Labour Economics 29 (2014) 72–82

Contents lists available at ScienceDirect

Labour Economics

journal homepage: www.elsevier.com/locate/labeco

Getting to work: Experimental evidence on job search and transportation costs☆

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HIGHLIGHTS

- I study the effect of subsidized public transit on job search for the urban poor.
- I run a field experiment providing free public transit passes.
- Those receiving transit subsidies search more intensely for employment.
- Search intensity increases more for those living far from available jobs.
- Measured improvements in labor market outcomes are statistically imprecise.

ARTICLE INFO

Article history:
Received 1 January 2014
Received in revised form 8 May 2014
Accepted 15 July 2014
Available online 23 July 2014

JEL classification:
J64
R4

Keywords:
Search costs
Spatial mismatch
Public transit
Urban poverty

ABSTRACT

Do transportation costs constrain job search in urban low wage labor markets? I test this question by providing transit subsidies to randomly selected clients of a non-profit employment agency. The subsidies generate a large, short-run increase in search intensity for a transit subsidy group relative to a control group receiving standard job search services but no transit subsidy. In the first two weeks, individuals assigned to the transit subsidy group apply and interview for 19% more jobs than those not receiving subsidies. The subsidies generate the greatest increase in search intensity for individuals living far from employment opportunities. Some suggestive evidence indicates that greater search intensity translates into shorter unemployment durations. These results provide experimental evidence in support of the theory that search costs over space can depress job search intensity, contributing to persistent urban poverty in neighborhoods far from job opportunities.

1. Introduction

In the urban United States, de-facto residential segregation results in many minority, poor individuals living in areas with few available jobs. Kain (1968) and Wilson (1997) have argued that a lack of geographic access to jobs contributes to adverse labor market outcomes for these individuals. In this paper, I use an experiment of randomly provided public transit subsidies to test one mechanism that could drive such spatial mismatch effects. I randomly assign clients of a non-profit employment agency to a control group receiving only standard job search assistance or a treatment group also receiving subsidized public transit. Individuals in the sample are disproportionately African-Americans from economically disadvantaged neighborhoods. I find strong evidence that those assigned to receive subsidized transit experience a large, temporary increase in search intensity relative to the control group. During the first two weeks after receiving subsidies, individuals assigned to the treatment group search more intensely than the control

☆ I have particularly valued feedback and guidance from Billy Jack. The editor, Etienne Wasmer, and two anonymous referees provided extensive useful comments. I have also benefitted from the comments of Jim Albrecht, Luca Flabbi, James Habyarimana, Harry Holzer, Arik Levinson, Anna Maria Mayda, Susan Vroman; seminar participants at the Inter-American Development Bank, Georgetown University, University of Chicago, RAND, Smith College, Wheaton College, Hope College, and Transylvania University; and conference participants at the Urban Economics Association Meetings, Southern Economics Association Meetings, and the Oxford CSAE Conference on Urban Mass Housing. I would like to thank the staff of Jubilee Jobs for helping with implementation and data collection and the clients of Jubilee Jobs for their participation. This project was supported by the National Poverty Center using funds received from the U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, grant number 1 U01 AE000002-03. The opinions and conclusions expressed herein are solely those of the author and should not be construed as representing the opinions or policy of any agency of the Federal government. Of course, all errors and omissions remain my responsibility.

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http://dx.doi.org/10.1016/j.labeco.2014.07.005
0927-5371/

group, completing 19% more job applications and interviews. After two weeks, the uptick in applications and interviews disappears. This is not surprising as it coincides with the treatment group's quick exhaustion of the subsidy.

Transit subsidies have the largest effect on search behavior for those living far from job opportunities. I measure job access as the average travel distance to a set of job vacancies at baseline. Transit subsidies have nearly double the effect on search intensity for applicants 9 miles from job vacancies (90th percentile) versus those 6 miles away (median). While search costs over space matter for the whole sample, they matter most for those living in neighborhoods with limited access to employment. I also find suggestive evidence of decreased unemployment durations, though this estimate is statistically imprecise. Unfortunately, effects on wages and job locations cannot be distinguished from random noise.

The results match the predictions of standard job search theory. I build a simple job search model and explicitly demonstrate what accepted theory would predict. Providing a durable but depletable search-enhancing good (e.g. bus passes) should create an immediate, temporary spike in search intensity, followed after some lag by an increase in the hazard from unemployment. These predictions follow standard theory in which any decrease in the cost of searching, including subsidizing public transit, causes job seekers to search more intensively (Pissarides, 2000). Workers may translate greater search intensity into shorter average unemployment durations, an increased reservation wage, or some combination of the two.[1] In this theoretical framework, transportation subsidies relax a constraint on job search, leading to greater search intensity and improved labor market outcomes, especially for those far from jobs. While the evidence on labor market outcomes is limited, the fact that search intensity increases especially for those far from employment centers confirms a central mechanism of the spatial mismatch hypothesis, that transportation costs hinder job search for the urban poor.

