Estimating the effect of unemployment insurance compensation on the labor market histories of displaced workers

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Abstract

In this paper US data on labor market histories of displaced workers are used to quantify the effect of unemployment insurance compensation (UIC) on both unemployment and employment durations. This results in the first available assessment of the effect that UIC has on the fraction of time spent employed. The estimation procedure simultaneously allows for unobserved heterogeneity, defective risks and sample selection into future spells, and uses alternative assumptions about agents' knowledge of the UIC eligibility rules. Being entitled to UIC shortens workers' employment durations. This negative effect on the fraction of time spent employed could be offset by suspending an extended benefits program in order to shorten unemployment durations. © 2002 Elsevier Science B.V. All rights reserved.

1. Introduction

While there have been numerous studies estimating the effect of unemployment insurance compensation (UIC) on duration of unemployment, there has been no empirical

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work analyzing the effect of UIC on employment *durations* in the United States.[2] This gap in the literature is somewhat surprising since there are at least two theoretical arguments for why we would expect UIC to affect employment durations. First, the implicit contract literature suggests that unemployment insurance makes layoffs more likely (e.g., Feldstein, 1976; Baily, 1977). Second, job search models suggest that workers with generous UI coverage will search less intensively while unemployed. As we discuss in Section 3, one can show that the optimal firm response to this behavior, in the presence of demand fluctuations and firm specific human capital, is for the firm to lay off workers with high levels of UI entitlement and recall workers as they approach exhaustion of their benefits.

Hence, generous UIC may not only prolong unemployment (e.g., Mortensen, 1977), but also shorten employment duration, reinforcing the combined negative effect of UIC on the fraction of time spent employed. To see this in a simple setting, consider the steady state probability of being employed, P_e, which can be written as

$$P_e = \frac{E_e}{E_e + E_u},$$

where E_e is the expected duration of employment and E_u denotes the expected duration of unemployment, both being functions of the level of UIC. It follows that

$$\frac{\partial P_e}{\partial UIC} = [E_e + E_u]^{-2} \left[\frac{\partial E_e}{\partial UIC} E_u - \frac{\partial E_u}{\partial UIC} E_e \right].$$

Evaluating unemployment insurance based on only the existing (positive) estimates of its effect on unemployment duration ($\partial E_u / \partial UIC$) may therefore result in underestimating the total impact of UIC.

In this paper we therefore quantify the effect of UIC on both unemployment inflow and outflow using a micro data set on labor market histories of US workers. As a result, we obtain the first available assessment of the effect UIC has on the fraction of time spent employed. Relaxing the steady state assumption used above, we quantify the overall effect of UIC by simulating the process of finding and losing jobs for all individuals in our data under different levels of UIC.

The lack of research on the UIC employment duration effect is likely caused by the fact that large micro data sets on employment durations and UI compensation are scarce. We use a data set which consists of a dislocated workers' survey, augmented with information on the amount of UI compensation individuals can expect to receive if they are laid off or quit. Unemployment compensation provisions, including the trigger dates of various extended benefit programs, are coded for over 5 years for seven states. The resulting multiple-spell, event-history data set is unusually rich in terms of the variation of entitlement and benefit levels.

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[2] The only studies looking at employment durations we are aware of are Baker and Rea (1998) and Christofides and McKenna (1996). Both analyze the effect of Canadian UI eligibility requirements. There is extensive research in the US using *cross-sectional* data to analyze the layoff effect of unemployment insurance *taxes*. We discuss this work in Section 2; analyzing this issue, however, is beyond the scope of the present paper. As we explain below, the amount of potential UIC a worker can expect to receive varies over the duration of individual employment spells; hence, the need to use duration data.