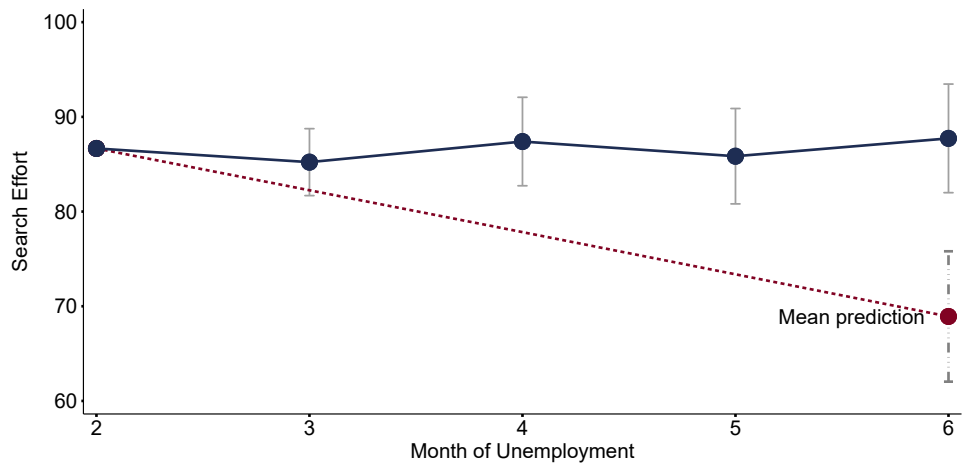
(c) Hazard rate for 3-type standard model



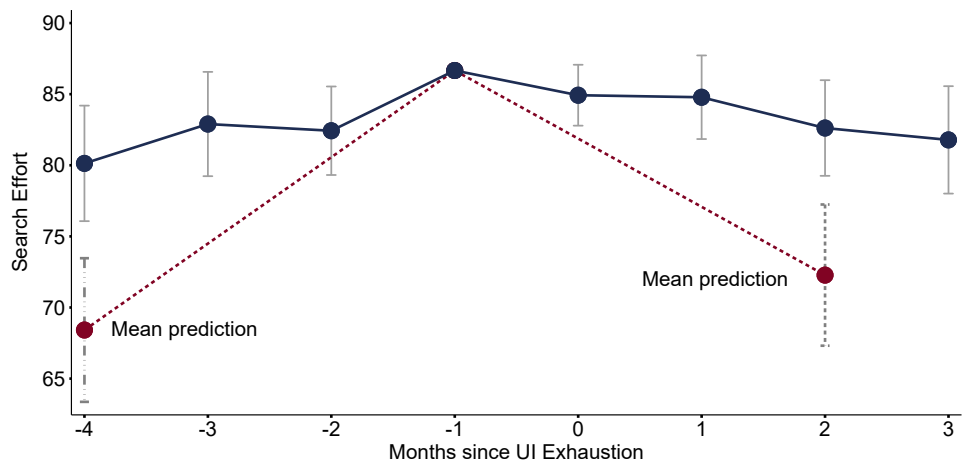
(d) Hazard rate for 3-type ref.-dep. model

**Notes:** The figure shows the empirical moments that we use in the structural estimation and the predicted moments from the estimated standard and reference-dependent models for the alternative moments (PBD=8,10).

