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Frederick Carson Mencken

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Employer recruitment and job matching theories: The effects of informal recruiting practices on racial and gender job composition

Mencken, Frederick Carson, Ph.D.
The Louisiana State University and Agricultural and Mechanical Col., 1994

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ABSTRACT

This dissertation analyzes the effects of employer recruiting practices on the gender and racial composition of jobs. Using the Metropolitan Employer-Employee Survey, I examine how the structural characteristics of organizations, occupations, industries and jobs affect the manner in which employers recruit for certain vacancies. The results show that employers use informal recruitment techniques, such as recruitment through professional colleagues and business associates, to recruit for executive/managerial, professional and other white-collar occupations. Employers use formal recruiting techniques for jobs in large establishments, in government agencies, and lower-level white-collar jobs.

The dissertation addresses the link between recruitment practices and the gender and racial composition of jobs. The results show that informal recruitment through colleagues and business associates has a negative effect on the percentage of females and blacks employed in occupation-by-industry categories. Moreover, these effects are net of other measures which control for both the supply of qualified labor and employer demand for certain types of labor. However, informal recruitment through current employees has no effect on the racial and gender composition of jobs. The ramifications of these results are explored and discussed in detail.
Following the job composition analysis, I extend the analysis to other labor market issues by analyzing the interrelationship among recruitment, job composition and salary. The results of this analysis show a positive relationship between informal recruiting through colleagues and the starting salary of a job, and a negative relationship between starting salary and percent black and female employed in a job. I conclude that employers' use of informal recruitment through business associates and colleagues is associated with better paying jobs, and that this type of recruitment disadvantages females and minorities. In the last chapter, I argue that structural efficiency models of labor market inequality need to be amended to incorporate Weberian notions of social closure.
CHAPTER 1. INTRODUCTION

The Problem

Occupational segregation by race and gender has negative economic consequences for affected groups, and is linked to many contemporary social problems. In a recent paper, Tomaskovic-Devey (1993b: 76) contends that occupational segregation is the dominant sociological reason for the male/female earnings gap. He also notes that earnings decline for all groups when the percent black increases in an occupational category. The social consequences of occupational segregation are well-documented. Occupational segregation forces women and minorities into a narrow range of occupations which offer little training and few opportunities for advancement (Charles, 1992; DiPrete and Soule, 1988; Kaufman, 1986). The consequences of occupational segregation are lower wages (Tienda et al., 1987; Rosenfeld, 1980; 1983; Abrahamson and Sigelmann, 1987; Fossett et al., 1987; Kaufman, 1986; Jacobs, 1989a; Corcoran, Duncan and Ponza, 1984), less autonomy (Singelmann and Mencken, 1992; Jaffe, 1989), and less authority (Jaffe, 1989; Wolf and Fligstein, 1979a; 1979b) for affected groups.

In addition, occupational segregation and low wages are linked to the feminization of poverty (Roos and Reskin, 1992). The wage-gap has long-term negative effects on the earning power of single women, and negative
consequences for the educational and occupational attainment of the children in female-headed households (Sandefur, McLanahan, and Wojtkiewicz, 1992). Jacobs (1989a) contends that the wage-gap leads to power inequalities in the household, which leads to lower self-esteem among women. Moreover, the poor work histories which often result from the occupational segregation of black workers are associated with unemployment, labor market isolation and the cycle of poverty (Wilson, 1987: 60). Occupational segregation also constrains the productive capacity of the labor force, robs the economy of valuable human resources, and exacerbates the problems mentioned above (Blau, 1984).

There are competing explanations which attempt to explain occupational segregation. Supply-side theories emphasize the choices that men and women make concerning training and career paths. These choices are affected by the prevailing gender-role ideology, which, beginning at a young age, socializes individuals into their proper gender roles. In another argument, the human capital perspective contends that gender differences in career and education choices lead to skills and experiences which are unequally valued in the market.

