

**ESSAYS ON
URBAN SPATIAL STRUCTURE, JOB SEARCH, & JOB MOBILITY**

by

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This dissertation consists of three self-contained essays that address two distinct topics in labor economics: (1) the effects of geographic accessibility to employment opportunities on job search outcomes; and (2) the effects of job skills on wage growth and job mobility patterns. Both of these have become increasingly important topics for study, amid the structural economic changes (over the past three decades) of employment—occupationally, sectorally, qualitatively, and geographically—that have resulted in increasing earnings inequality within and between racial/ethnic and education groups.

The first essay emphasizes the spatial nature of the job search process and highlights the importance of spatial aspects of the labor market in shaping the structure of opportunity. Analysis of the mechanisms through which a worker's location within the economy affects his/her return to human capital, has been missing from most previous studies. Data from the household and employer surveys of the Multi-City Study of Urban Inequality (MCSUI) are merged for Atlanta, Boston, and Los Angeles, to examine the impact of access to employment opportunities and dimensions of job search behavior on search duration. I develop detailed geographic measures of job accessibility using the spatial distribution of the sample of recently filled non-college jobs and net hires from the MCSUI Employer Survey (which approximates the sample of jobs available to current/recent job searchers), and account for the spatial distribution of the competing workforce for these non-college jobs, in the Atlanta, Boston, and Los Angeles metropolitan areas. A primary goal of this research is to improve our understanding of job search behavior and search outcome differences between racial groups, and to investigate the role of the spatial structure of urban areas (specifically, residential segregation and the decentralization of employment) in contributing to these differences. What is of especial significance in this analysis and has important policy implications for less-skilled workers is identifying possible barriers/rigidities that apply to some racial/income groups and not others, that ultimately contribute to racial disparities in search outcomes and underemployment.

The remainder of my dissertation consists of two thematically related essays focused on the earnings and job dynamics of former/current welfare recipients in the post 1996 welfare reform era. Both of these essays use new survey data from Michigan of both employers and longitudinal data of former/current recipients. The first of these essays, joint with Mary Corcoran, examines the relationships of schooling, the skill content of work experience, and different types of employment patterns with women's job quality outcomes. Economists

traditionally focus the good jobs–bad jobs debate on wages. Employment rates and wages measured at a point in time, however, provide an incomplete picture of the quality of employment outcomes obtained by former and current recipients. In this paper, a series of job quality indices is developed that broadens the analysis of job quality to include non-wage attributes of compensation and aspects of jobs that affect future earnings potential. Aggregate measures of accumulated work experience are shown to mask considerable heterogeneity in job transition patterns and job skills used, which each have profound effects on the likelihood of transitioning to a good job. This study shows the extent to which lack of employment stability, job skills, and occupation-specific experience impedes welfare recipients’ abilities to obtain a “good job” or to transition into one from a “bad job”.¹

The final essay analyzes the relationship between job skills, job changes, and the evolution of wages. Using unique data containing detailed job task histories, I analyze the effects of the skill requirements of jobs on starting wages, on-the-job training opportunities, wage growth prospects, and job turnover. I explore how differences in learning opportunities generate heterogeneity of wage-growth rates among jobs by examining the observed heterogeneous wage-growth rates among jobs of different job skill/task requirements. I provide evidence of heterogeneity across workers and jobs in the experience-earnings profile—its steepness (in return to experience) and its discontinuities (due to wage changes associated with job change)—and document systematic differences in expected wage changes with job mobility that depend on reason for and type of job change. The determinants and consequences of job dynamics, and their relationship with the mechanics of the wage growth process, are investigated. The interrelationship between wage growth prospects and job turnover behavior is examined using both firm-level and longitudinal individual-level data. This research contributes to our understanding of the nature of the job mobility and wage growth process for less-skilled workers, and highlights the importance of jointly considering both processes.

Landing a Job in Urban Space: The Extent & Effects of Spatial Mismatch

The increasing decentralization of employment, especially amongst low-skill jobs, that has occurred in U.S. metropolitan areas over the past 30 years has been well documented (Kasarda 1985, 1995; Hughes and Sternberg 1992). Low-income households (comprised mainly of less-educated and lower-skilled individuals), and particularly minorities, are largely residentially confined to the central city because of lack of affordable

housing in suburban areas and suburban land use policy/practices, such as exclusionary zoning, and discrimination (Yinger 1986, 1995). Consequently, their residential location decisions are not very responsive to changes in the geographic distribution of employment opportunities.