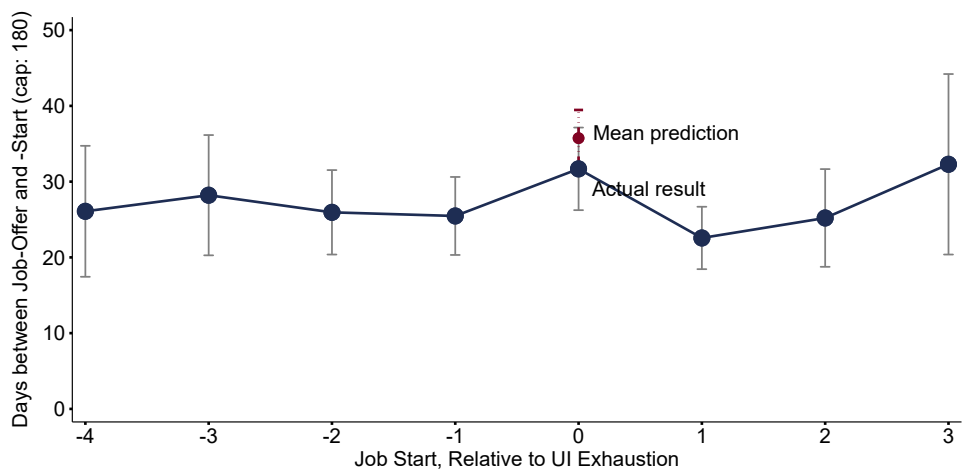
Figure A.36: Expert Forecasts vs. Survey Results



(a) Search Effort Early In Spell



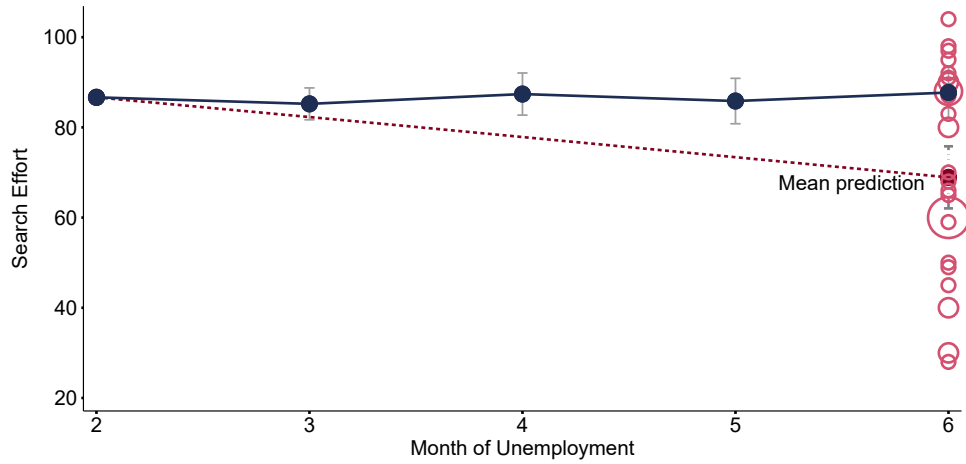
(b) Search Effort Around UI Exhaustion



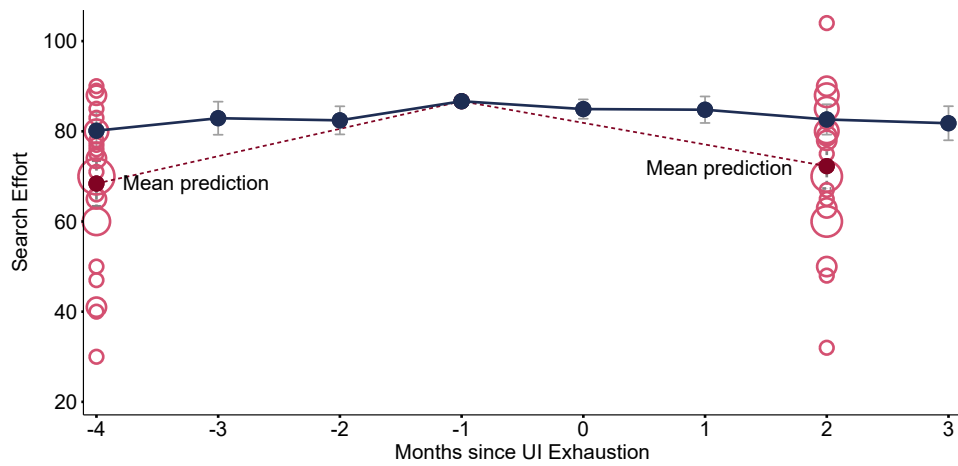
(c) Evidence of Storable Offers Around UI Exhaustion