Demand-side perspectives focus on employer demand for female and minority labor. For example, the "taste" model contends that racial and gender segregation is a result of
"tastes for discrimination" among employers, employees, and customers. The statistical discrimination perspective claims that employers discriminate based on racial and gender stereotypes. For example, women are perceived as having higher turnover rates, and employers are reluctant to hire women (and minorities) for positions that require a long-term commitment, based on the perception that they are statistically more likely to quit.

Another demand perspective is job queue theory. According to this theory, employers rank jobs based on certain criteria. Employers rank jobs not only on the skills that are required to perform the job, but also on the appropriate race and gender attributes of a job (Reskin and Roos, 1990). For example, jobs that require the supervision of white males are not considered appropriate for females and/or minorities (Kaufman, 1986). Therefore, employers will make white male status as one of the job requirements.

The social closure theory contends that employer practices are attempts at preserving white male privilege at work, home and the community. Employers reserve the best jobs for white males. This protects the status of white males at the job level, and at higher levels in the organization. Additionally, reserving the best jobs for white males reinforces the image of white males as
superior, and also protects the image of self among white males (Tomaskovic-Devey, 1993a).

Occupational segregation by gender and race is a complicated process. Each of the above perspectives contributes something unique to the overall equation. For example, differences in quality of education between blacks and whites has some effect on racial differences in the types of jobs that whites and blacks occupy. However, among equally educated blacks and whites, there are still differences which can only be accounted for by differences in the employer demand for labor (Tomaskovic-Devey, 1993a).

Employer demand for labor is shaped by different factors. Certain employers discriminate and hire only whites for certain jobs (Kaufman, 1986). Other employers are afraid to hire women and minorities, because both groups have higher turnover rates (Tomaskovic-Devey, 1993a). Cultural beliefs about gender and race also influence the perception of appropriate employees. Employers are reluctant to hire black females into jobs which require them to supervise white males (Kaufman, 1986). Each of the above explanations is correct, and each makes some contribution to our understanding of the process of segregation.

In this dissertation I focus on the job matching process, and how it affects the racial and gender
composition of jobs. Job matching encompasses labor supply and labor demand. From the supply-side of the labor market, job matching involves potential employees searching for jobs. Much research has already been done on this topic, which I review in the next chapter. From the demand-side of the labor market, job matching involves employers recruiting and hiring new employees. The relationship between employer recruitment and occupational composition is speculated on (Roos and Reskin, 1984; 1992; Rosenfeld, 1984; Boylan, 1992), but has not been directly investigated. One reason for this is the lack of appropriate data to test the relationship. However, I have a unique data set which allows me to assess the effects of recruitment practices on the racial and gender composition of jobs across an entire SMSA.

This dissertation focuses on the effects that recruitment practices have on the racial and gender composition of jobs. There are two competing theories concerning recruitment and occupational composition. The efficiency approach maintains that informal recruitment techniques help employers reduce hiring risks. Because females and blacks are structurally unconnected to the informal recruiting networks, they are excluded from certain jobs, and are more likely to be recruited into jobs that use formal recruitment techniques. Unfortunately, this rational action sometimes leads to
irrational, yet unintended consequences (see Stinchcombe, 1990).

In contrast, the institutional theorists maintain that practices of informal recruitment segregate men and women into different occupations, into different job ladders, and into different levels of responsibility within occupational titles. Furthermore, their segregating effects reinforce culturally defined notions about the proper roles of men and women, whites and minorities in society. In essence, the segregating effects of informal recruitment satisfy and reproduce the cultural beliefs of market actors, which explains their persistence over time (Roos and Reskin, 1984; 1992; Reskin and Roos, 1990; England and Brown, 1992; DiPrete and Soule, 1988; Kanter, 1977).

The link between recruitment and occupational composition addresses empirical and theoretical issues beyond the segregating effects of these practices. Embedded in this relationship are issues concerning the structure of labor markets, and the interconnection between labor markets and other market types. Another key issue concerns the link between employer recruitment practices and the characteristics of jobs being recruited for. The empirical research in the following chapters will show that characteristics of jobs have important
influences on the manner in which employers recruit for those positions.