Kain (1968) was the first to propose a relationship between residential segregation and labor market outcomes, commonly referred to as the “Spatial Mismatch Hypothesis” (SMH). The SMH proposes that involuntary housing segregation acts to disadvantage poor inner-city workers’ labor market outcomes by isolating them from the labor market opportunities they are most qualified for.

The ways (i.e., how and where) less-educated and less-skilled individuals search for work, as well as the costs associated with and the effectiveness of search across space, all have important implications for the effects of increased suburbanization of low-skilled employment. Are individuals expanding their search geographically in response to the decentralization of employment? If not, what aspects of the costs/benefits of job search make longer commutes and expanded search patterns an inefficient response to the geographic labor demand shift that has occurred over the past three decades? This paper analyzes job search behavior and its effects on search duration, in an effort to investigate the role that access to employment opportunities has on the labor market outcomes of less-educated individuals. I use a search theoretic framework and build a model to address these questions, and to gain deeper insights into how the volume, pattern, and efficiency of job search activity are shaped and affected by different spatial labor market conditions.

The presence of spatial mismatch causes (otherwise) identical individuals to achieve different labor market outcomes because of their residential location. I begin by setting out a general equilibrium search model that outlines the necessary/sufficient conditions for spatial mismatch to emerge in equilibrium—namely, (i) residential location decisions must be constrained, (ii) firms must face higher costs (set-up/production costs) in areas where residents are constrained, (iii) search or commuting costs must be non-trivial.² A weakness of the SMH literature is that it has evolved largely without an explicit theoretical model to explain how urban spatial structure affects labor market activity. Placing the present analysis in the context of a search theoretic framework helps to provide insight into why space matters. I consider implications of the model for race differences in the labor market effects of spatial-related factors. Of particular interest, are the spatial implications of the search model, which help us to understand how urban spatial structure affects job-worker

matching and the differential quality of worker-job matches between groups as a result of spatial isolation (residential segregation by race/income).

One of the central hypotheses of this study is that the job search behavior (e.g., the reservation wage, reservation commute, and search intensity) and the job search outcomes of more residentially constrained racial/ethnic groups are more sensitive to local job accessibility. How job search behavior and job search outcomes (among individuals facing residential location constraints) are affected by local job accessibility is dependent on (will be a function of) the fluidity of the labor market (i.e., the degree of search frictions across space and extent of spatial job search/commute costs). Since whites are relatively unconstrained in their housing choices (along with greater commute abilities due to higher car ownership rates and greater search abilities across space due to better information about job opportunities), job accessibility at the beginning of a job search is less binding for whites, and thus they are expected to be less sensitive to local labor market demand conditions.

Access to a data set that can test the empirical validity of various implications of spatial search theoretic models is a major asset of this work. While there is ample empirical evidence documenting the existence of residential mobility constraints facing black workers (confining them largely to the central city)³, and supporting evidence of lower firm setup/production costs in the suburbs (resulting in suburban job growth) (two of the three conditions necessary/sufficient for spatial mismatch), much less is known about the spatial nature and magnitude of search costs (condition (iii)). This paper emphasizes the spatial nature of the job search process, examining the effects of dimensions of job search behavior and the proximity to employment opportunities on search duration. The empirical section investigates these expected differential effects of job accessibility by race/ethnicity. The analysis uses data from Atlanta, Boston, and Los Angeles—three large MSAs with diverse spatial structures in which high levels of racial residential segregation prevail, and for which the trend of increasing decentralization of less-skilled jobs has been especially pronounced. Previous spatial mismatch studies have focused exclusively on blacks. Taking advantage of data from multi-ethnic MSAs (Los Angeles and Boston), I present evidence of the effects of spatial factors on the job search outcomes of Hispanics, Asians, as well as blacks and whites.

Formidable challenges in empirically testing the validity and relative importance of the SMH involve: (1) confronting the problem of the endogeneity of residential location, and (2) characterizing the spatial distribution of employment opportunities by creating a measure of access. Residential location is endogenous because of the simultaneity of an individual's workplace location decision and residential location decision. Moreover, there is simultaneity between an individual's labor market outcome and residential location decision. It is not clear which occurs first—does suburban residence, by conferring better proximity to job opportunities, lead to securing a good job? Or does a good job enable one to obtain suburban residence?