**Notes:** This figure contrasts the expert forecasts with the results of the survey for the three main findings.

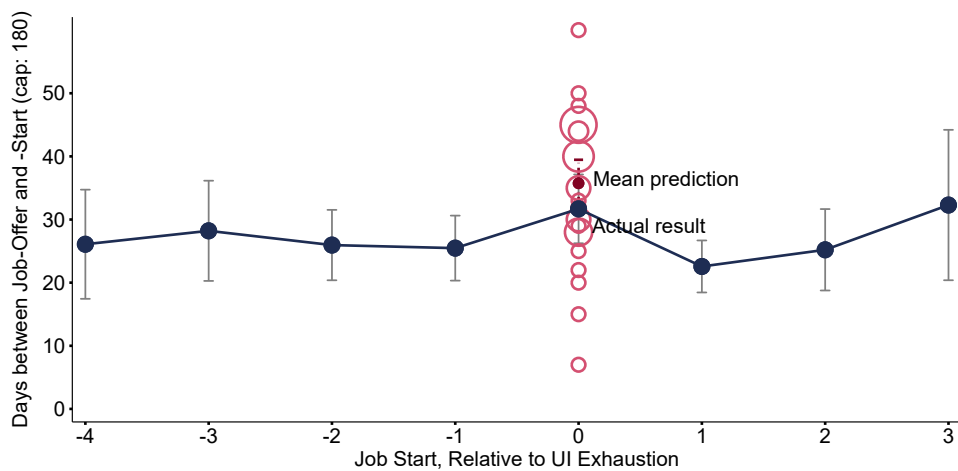
Figure A.37: Expert Forecasts vs. Survey Results - Distribution of Individual Responses



(a) Search Effort Early In Spell



(b) Search Effort Around UI Exhaustion



(c) Storable Offers Evidence Around UI Exhaustion

**Notes:** This figure contrasts the expert forecasts with the empirical results of the survey for the three main findings. The circles indicate individual responses were larger circles indicate multiple identical responses.

# List of Figures

Figure A.1: Letter .....	74
Figure A.2: Flyer .....	75
Figure A.3: Re-Employment Hazards -Short Contribution Durations .....	76
Figure A.4: Re-Employment Hazards - Excluding Recalls .....	77
Figure A.5: Labor Market States After UI Entry .....	78
Figure A.6: Labor Market States After UI Entry: Observed vs. Unobserved Nonemployment .....	79
Figure A.7: Hazard Rate of Job-Finding for Survey Participants .....	80
Figure A.8: Hazard Rates: Contacted vs. Participants .....	81
Figure A.9: Hazard Rates of Contacted vs. Non-Contacted in Sample-Frame, Selected D and P Groups .....	82
Figure A.10: Survey Attrition over Time .....	83
Figure A.11: Survey Attrition over the Unemployment Spell by Survey Cohort .....	84
Figure A.12: Response Share to Job-Search Question Conditioning on no final attrition ...	85
Figure A.13: Survey Attrition and Response Rate .....	86
Figure A.14: Hazard Rates: Full Participants vs. Early Dropouts.....	87
Figure A.15: Question-Day by Wave over Time .....	88
Figure A.16: Distribution of Job-Offer, Job-Acceptance, and Job-Start .....	89
Figure A.17: Validation of Search Effort in the KM Survey: Search Effort at Holidays and around Job Acceptance .....	90
Figure A.18: Validation of Search Effort: Distribution of Search Effort around Job Acceptance .....	91
Figure A.19: Validation of Search Effort: Search Intensity, Target Wage and Life Satisfaction around Job Acceptance .....	92
Figure A.20: Within- and Between-Person Job Search Effort in Krueger and Mueller (2011)	93
Figure A.21: Job-Search Around Age-Cutoff where P increased from 12 to 15 Months .....	94
Figure A.22: Predetermined Variables Around Cutoff .....	95
Figure A.23: Dummy: Search > 0 over the Unemployment Spell by Survey Cohort.....	96
Figure A.24: Dummy: Search $\geq$ 240 Minutes over the Unemployment Spell by Survey Cohort .....	97
Figure A.25: Qualitative Search Intensity (Scale 1 to 10) over the Unemployment Spell by Survey Cohort.....	98
Figure A.26: Log-Target Wage over the Unemployment Spell by Survey Cohort .....	99
Figure A.27: Life Satisfaction (Scale 1 to 5) over the Unemployment Spell by Survey Cohort .....	100
Figure A.28: Alternative Outcomes .....	101
Figure A.29: Evidence about Storable Offer Model.....	102