An important theoretical issue concerns the structure of labor markets and the movement of job information through labor markets. Economists maintain that labor markets are a frictionless bourse where the laws of supply and demand allocate individuals to jobs in the most efficient manner. Many of the studies in the new structuralist research tradition identify the labor market structures that deviate from the neoclassical model (Kalleberg and Berg, 1987; Doeringer and Piore, 1971; Sørenson, 1983; Beck et al., 1978). However, much of this work focuses on internal labor markets and job matching processes within the firm.

Yet, according to Boylan (1992), most sociological and economic approaches to labor markets assume that external labor markets fit the competitive model described in the neoclassical wage model. Moreover, Boylan (1992) contends that external labor markets are segmented by the recruitment techniques that employers use to fill vacancies. He also maintains that recruiting for employees through existing market contacts segments external labor markets because these practices deny certain individuals the opportunity to compete for these jobs.
Throughout this introductory chapter, I argue that embedded in the issue of employer recruitment practices are empirical and theoretical questions concerning the types of recruitment techniques and when they are used, the inequality in access to job information that these techniques create, and the effects of various techniques on the racial and gender composition of jobs. I view these three questions as interconnected in a linear sequence. That is, recruitment techniques logically comes before market segmentation, which logically precedes occupational segregation. This model is represented in the conceptual model presented in Diagram 1. I use this model to guide the sequence of analysis in this dissertation.

Structure of the Dissertation

Chapter 1 is an introductory chapter in which I briefly introduce readers to the problem which this dissertation addresses. Chapter 2 is a review of theoretical and empirical conceptions of labor markets. In this chapter I present the theoretical idea of labor markets as social structures. I also present Fararo's (1989) general theory of social structure, and my ideas as to where it fits into our understanding of the social structure of labor markets.
Chapter 3 is a test of the first path of the conceptual model. In this section I review pertinent job matching and recruitment literature in sociology, economics and other fields. Taking a new structuralist perspective, I derive hypotheses concerning the relationships between work structure correlates and the recruitment techniques used to fill vacancies in these structures. Using a representative survey of employers from the greater Chicago SMSA, I regress the frequency of use of different recruitment techniques on the characteristics of jobs, and the characteristics of industries, organizations and occupations in which these jobs are embedded.

In Chapter 4 I test path (b) of the conceptual model. In this chapter I present Boylan’s theory of external market structure and attempt to show that recruitment techniques create external labor market segments. I employ two methods. First, I cluster analyze the characteristics of jobs and the industries, occupations and organizations in which they are embedded with various recruitment techniques. Second, once these clusters are identified, I subject the clusters to discriminant analysis, to analyze which variables in each cluster have the strongest association with membership in that cluster. Finally, using analysis of variance, I analyze the effects
of these clusters on the racial and gender composition of the jobs in question.

In Chapter 5 I directly test the relationship between recruitment techniques and the racial and gender composition of occupation-by-industry categories. I regress the percent female and percent black on two informal and four formal recruitment techniques, controlling for an array of job, organizational, industrial and occupational characteristics. The analyses from this chapter support the hypotheses that informal recruitment has a negative effect on the percentage of females and blacks employed in occupation-by-industry categories.

Chapter 6 is a conclusion chapter, where I focus on the theoretical shortcomings of Fararo's dissemination model, especially as it is applied to labor markets, and labor market inequality research. Drawing on existing literature, and the empirical analysis in this dissertation, I attempt to show where appropriate modifications could strengthen the model, and expand its applicability to stratification research. I close with some general remarks about the strengths and limitations of my study, policy implications, and future research.
CHAPTER 2. JOB MATCHING THEORIES

Institutional theorists argue that the practice of informal recruitment through work related and "old boy" networks serves to deny females and minorities access to certain jobs (Rosenfeld, 1983; Roos and Reskin, 1984; 1992; Corcoran, Datcher and Duncan, 1980; Kanter, 1977). New structural theorists concur, arguing that the manner in which workers are recruited to work structures may explain why some structures have more or less individuals with certain attributes—such as race and gender (Kalleberg and Berg, 1987).

