Job search and unemployment insurance: New evidence from time use data

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ABSTRACT

This paper provides new evidence on job search intensity of the unemployed in the U.S., modeling job search intensity as time allocated to job search activities. The major findings are: 1) the average U.S. unemployed worker devotes about 41 min to job search on weekdays, which is substantially more than their European counterparts; 2) workers who expect to be recalled by their previous employer search substantially less than the average unemployed worker; 3) across the 50 states and D.C., job search is inversely related to the generosity of unemployment benefits, with an elasticity between −1.6 and −2.2; 4) job search intensity for those eligible for Unemployment Insurance (UI) increases prior to benefit exhaustion; and 5) time devoted to job search is fairly constant regardless of unemployment duration for those who are ineligible for UI.

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1. Introduction

It is well known that since the early 1980s the unemployment rate has been lower in the U.S. than in Europe. Our tabulations of international time use data (circa 1998–2007) also indicate that unemployed Americans tend to devote much more time to searching for a new job than their European counterparts (see Fig. 1). On weekdays, for example, the average unemployed worker spent 41 min a day searching for a job in the U.S., compared with just 12 min in the average European country with available data. One explanation for the comparatively low unemployment rate and high search time in the U.S. is the relatively modest level and short duration of Unemployment Insurance (UI) benefits in most states in the U.S. In this paper we examine the effects of UI on the amount of time devoted to job search by unemployed workers in the U.S., using features of state UI laws for identification.

A large and related literature examines the effects of UI on the duration of unemployment spells. For example, more generous UI benefits have been found to be associated with longer spells of unemployment, with an elasticity of about 1.0 (see Krueger and Meyer (2002) for a survey). In addition, the job finding rate jumps up around the time benefits are exhausted (Moffitt, 1985; Katz and Meyer, 1990a; see Card et al., 2007 for a critical review). UI is expected to affect the duration of unemployment through its effect on the amount of effort devoted to searching for a job and the reservation wage of the unemployed, yet these variables have rarely been studied directly.[1] We attempt to fill this void by modeling the amount of time that unemployed individuals devote to searching for a new job over the course of unemployment spells using data from the American Time Use Surveys (ATUS) from 2003 to 2007.
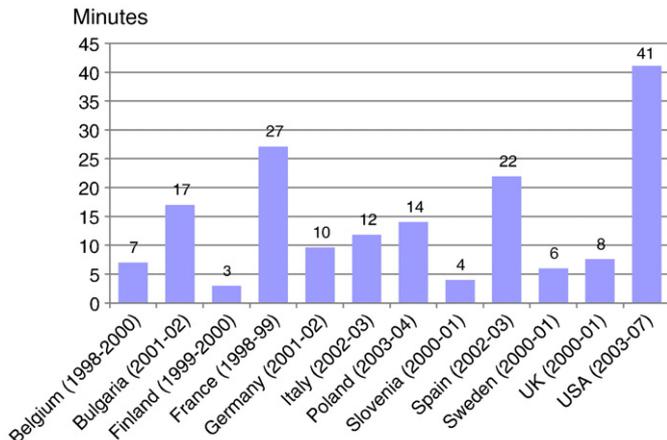
Section 2 describes the ATUS data and presents summary statistics. In Section 3, we evaluate the predictions of Mortensen's (1977) canonical model of UI and job search.[2] The Mortensen model predicts that for a newly laid-off worker, search effort is decreasing in the level of UI benefits, whereas for those unemployed who are not eligible for UI or who have exhausted their UI benefits, search effort is increasing in the benefit level. This latter implication is called the entitlement effect, as higher benefits raise the value of being unemployed in the future and thus raise the value of obtaining a job.[3] Furthermore, the

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[1] An exception is Barron and Mellow (1979), who used the May 1976 CPS supplement on job search activities in the last month, and find that the unemployed searched an average of 7 h a week. See Feldstein and Poterba (1984) for related evidence on self-reported reservation wages and unemployment in the U.S. based on the same CPS data.
[2] Labor supply models such as, e.g., Moffitt and Nicholson (1982) yield similar predictions.
[3] Levine (1993) provides some evidence on the entitlement effect.

Minutes

Notes : See Krueger and Mueller (2008a) for details about the underlying time use data.