In this paper, I use unique attributes of the household and employer surveys of the Multi-City Study of Urban Inequality (MCSUI) data set to address the above empirical challenges and empirically investigate the labor market effects of spatial factors, in ways that differ from those of previous analyses.⁴ In contrast to the labor market outcomes that have been analyzed in most previous spatial mismatch studies, I analyze job search spells for a sample of individuals who had recently conducted a job search. I have data on their residential location at the time the job search began, as well as any residential location changes during or after the job search was underway. As a result, I can address a specific kind of endogeneity ex-post—namely, that people might move to the jobs (e.g., Zax & Kain 1996).

Additionally, the MCSUI Household Survey contains extensive information about search methods used in looking for a job (including information about how and where individuals searched), and this job search analysis is only one of a handful of studies that analyze the search durations of both individuals searching while employed (on-the-job search) and those searching while unemployed. I distinguish between individuals who obtain transitional employment while continuing to search, and those who successfully complete a job search, which highlights the importance of distinguishing between job search spells and unemployment spells.

I also separate the effects of spatial structure on the labor force participation decision from their effects on search outcomes. Both processes—what affects the labor force participation decision and what affects search outcomes—are important. However, by restricting my sample to individuals who had recently conducted a job search, I focus my regression analysis on the effects of spatial structure on the job search behavior and job search outcomes of labor force participants.

Estimated effects of job accessibility may also suffer from omitted variable bias. My use of individual level micro data, as opposed to aggregate neighborhood (census tract) level data, to examine spatial mismatch offers significant advantages in addressing this potential source of bias. In my job search model, I include both job accessibility and neighborhood variables, along with an extensive set of controls, to minimize omitted variable bias (unobserved heterogeneity).

Lack of detailed geographic measures of job availability has forced most previous research to rely on the crude central city/suburban dichotomy or commuting-time based measures of accessibility. However, because suburban areas have experienced uneven job growth geographically, it is important to account for variation in less-skilled job availability between and within both central cities and suburbs (Stoll, Holzer, Ihlanfeldt 2000). An important shortcoming of commuting-time based measures of accessibility is the fact that lack of information about suburban job opportunities, or not having access to a car to get to suburban employment centers, can prevent a potential job match between an inner city resident and a suburban job opening from occurring (each resulting in an individual restricting his/her job search to areas in close proximity of his/her residence). Among the goals of this study is to investigate the role of imperfect information about the location of job availability, as well as the effect of an increase in search costs, caused by not having access to a car while searching, on the duration of job search. Neither of these can be accomplished using commuting-time based measures of job accessibility.

In this paper, I use the observed commuting behavior of employed workers as the basis to represent the local labor market. Using actual commuting patterns from Census Transportation Planning Package (CTPP) data, I estimate a first stage gravity model to isolate the effect of distance on intra-metropolitan less-skilled labor search/commuting behavior. The estimated distance decay function captures the composite effects of distance in reducing the probability of searching for, finding, and accepting distant job offers. The estimate of the distance decay function is then used to discount distant employment opportunities and to discount distant competing workers, to form measures of accessibility. In particular, for each respondent in the household survey, I develop geographic measures of job accessibility using the spatial distribution of the sample of recently filled non-college jobs and net hires from the MCSUI Employer Survey (which approximates the

sample of jobs available to current/recent job searchers). The measures also account for the spatial distribution of the competing workforce for these non-college jobs.

The main results of the paper can be summarized as follows. First, I find the consistent pattern across all three MSAs that job accessibility for less-educated workers is greatest in predominantly white suburbs more than 10 miles from the centroid of black residential concentration, and that these “job-rich” areas are not served by public transportation. The regression results indicate that job search behavior and job search outcomes are affected by the interaction of the degree of residential location constraints facing the job seeker and the job searcher’s proximity to employment opportunities. In particular, the regression analysis identifies significant race differences in the effects of job accessibility and reveals that the patterns of racial differences in the effects of job accessibility mirror the patterns of racial differences in the extent of residential location constraints (documented in the residential segregation literature), as predicted by theory. I find large effects of job accessibility for less-educated blacks and small insignificant effects for similarly educated whites. Simulation results show that black’s greater sensitivity to local labor market demand conditions contribute significantly to the black-white gap in search durations. In addition, the decomposition analysis shows that racial differences in the distribution of job accessibility account for nearly one-fourth of the black-white gap in the hazard of successfully completing a job search, and the cumulative effect of racial differences in all the included spatial search-related variables accounts for roughly half of the overall black-white gap.