Intrinsic to the relationship between recruitment and job composition are theoretical and empirical issues of job matching, labor markets and the movement of job information in labor markets. Job matching models have done an excellent job of understanding how workers are matched to jobs in internal labor markets (see Kalleberg and Sørenson, 1981; Sørenson, 1983; Osterman, 1984; Althauser, 1989b). Unfortunately, research on jobs filled through external labor markets has either relied upon the neoclassical wage determination model or the concept of occupational internal labor markets to explain the job match process (Boylan, 1992; Bridges and Villemez, 1991).

In this chapter I argue, with the support of relevant literature, that the neoclassical model cannot adequately explain how individuals are matched to jobs in external
labor markets. I focus my critique on the neoclassical view that labor markets are cleared by the same price-equilibrium mechanisms that clear commodity markets. Following the critique, I present Granovetter's theory on the social structural embeddedness of job information. In particular, I focus on the important role that social contacts play in clearing labor markets, from both labor demand and labor supply perspectives. Granovetter's theory relies heavily upon inter-organizational networks to disseminate job information. Therefore, I also review other organizational and network literature to support the argument.

Literature Review

Neoclassical Labor Market

According to Kaufman (1988), economists rely upon the neoclassical wage determination model to explain the movement of information in labor markets. In the neoclassical model, the labor market operates like a commodity market. The model rests on assumptions of ample buyers and sellers of labor, perfect information about jobs, free and costless mobility, no organization among buyers or sellers, no social aspects of the labor market, no personal relationships between, and maximizing behavior among buyers and sellers (Kaufman, 1988; Kerr, 1988; Dunlop, 1988). The market is a competitive and frictionless bourse (Osterman, 1984). As Kaufman (1988:
149) describes the model, "...the competitive forces of supply and demand create an equilibrium or going wage, for similar workers and jobs and an optimal structure of wages and allocation of labor across industries and occupations." In other words, the job market fully determines wages at an equalized rate, which are attached to workers and are equal to the workers' marginal products (Doeringer and Piore, 1971). Any firm that pays less than the going rate will lose its workers to other firms; conversely, in an effort to maximize profits, no firm will pay more than the going rate. The forces of supply and demand bring the market into equilibrium, clear the market (i.e. match workers to jobs), eradicate all long-term non-compensating wage differentials, and ensure that labor is used in the most efficient way.

The neoclassical model (or shopping model) tends to view buyers of labor as benign actors in the market. It assumes that workers shop the market until they find a best match between employer needs and worker skills (Granovetter, 1988: 190). Market characteristics generate a distribution of potential wage offers to workers of equal levels. Job searchers "shop" the market, gathering information on potential offers. Shopping the market is an investment of both time and money. Therefore, workers are expected to search for offers until the expected marginal return, or the marginal wage rate increase from...
one additional search, equals the marginal cost of searching for another offer.

The neoclassical labor model is built upon the same assumptions as commodity market models (Granovetter, 1981). The labor model assumes that actors in the labor market invest time in evaluating several job offers, in the same manner that a consumer evaluates several durable goods (such as a refrigerator) before making a final purchasing decision. There are several key problems with grounding labor and commodity markets on the same assumptions. First, evaluating durable goods is easier than evaluating jobs or employees because providers of these goods go to great lengths to inform consumers (i.e. they advertise). There are non-profit organizations which publish much information about durable goods (i.e. Consumer Reports). Also, the variety of a particular durable good is relatively limited. For example, there are ten major automobile manufacturers in the U.S. market, each of which produces a comparable product in a particular market (i.e. Toyota Camry, Honda Accord, Ford Taurus).

Jobs are different from commodities. According to Granovetter (1981), there are very few jobs for which a great number of people are not qualified (at least on paper). The lack of job advertisement puts the burden on a job searcher. Moreover, for many occupations, the
number of potential employers in the U.S. labor market is astronomical.\footnote{The neoclassical wage model assumes a national market, or costless mobility across local labor markets.} Take a simple example of a manager. The number of potential employers is, at a minimum, a function of the number of industry sectors that employ managers and the number of firms within each industry sector.