Figure A.30: Model Details - Standard Model, 3 Types.....	103
Figure A.31: Model Details -Reference Dependent Model, 3 Types.....	104
Figure A.32: Model Details - Duration-Dependence Model, 3 Types .....	105
Figure A.33: Empirical and Predicted Moments, Alternative Specifications I.....	106
Figure A.34: Empirical and Predicted Moments, Alternative Specifications II .....	107
Figure A.35: Empirical and Predicted Moments, 8 and 10 Months PBD Duration .....	108
Figure A.36: Expert Forecasts vs. Survey Results.....	109
Figure A.37: Expert Forecasts vs. Survey Results - Distribution of Individual Responses .	110



# List of Tables

Table A.1:	Amazon Take-Up Mean .....	41
Table A.2:	Final Sampling Scheme .....	42
Table A.3:	Wave Specific Dates, Sample Sizes and Randomization Schemes .....	43
Table A.4:	Difference Between Participants and Non-Participants .....	44
Table A.5:	Effect of Survey Invitation on Job-Search.....	45
Table A.6:	Missing Response/Attrition in Next Months by Current Response.....	46
Table A.7:	Survey Questions .....	47
Table A.8:	Search Behavior and Holidays .....	51
Table A.9:	Returns to Search: Association btw. Job Finding and Search Effort .....	52
Table A.10:	Test for Survey Response Bias, Robustness.....	53
Table A.11:	Tests for Survey Response Bias - Different Outcomes .....	54
Table A.12:	Search Effort Since Start of UI Spell — Up to 10 Months.....	55
Table A.13:	Robustness: Search Effort Since Start of UI Spell .....	56
Table A.14:	Additional Robustness: Search Effort Since Start of UI Spell .....	57
Table A.15:	Additional Robustness: Search Effort Around UI Exhaustion .....	58
Table A.16:	Search Effort Around UI-Exhaustion -Controlling for ALMP, Caseworker In- teractions, Sanctions .....	59
Table A.17:	Search Effort Since Start of UI Spell: Heterogeneity Results .....	60
Table A.18:	Search Effort Around UI Exhaustion: Heterogeneity Effects .....	61
Table A.19:	Search Effort at UI-Start by Potential Benefit Duration .....	62
Table A.20:	Search Effort around UI Exhaustion by Potential Benefit Duration .....	63
Table A.21:	RD-Estimates - Survey-Response Level.....	64
Table A.22:	Search Effort for Different Thresholds Since Start of UI Spell.....	65
Table A.23:	Search Effort for Different Thresholds Around UI Exhaustion .....	66
Table A.24:	Other Outcomes Since Start of UI Spell .....	67
Table A.25:	Other Outcomes Around UI-Exhaustion .....	68
Table A.26:	Summary of Self-Reported Job-Found Information .....	69
Table A.27:	Structural Estimates of Job Search Models: Benchmark Structural Models but with all Parameters .....	70
Table A.28:	Robustness Table I for Structural Estimation .....	71
Table A.29:	Robustness Table II for Structural Estimation, Standard Model .....	72
Table A.30:	Expert Survey, Summary Table.....	73