The results provide strong support for the spatial mismatch hypothesis. The inconsistency of the results of previous studies that have attempted to test the spatial mismatch hypothesis, and the resulting controversy concerning the relevance of space in explaining racial differences in labor market outcomes, is a byproduct of the use of imprecise/inappropriate measures of job accessibility. The detailed geographic measures of job accessibility developed in this paper are an important contribution to the analysis of spatial issues examined in this study. The results of this study suggest that greater enforcement of fair housing laws, as well as policies to alter the distribution of jobs in metropolitan areas in favor of the central city, such as empowerment zones, combined with full employment policies that tighten labor markets will significantly improve blacks’ and Hispanics’ job search outcomes.

Wage & Job Dynamics After Welfare Reform: The Importance of Job Skills

Much of the current welfare reform debate centers around opposing views regarding the job and wage dynamics, and potential for wage growth, for former/current welfare recipients. There is consensus that initial wages are likely to be low for low-skilled workers. Some analysts think that low-wage jobs represent a port of entry into higher-paying jobs, whereas others are concerned that entry-level jobs simply represent the first in a succession of “dead-end” jobs (Connolly and Gottschalk 2001).

There are a number of theories regarding the internal dynamics of the firm and job turnover, and an extensive empirical literature investigating whether/why wages rise with years of seniority.⁵ However, it remains unclear whether these models and empirical estimates apply to less-skilled workers. There is scant empirical evidence concerning the job and wage dynamics that accompany initial employment at low wages. Analyses that have focused on the wage growth of less-skilled workers have not distinguished between within-job wage growth and between-job wage growth.⁶ Understanding the mechanics of wage growth for less-skilled workers and assessing the relative contributions of different sources of wage growth (returns to general work experience, job tenure, and improvements in job matches) are as important as the estimates of the overall rate of wage growth. Employment activities within the firm, such as job skills used, on-the-job training, promotion activity, and the consequences of training and promotion, are typically unmeasured. Thus, we currently have little systematic knowledge of the evolution of job assignments and resulting effects on wages, particularly in less-skilled labor markets.⁷ This paper makes strides to bridge this gap by analyzing employment experiences of representative samples of former/current welfare recipients using both individual-level and employer survey data that contains detailed job task histories.

In this paper, I address the following research questions. How much of wage growth depends on promotion from one job to another, and how much is accounted for by within-job wage growth? How are wages, task requirements, and human capital investment opportunities related? Do jobs (as opposed to workers in them) have different turnover behavior? What are characteristics of jobs that lead to promotion? How do those characteristics contrast with those prevalent in dead-end jobs? I use unique longitudinal individual-level and firm-level survey data from Michigan to provide complimentary evidence from the supply and demand side

on these research questions. Both data sets were administered during 1997-2000 (after the implementation of welfare reform), and the same set of detailed questions about job tasks/work skills were asked in each survey.

In the models estimated in this paper, I conceptualize a job in terms of its production aspects (inputs) as a collection of tasks. Job tasks are not independent of the workers who perform the tasks. Thus, disentangling person-specific and job-specific effects has implications for whether low-wage jobs are inherently dead-end—and if so, which kinds of jobs? A job can be defined by the technological investment opportunity it provides a worker (Lazear 1995; Rosen 1972). Few studies analyze whether jobs differ in their prospects for earnings growth, and the existing evidence lacks a consensus. A further issue that arises is whether serial correlation in wage increases is attached to jobs or to workers (Munasinghe 2000).

My estimation model assumes human capital characteristics (job task attributes) affect not only wage levels, but also the process of wage growth (e.g., via learning ability or differences in human capital investment opportunities across jobs). I include both the vector of job skill variables and measures of the number of years of experience using the relevant job skills to allow the use of job skills to affect both the wage level and wage growth (i.e., the slope of the wage-experience profile). I decompose returns to various job skills into a constant and a part related to experience. Using longitudinal data of a sample of former/current welfare recipients, I estimate the effects of job skills, and explicitly control for unobserved heterogeneity by contrasting recipients' wage growth and turnover rates in jobs held of differing skill requirements. To identify the returns to various job skills, I examine whether workers who use a given set of job skills are better paid than workers who do not use these skills? If the answer is positive, I examine whether workers using these skills received higher pay before using these skills on the job, or received higher pay as soon as they started using these skills on the job, or finally, received higher pay once they had sufficient experience using these skills on the job.