Commodity product markets are more homogenous. While commodity markets benefit greatly from advertising, formal channels of job advertisements—such as employment agencies and newspapers—present a very small proportion of all vacancies at a given time (Granovetter, 1981: 22; see also Roos and Reskin, 1984). Also, there are even fewer methods by which job searchers can advertise their services to a pool of potential employers. This means that the opportunity costs of searching for a commodity are significantly less than the opportunity costs of searching for a job (or a new employee).

Also, the search model assumes that the more extensively one searches for a job, the greater the maximum offer available. However, there is little empirical evidence to support this claim (Corcoran, Datcher and Duncan, 1980). The opportunity costs of job searching are high because searching for a job takes time and money. The neoclassical search model operates from the empowered but unemployed assumption. That is, a
searcher is not employed but has the financial resources to engage in a rigorous, time consuming job search.

Employed searchers rely upon internal opportunities because they have limited time to pursue external opportunities. Moreover, for those who are actively searching for jobs, Rees (1966) argues that instead of workers searching extensively for job offers, and intensively researching each particular offer, the labor market is often characterized by individual job searchers pursuing rumors about job leads (see also Rees and Schultz, 1970). Finally, Granovetter (1981; 1988) argues that most job movers (those who find jobs) are employed and not actively searching when they first learn of their new position.

A group of economists argue that empirical observations do not fit theoretical labor market models very well and that the market does not clear because market participants do not have perfect information about jobs and prospective employees (see Granovetter, 1981; Kaufman, 1988; Rees, 1966; Rees and Schultz, 1970; Barron and Bishop, 1985). Rees (1966) claims that this poor fit between expectations and outcomes is attributable to the inability of the neoclassical model to account for the movement of job information (see also Rees and Schultz, 1970; Cohen, 1960; Doeringer and Piore, 1971). Rees (1966: 560) argues that without market information
structures, employers and employees have little information about one another, buyers and sellers of labor search blindly for one another, and the job match is achieved through a chance meeting in the market.

Rees (1966) contends that formal and informal channels of information dissemination are necessary for the efficient operation of labor markets (see also Rees and Schultz, 1970). Formal channels include advertising in newspapers, and employment agencies (public and private). Formal methods of information clearing are accepted as an efficient response to the market. These structures allow rational actors to better shop the market and gather quotes on other job offers. Formal structures also allow for the efficient operation of the market without seriously violating the assumptions of the neoclassical model (Rees, 1966). Granovetter (1981: 22) argues that economists attribute the need for formal information structures to irrational behavior on the part of job searchers. Moreover, economists believe that the expansion of public and private employment agencies and computerized job matching would put labor markets in equilibrium. In addition, many economists have sought an active national employment policy in which Job Service (a public sector employment clearing house) would be used to increase the efficiency of the market (see Haulman et al., 1987). However, others (Granovetter, 1988; Rees, 1966)
point out that, empirically, formal methods are seldom used and that the importance of informal methods and social contacts in matching workers to jobs is largely ignored.

While Rees and other economists (see Barron and Bishop, 1985; Barron et al., 1982; Rees and Schultz, 1970; Pissarides, 1984) emphasize the need for structures to disseminate job information, they fail to develop a comprehensive theory as to how information about jobs moves through labor markets. That is, they fail to explain how information originating at an employer reaches a prospective employee through informal information channels. I turn to Fararo and Granovetter's works, which provide a theoretical framework of information movement through its focus on the social nature of labor markets.

**Markets as Social Structures**

The above critiques of labor market theory and research lead to the general conclusion that labor markets do not work as economists generally expect them to. Given this conclusion, the question that needs to be answered is: How do labor markets work? In this section I maintain that labor markets can be better understood from a social structure or network approach. However, structural models of labor markets need to be amended to incorporate Weberian dimensions of social closure in order to understand how labor markets operate.
Network theorists maintain that markets are structured networks of interconnected buyers and sellers which facilitate the movement of information, goods and services among market actors (Wellman and Berkowitz, 1988). Thinking of markets as social structures is important to understanding how job matching contributes to occupational segregation. Fararo’s work is important to this dissertation because it provides a general theoretical model of labor markets as information processing systems which have a tendency to structure or bias the flow of information away from certain groups.