Fig. 1. Average number of minutes devoted to job search per day on weekdays by unemployed workers in various countries.

model predicts that search effort is increasing in the mean wage offer and the dispersion of potential wage offers. The intuition for the latter is that, with a higher dispersion of potential wages, there is a greater benefit from searching for a high paying job.[4] We also expect search effort to be lower for those unemployed who expect to be recalled to their previous job (see Katz, 1986).[5] We empirically test these predictions and estimate the effect on job search of the generosity of UI benefits, job seekers' predicted wages, within-state residual wage dispersion, recall expectations and other variables. Most importantly, we find that job search intensity is inversely related to UI benefit generosity for those who are eligible for UI.

In Section 4, we evaluate the predictions of the Mortensen model regarding job search intensity and unemployment duration. The model predicts that for an eligible unemployed, job search effort increases over the unemployment spell as benefits are exhausted. After benefits are exhausted, job search effort is predicted to remain constant. An unemployed individual who is ineligible for benefits is predicted to devote a constant amount of time to job search because of the absence of learning and the assumption of stationarity in the Mortensen model. In the ATUS data, we find a striking contrast in the profiles of job search activity across those with different durations of unemployment: search activity increases as week 26 (benefit exhaustion) approaches for the UI eligible, while the profile is fairly flat for those who are ineligible for UI.

Section 5 offers some concluding thoughts as to how our results relate to search theory and how time use data can be used to further study UI and job search behavior.

2. Data and descriptive statistics

We use data from five consecutive years (2003–07) of the ATUS, which is a nationally representative time use survey covering the whole civilian non-institutional population aged 15 and older. The sample is drawn from the 8th outgoing rotation group of the Current Population Survey (CPS). Respondents are interviewed within 2–5 months of their last CPS interview. The ATUS collects detailed information on the amount of time respondents devoted to various activities in the previous day. Job search activities include contacting a potential employer, calling

or visiting an employment agency, reading and replying to job advertisements, job interviewing, etc. The Appendix Table provides a detailed list of activities that are identified as job search.

We restrict our sample to the population aged 20–65 to abstract from issues related to youth unemployment and retirement. The ATUS *labor force recode* defines unemployment in the same way as the CPS (not working in the reference week, actively looking for a job in the 4 weeks prior to the interview, and available for work in the reference week). The CPS/ATUS definition of unemployed also includes those on temporary layoff with an expectation of recall to their previous employer, regardless of whether they looked for work in the four weeks prior to the survey. Our sample consists of 2171 unemployed individuals, of which 344 were on temporary layoff. Sample weights are used in all of our estimates. The sample unemployment rate is 5.2%, which exactly matches the official unemployment rate over the same period.

We can disaggregate the unemployed into four groups: job losers, those expecting to be recalled to their previous employer, voluntary job leavers, and re-/new entrants into the labor force. The ATUS questionnaire, however, only contains a question on whether the unemployed expect to be recalled. Thus, we use information from the final CPS interview to classify individuals into the other three groups. Specifically:

- Job losers are defined as those on layoff in the CPS, those who report in the CPS that their temporary job has ended and those who are employed at the time of the CPS interview (and subsequently became unemployed).
- Re- or new entrants are defined as those unemployed who indicate that they were re- or new entrants in the CPS. Those who are classified as out of the labor force in the CPS but as unemployed in the ATUS are also included in this category.
- Voluntary job leavers are defined as those who indicate in the CPS that they quit their job. Note that we were able to identify voluntary job leavers only when they were already unemployed at the time of the CPS interview. We classify people who were employed in CPS and unemployed in ATUS as job losers because the share of voluntary job leavers among the unemployed in CPS is much lower than that of job losers (43% vs. 12% in our period). Consequently, compared with the CPS the proportion of the unemployed classified as job leavers is relatively low in our sample.

Because the ATUS lacks information on UI receipt, we infer UI eligibility from the type of unemployment and the workers' full-time/part-time status on the previous job. We classify job losers and those on temporary layoff as eligible for UI, and re-entrants, new entrants and voluntary job leavers as ineligible. In states where part-time job seekers do not qualify for UI, we classify those who worked part-time as ineligible.

We undoubtedly have some classification errors when it comes to assigning UI eligibility in our sample. Such misclassification errors are likely to lead us to underestimate the effects of UI in Sections 3 and 4 below, as the effects are expected to be of opposite sign for the UI eligible and ineligible.

2.1. Descriptive statistics of job search activities

Table 1a reports descriptive statistics on the average number of minutes devoted to job search by labor force status. It also shows the participation rate in job search, defined as the fraction of those with non-zero search time on the diary day. Several results are worth highlighting. First, the unemployed spend around 32 min a day (including weekends) searching for a job, whereas the employed and those classified as out of the labor force devote less than a minute a day to job search, on average.[6] Even if we restrict the sample to those

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