The results indicate that average wage growth masks considerable heterogeneity in within- and between-job wage growth. Differences in job skill requirements explain a significant portion of the observed heterogeneity in wage growth. I provide evidence that jobs of different skill requirements differ in their prospects for earnings growth, independent of the workers who fill these jobs. This contradicts some previous studies that have concluded heterogeneity in permanent rates of wage growth among jobs is empirically unimportant (Topel 1991; Topel & Ward 1992; Abowd & Card 1989). I have shown that, in terms of wage

differentials, reading/writing skills, in particular, substantially increase wages not only through mere use, but also via experience using these skills, because these jobs offer more on-the-job training opportunities (formal/informal), and thus greater wage growth potential. This result was robust to explicit controls for unobserved heterogeneity related to wage levels and wage growth, as evidenced in the first-difference fixed effect and double-difference wage growth estimation results.

Computer usage is associated with relative pay differentials over non-computer-users. The association of computer usage with higher pay remains, even after controlling for many other sources of pay variation, thus replicating the similar findings of Krueger (1993) and others. However, unlike previous studies, the evidence here suggests that the large and significant effects of computer skill observed in the cross-sectional results do not reflect the true return of computer skills (i.e., the productivity enhancing effect of computers in the workplace), but rather is a result of the job sorting process through which workers with greater ability are systematically selected into jobs requiring computer skills. In the longitudinal dimension, the wage premium associated with computer skills disappears (both the immediate returns as well as the returns to computer usage experience). These results highlight the importance of using longitudinal data to isolate the true return to job skills, which was difficult to address by Krueger (1993) or DiNardo & Pischke (1997) using only cross-sectional information on workers.

Results from the wage growth analysis identified job mobility as a critical component of the wage growth process in the less-skilled labor market of this sample of less-educated women. My analysis of the determinants of job transitions underscored the importance of potential wage growth as an important factor affecting job turnover behavior. This work highlights the importance of *jointly* considering processes of turnover and wage growth when analyzing the labor market experiences of less-skilled workers. The results from the analyses of wage and job dynamics taken together, suggest that jobs requiring more cognitive skills (e.g., reading/writing) reduce worker's propensity to quit by providing greater learning opportunities (human capital investment opportunities—training (formal/informal)), thereby offering more potential to experience wage growth. The results from the job turnover analyses, which suggest an important role of wage growth prospects in predicting job turnover, are robust to explicit controls for unobserved heterogeneity, as evidenced in the fixed-effect Cox proportional hazard model estimation results.

The results have important implications for welfare reform. TANF's work participation mandates have shifted the focus of welfare-to-work programs away from education and training and toward immediate job placement. As this study demonstrates, however, job skills profoundly affect the wage-experience profile, and thus, remain a central ingredient that will determine welfare recipients' ability to attain economic self-sufficiency.

¹ Due to space considerations and the relatedness of the second and third essays, I do not discuss the second essay in detail below.

² The general equilibrium search model is drawn from the theoretical model developed in Coulson et al. (2002).

³ Several studies document the relative immobility of minority workers (Zax & Kain 1996; Yinger 1986, 1995).

⁴ See Ihlanfeldt & Sjoquist (1998); Kain (1992); Holzer (1991); for comprehensive reviews of the empirical evidence on SMH.

⁵ Notable examples include Altonji and Shakotko (1987), Topel (1991), Topel & Ward (1992), Mincer (1986), Bartel & Borjas (1981).

⁶ Notable studies focusing on the wage growth of less-skilled workers include Connolly & Gottschalk (2001), Gladden & Taber (2000), Loeb & Corcoran (2001), Burtless (1995), Moffitt & Rangarajan (1989), Card, Michalopoulos, & Robins (2001).

⁷ A shift in demand for worker characteristics that are unobserved in data sets like the Current Population Survey (CPS) is a principle hypothesis advanced to explain the increase in earnings inequality within education and experience groups that has occurred over the past three decades. Recent research has documented the growing importance of cognitive skills in wage determination, for all workers, as well as for less-educated workers (Murnane et al. 1995). However, the explanation of increasing returns to dimensions of skill not proxied by educational attainment has not resolved the puzzle as to which particular job skills have become relatively more valuable (Krueger 1993; DiNardo & Pischke 1997).