Fararo (1989) views complex social systems as web-like structures of connected nodes, or individuals. The basic unit in society is the tie or path between two individuals in the social structure. Moreover, this web of connected nodes facilitates the exchange of goods and services within any given context (product market, resource market, labor market, etc.). Fararo also maintains that the underlying structure of any given context can be uncovered by analyzing the flow of information through that structure. Therefore, we can understand the underlying structure of a labor market by analyzing how information flows through that context. That is, by analyzing the flow of job information from employers to prospective employees we learn something about the structure of the labor market which should be
helpful in understanding the process of occupational segregation.

Fararo (1989: 271) defines structure as the propensity to foster or inhibit the flow of information. Individuals in a social structure have homophily bias, which influences the flow of information through that context. According to Fararo, homophily is the propensity to be connected to individuals in similar social space—that is, to form relationships with individuals of the same race, religion, education, and income. In terms of labor markets and recruiting, homophily biases the flow of job information in the direction of those individuals who are socially similar to the originator of the job information. For jobs that typically employ white males, recruiting through informal work-related contacts biases the flow of job information to other white males.

One major theoretical problem with Fararo's model, as it pertains to recruitment, is that it does not adequately specify the mechanism which creates bias in the flow of information through labor markets. Fararo's general model assumes that bias results from a lack of integration within a social structure. The distribution of bridging ties connecting local network cliques is not sufficient to increase the access of all network nodes to the information being disseminated. Extending Fararo's model to labor markets assumes that affected groups (females and
minorities) are structurally unconnected to the network nodes through which much job information passes. However, work is one area in which homophily is reduced because work settings bring together heterogeneous groups—people of different education, income and ages—and provide opportunities for non-homophilous ties. Fararo’s (1989) theory also predicts that homophily is reduced, and integration increased, in certain context, especially where the need for cooperation is greatest. The integrative properties of the work environment also explain why research has failed to show strong evidence of gender and race segregated work networks (Moore, 1990; Brass, 1985).

I am not arguing that there is not homophily bias in networks, even within the context of labor markets. What I am saying is that Fararo’s model lacks a motivation for homophily. What is the source of the homophily preference? Why would individuals prefer (homophily implies preference of own kind) to pass along job information to those who are similar in social space? I believe that Fararo’s theory needs to be amended to include Weberian notions of social closure. Not only would it improve the applicability of Fararo’s theory to labor market issues, but it would also provide a mechanism of human behavior which drives homophily in his model.
There are two forms of social closure: closure by exclusion and closure by usurpation (Parkin, 1979). Exclusionary social closure is the attempt to close-off opportunities to members of "outsider" or "inferior" groups. Exclusionary closure first involves the identification of outside or inferior groups. Historically, identification of outsiders has been based on race, ethnicity, religion, language, and social origin. Parkin (1979) identifies exclusionary closure as an attempt to protect material status; I argue that exclusionary closure is also an attempt to protect images of self and self-esteem. When members of an inferior group begin to encroach upon your status, your image of self as superior is damaged. For example, when blacks start to move into white neighborhoods in the South, this threatens not only the material status of the whites (i.e. the belief that it lowers property values), but it also threatens the self-esteem of the whites in the neighborhood (i.e. we are no better than the blacks).

Closure by usurpation, on the other hand, is an attempt by the dominated or "inferior" group (or groups) to gain access to the excluded resources. It is an upward use of power. One example of closure by usurpation is the Voting Rights Act of 1965. Through legislation, blacks attempted to gain greater access to representative government denied them by southern whites through such
exclusionary practices as poll taxes and literacy tests. Legislation aimed at creating fairness in the labor market (anti-discrimination, equal opportunity legislation, affirmative action) are attempts by disadvantaged groups at closure by usurpation.

Social closure can be integrated into Fararo’s model to explain homophily in general, and exclusionary labor market practices in particular. Fararo’s model needs a better explanation as to the origin of bias in information flow patterns through social networks. Closure is one reason why information has a tendency to get trapped in local network cliques. Moreover, in terms of understanding the structured flow of job information through labor markets, closure can be used to explain why certain types of job vacancy information flows away from females and minorities. I will return to this point at a later time, when I will integrate gender-role ideology and patriarchy arguments with notions of closure and bias in the flow of job information.

