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How amenities affect job and wage choices over the life cycle ☆

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Abstract

Job amenities are explicitly included in a model of job choice over the life cycle. The amenities are characterized by an indivisibility—a worker must be present at a job to enjoy its amenities. This characterization has implications on initial job choice, a worker's wage profile and whether they move to a higher or lower paying job.

JEL classification: J2; J6

Keywords: Job changes; Amenities; Lifetime wage profile

1. Introduction

It is well known that a job consists of many characteristics valued by the worker, only one of which is the wage. In equilibrium, the pricing of these characteristics leads to observed differences in wages—a compensating differential—such that the value of jobs is equalized. This topic has generated a considerable amount of research focusing on the existence, or extent, of such differentials.

In this paper, job amenities are explicitly included in a model of job choice over the life cycle. The amenities are characterized by an indivisibility—a worker must be present at a job to enjoy

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its amenity. This characterization has implications on initial job choice, a worker's wage profile and whether they move to a higher or lower paying job.

A life cycle model is constructed that allows workers to choose their career path over various jobs, where a job is defined by a wage and amenity bundle. We find that when amenities and wages are not perfect substitutes, a worker will always want to change jobs at some point in life. The basic intuition underlying this result is that workers can smooth their amenity consumption over their lifetimes only by changing jobs, this arises from the assumption of the indivisibility of amenities. When amenities and wages are perfect substitutes, workers will change jobs only if a smoother *total* consumption path—where total consumption is the sum of the amenity and a market good—is obtained by a job change.

Here, when a worker changes jobs, the wage will necessarily change. Our model makes rather stark predictions concerning wages over the life cycle. In particular, some workers initially choose high paying jobs and then migrate to lower paying ones; while other workers will follow precisely the opposite strategy. What determines the sequencing of jobs over time, in terms of migrating to higher or lower paying jobs, is the worker's rate of time preference in relation to the market interest rate. Workers who discount the future at a higher rate than the market interest rate will move to higher paying jobs over their lifetimes, while those who discount at a lower rate than the market interest rate will move from higher to lower paying jobs.

The voluntary movement of workers from high to low paying jobs is consistent with the data. Using the Panel Study of Income Dynamics it is possible to identify workers who have changed employers *voluntarily*.[1] While the majority of the voluntary leavers move to new jobs that pay more than their previous job, a surprisingly substantial proportion (approximately 42%) move to new jobs where the wages are actually *lower*.[2] This paper provides a model that can account for workers moving from either high to low or low to high paying jobs where the direction of the movement depends upon the worker's (relative) rate of time preference.

The closest paper to ours is Rosen (1972). In his paper, jobs offer different amounts of general training, or learning opportunities. Jobs that provide more (on-the-job) training pay lower wages; higher paying jobs require higher investments in general training. Over the life cycle, workers change jobs, moving from lower paying jobs to higher paying ones. A key prediction that is absent from the Rosen (1972) model, but is in the data, is that workers move from high to lower paying jobs.[3]

Finally, Hwang et al. (1998) extend the Mortensen (1990) basic job search model to include a non-wage component. As in the Rosen (1972) model, there is a distribution across firms of the cost of providing the amenity. Hwang et al. (1998) show that adding search into a model with a non-wage component can give rise to a bias in empirical models that try to uncover the marginal willingness to pay for amenities. In other words, although workers are willing to trade off wages for the amenity, the search model can generate a positive relation between the two.

The paper is organized as follows. Section 2 presents the model. Section 3 analyzes the case where wages and amenities are not perfectly substitutable within a job, while Section 4 analyzes the case where they are perfect substitutes. Section 5 presents some stylized facts from the

[1] Although in principle it is difficult to know whether a separation is voluntary or involuntary, the question in the PSID asks workers to choose from several reasons as to why they left their last job, one of which being that they chose to leave.

[2] The model makes no distinction between employer changes or job changes, though in the PSID the question concerns employer changes. However, in this paper, job and employer changes are used interchangeably.

[3] Rosen (1972) has workers changing jobs, but in effect has linear preferences as workers only maximize the present discounted value of lifetime income.