A well-established empirical literature uses randomized experiments to measure how active labor market policies affect job search and labor market outcomes. Woodbury and Spiegelman (1987) find that providing job-finding bonuses to those receiving unemployment insurance (UI) leads to faster exits from UI. Meyer (1995) reports on a series of follow-up experiments in which a combination of job search assistance and enforcement cut the length of UI receipt. Such results have been replicated in other contexts (Dolton and O'Neill, 1996, 2002; Black et al., 2003; Card et al., 2010). While many experiments have tested how variants of information, coaching, or enforcement may affect job search outcomes, to my knowledge no study has examined the importance of search costs over space using a field experiment. Thus, in its most narrow interpretation, the present study provides new evidence regarding the effect of adding public transit subsidies to a standard job search assistance package for the urban poor.

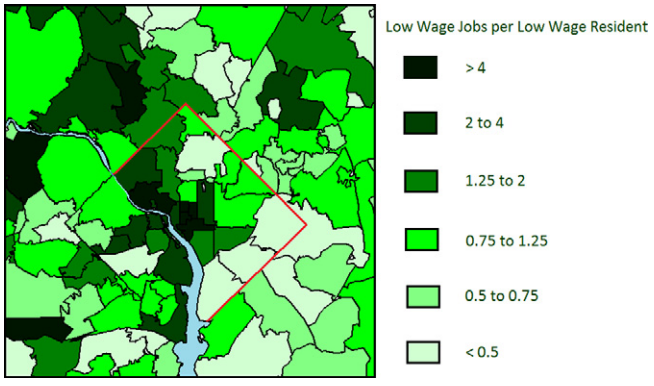
More broadly, the results indicate that search costs over space matter most for low-wage job seekers living in neighborhoods with the least access to employment. The spatial mismatch hypothesis seeks to explain the existence of geographically concentrated poverty by focusing on spatial access of urban workers to available jobs (Kain, 1968; Wilson, 1997). This theory can be generated by many mechanisms (Gobillon et al., 2007), but search costs over space in general (Colson et al., 2001; Wasmer and Zenou, 2002, 2006) and transportation costs in particular (Gautier and Zenou, 2010) can lead to disparities in search behavior, labor market outcomes, and the spatial concentration of poverty. These theories rely on the assumption that search becomes less effective over space due to worse information or higher transportation costs. As a result, search costs dampen search intensity most for individuals living in distant, spatially-mismatched neighborhoods, and this leads to poor labor market outcomes. The results show that transportation costs affect search intensity particularly for those living far from jobs. This result confirms a vital assumption of the theory. Of course, the present results apply to the population of low-wage, urban, minority workers included in this experiment, but this is the group proves relevant for the spatial mismatch literature.

A large empirical literature has used observational data and natural experiments to test the theory of spatial mismatch, with most of the literature confirming that better transportation improves employment outcomes (Raphael and Stoll, 2000; Holzer et al., 1994, 2003; Raphael and Rice, 2002) and suburbanization of jobs harms employment outcomes of urban minorities (Zax and Kain, 1996). Recent empirical work on urban job search also supports this idea. Job applicants in the UK (Manning and Petrongolo, 2013) and in the US (Marinescu and Rathelot, 2013) apply to nearby jobs much more intensely than distant jobs, even within the same metropolitan area. Gobillon et al. (2014) demonstrate in a search and matching model that commuting costs can explain a significant part of racial unemployment disparities in both France and the US. However, no experiments have successfully confirmed that alleviating transportation costs can improve labor market outcomes. Whether by directly lowering transportation costs through a shared van ride system (Roder and Scrivner, 2005) or by providing housing vouchers in lower poverty neighborhoods (Kling et al., 2007; Ludwig et al., 2012), previous attempts to reduce spatial mismatch have generally shown little improvement in labor market outcomes. Thus, the present study provides the first experimental evidence on one potential mechanism of spatial mismatch: search costs over space. I find that transportation costs can reduce job search intensity of the urban poor, particularly those living far from existing job vacancies. Thus, this study provides the first experimental evidence that transportation costs constrain job search of the urban poor in a manner that could contribute to observed patterns of concentrated poverty.

The next section provides context on the spatial distribution of employment in Washington, DC; section three presents a simplified job search model to help define outcomes of interest and provide benchmarks against which to compare measured results; the fourth and fifth sections describe the operation of the experiment and the data; the sixth section presents results of the experiment; and a final section concludes.

2. Context

Washington, DC provides a prime example of how de-facto residential segregation can lead to spatial mismatch of workers from available jobs. Low-wage jobs in the DC metro area tend to be located downtown



Source: 2010 Longitudinal Employer-Household Dynamics data.
Low-wage jobs are those with workers earning $1,250 per month or less.

Fig. 1. Ratio of low-wage jobs to low-wage residents, across zip codes. Low-wage jobs are those with workers earning $1250 per month or less.
Source: 2010 Longitudinal Employer-Household Dynamics data.

[1] If the job seeker becomes much more selective, unemployment durations may actually rise, though this is not typical (van den Berg, 1994).