Search capital

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\textbf{A B S T R A C T}

This paper first documents the extent of return employment: workers returning to employers they worked for previously within the same employment spell. Employer returns are typically involuntary and lead to lower earnings. To understand these features, the paper then develops an equilibrium model of worker recall and on-the-job search in which job seekers hold onto information they acquire about job opportunities as insurance in the event of a job destruction shock. Allowing workers to recall contacts increases the probability of a job-to-job transition with the number of jobs previously held during the employment spell while the probability of a job-to-unemployment transition decreases. These transition patterns are consistent with empirical evidence.

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1. Introduction

Modern labour markets exhibit a large degree of worker churning. In the US, for example, around six percent of employed workers separate from their employers every month. Around half of these workers find another job almost immediately while the other half transit to unemployment. Job ladder models like Burdett and Mortensen (1998) and Postel-Vinay and Robin (2002) provide a natural interpretation for these facts. In these economies, some workers move up the job ladder over time as they search for better paid employment, while others fall from the job ladder after job displacement and must re-climb the ladder from unemployment.

This paper first documents a novel feature of worker job ladders: a notable fraction of job transitions in the National Longitudinal Survey of Youth (NLSY) involve workers returning to employers they worked for previously within the same employment spell. Job transitions involving an employer return are typically involuntary and lead to lower earnings. To understand these features, this paper then develops an equilibrium model of worker recall and on-the-job search in which job seekers hold onto information they acquire about job opportunities as insurance in the event of a job destruction shock.

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The mechanism is straightforward. From time to time, workers who engage in on-the-job search encounter firms with job opportunities that are not currently attractive. However, it is in the interest of these workers to establish contacts with such firms. If job matches are subjected to destruction shocks, then with positive probability the worker will lose the current job sometime in the future. In the face of such a shock, the worker can approach the accumulated employment contacts (if any) to inquire whether there is still a job available. If so, the worker has the option of taking the job and avoiding unemployment. The crucial insight is that the ability of workers to recall previously met firms allows them to accumulate “search capital”, a valuable asset that (partially) insures them against adverse displacement shocks.\(^1\),\(^2\)

The framework is similar to the one proposed by Postel-Vinay and Robin (2002) in which all workers search for jobs and sequential auctions determine wages. The key difference is that we allow workers to keep track of the identity of the firms they encounter during their search process. We also allow for search capital depreciation: there is a positive probability that a worker’s employment contact might disappear. In this context, it is in the interest of the firm as well as the worker to establish contacts. With recall, a losing firm in the auction knows it will remain in contact with the worker, at least for some period of time. Because employment for the worker at another firm may end, firms that are in contact with the worker might at some time in the future face less competition and hire the worker at more favourable, monopsonistic terms. As a result, with search capital, the option value of losing the worker in a competitive auction is no longer zero (as in Postel-Vinay and Robin, 2002), but positive and depends on the extent of search frictions, job destruction and search capital depreciation.

As workers can immediately recall offers following a displacement, job-to-job transitions occur not only when new work is found but also when the current employer lets the worker go. If on-the-job search generates a contact, the new contact and the current employer bid up the wage. If the new contact wins the auction, voluntary job turnover can occur with a pay rise or a pay cut, depending on the productivity of the poaching firm, among other factors. If a displacement shock subsequently hits, the worker takes employment with a previous employer. As a lone bidder, this firm acts monopsonistically and offers a low wage equal to the worker’s reservation wage. At this point, the worker experiences an employer return characterised by an involuntary job-to-job transition with a pay cut.

Allowing workers to recall contacts accumulated while searching on the job also implies that the probability of a job-to-job transition increases while the probability of a job-to-unemployment transition decreases with the number of jobs previously held during the employment spell. Workers who have had more jobs during the employment spell are likely to have accumulated more contacts. When a displacement shock occurs, workers with more contacts have a lower probability of transiting into unemployment (and hence making a job-to-job transition) than workers with less contacts.

These transition patterns are consistent with empirical evidence found in the NLSY. As observed elsewhere (see Jolivet et al., 2006, among others), the NLSY dataset contains considerable numbers of voluntary and involuntary job-to-job movements involving pay cuts as well as pay rises. Moreover, the NLSY data also reveal that the number of previously held jobs during an employment spell is positively related to the probability of a job-to-job transition and negatively related to the probability of a job-to-unemployment transition. These findings contrast with standard job ladder models in which workers who have held many jobs during the employment spell are close to the top of the job ladder and hence have a lower probability of another job-to-job transition.\(^3\) In the NLSY, workers with more employer returns or more involuntary job transitions within an employment spell have a higher probability becoming unemployed after a job displacement shock as the search capital model also implies but in contrast with standard job ladder models.

Since investment in on-the-job search creates a productive resource for workers, recall affects aggregate equilibrium output. Contacts accumulated through on-the-job search provide back-up employment opportunities that partially insure against costly unemployment from displacement shocks. Ceteris paribus, output with recall is higher than output without recall. On-the-job search, however, can be inefficient when employed searchers crowd out the unemployed for jobs and discourage job creation. We show that the net effect is in general ambiguous but in a calibrated version of the model with heterogeneous jobs total output increases with on-the-job search.

This paper is closely related to Carrillo-Tudela et al. (2011), which explores the implications of recall by unemployed workers alone. Without on-the-job search, unemployed workers on the equilibrium path are hired with no contacts. If they subsequently experience a displacement, they become unemployed with no contacts once again. Without on-the-job search, it is the threat of continued search while unemployed which increases the workers’ reservation wage, raises the wage offered and hence avoids the Diamond (1971) paradox. In contrast, this paper incorporates on-the-job search as well as firm heterogeneity and optimal firm entry. These extensions create search capital accumulation. With on-the-job search,

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1. Insurance here is not against unemployment per se but against a type of unemployment. When a laid off worker returns to a previous employer or contact, the worker receives a take-it-or-leave-it which makes the worker indifferent between employment and unemployment with a contact. Therefore, contacts insure (in part) against unemployment without a contact which has a strictly lower payoff.

2. The type of recall studied in this paper differs from recall unemployment as investigated by Fernandez-Blanco (2013) and Fujita and Moscarini (2015). Recall unemployment is a by-product of temporary layoffs, where employers layoff workers with the option of employing them again at some point during their unemployment spell. In contrast, employer returns in this paper occur as a result of workers using their employer contacts to avoid spells of unemployment.

3. Standard job ladder models assume that job destruction shocks affect all jobs equally and hence the job-to-unemployment transition is independent of the number of jobs held during the employment spell. See, however, recent work by Pinheiro and Visschers (2015) and Jarosh (2015).
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