The Movement of Job Information

The basic question of how labor markets operate (i.e. how are workers matched to jobs) is still unclear. However, Granovetter’s research on job matching issues offers insight into how employers go about finding employees. Although it temporally precedes Fararo’s work, Granovetter’s job matching research is largely an
empirical assessment of the information dissemination models proposed by Fararo. Granovetter (1981) argues that job information is deeply embedded in social structural processes. He contends that information about jobs does not move through search, as the neoclassical model suggests (see Lippcomb and McCall, 1976a, 1976b), but that it is diffused from employers to potential employees through social processes sometimes unrelated to market behavior.

Granovetter (1974; 1981; 1988) argues that social contacts are important to labor supply and labor demand theories. Granovetter is probably best known for his job matching structural model from the labor supply perspective: The weak-tie hypothesis. The argument is simple and straightforward. Job searchers prefer to use social contacts to get job information because it is of better quality and more reliable than advertisements or employment agencies. Searchers learn very little about the working environment at a company from job advertisements. Also, the type of social contact is an important dimension in this model. Job searchers who gather information from acquaintances, or friends of friends, acquire better quality information than do those searchers who acquire information from close friends.

The explanation is structural. Close friends (strong ties) are assumed to be closely placed in the social
structure— in the same social circle— and are likely to possess only information that you already have. Friends of friends (weak ties), however, are likely to bridge social groups and provide information not known to your social circle (see also Fararo, 1989). Lin (1982) expands Granovetter’s argument to include a vertical dimension. Lin argues that using higher status social contacts is beneficial because they are more likely to provide information about better jobs than contacts at the same social strata. Because of a superior position in the social structure, higher status contacts have more social resources and information.

The weak-tie hypothesis applies to labor supply models (models of how individuals search for jobs). Much research has been done in this area, and this research is briefly discussed in the next chapter. This dissertation focuses on labor demand issues of how employers notify and recruit potential employees. Granovetter (1981; 1974; 1985; 1988) partially offers the rudiments of a labor demand model, focusing on how employers disseminate information to employees through social contacts, or what he refers to as the social structural embeddedness of job information.

Granovetter’s model emphasizes the structural relations among organizations and the organization of work in the information dissemination process. Granovetter
(1981) builds from the assumption that new employees represent sources of uncertainty to employers. Predicting how productive a new employee will be is a difficult task, because there are few set standards of productivity in any occupation (see also Stinchcombe, 1990). Turnover often results from a lack of information transmission on behalf of employers and employees (Wanous, 1980). Employers prefer to use social contacts when filling positions because social contacts provide employers with information about prospective employees that allows employers to make a clearer assessment of the applicant's abilities and shortcomings. Moreover, Granovetter (1985) argues that information from informal sources is of better quality and greater reliability, because the social aspects of the relationship carry strong normative expectations of trust. Social contacts are also important to prospective employees, because they transmit informal information about the job and company that cannot be acquired through advertisements and interviews.²

To a certain degree, Granovetter (1974: 56) formalizes the job information dissemination model. He develops a chain length hypothesis (see also Ozga, 1960) to explain how data about jobs are disseminated. The

² Such information would include what the boss and co-workers are like, the working environment and other important information individuals need to make job choices.
theory is built on the assumption of exponential expansion. We assume that each person in an information chain tells some fixed number of others about the job s/he has heard about. If we call that number $N$ and if the chain is of length $L$, then the number of people who finally hear about the job (including the employer who started the process) is the partial sum of the geometric series:

$$1 + N + N^2 + N^3 + \ldots N^{L+1} = \frac{1 - N^{L+1}}{1 - N}$$

If the chain is of length 5 and each person tells three others who have not already heard of the job, then more than 1,000 people will eventually know about the job. Once the information passes through a long chain, the job information essentially becomes public knowledge, and the information is no more unique than that obtained through newspaper advertisements.

Fararo (1989: 265) fails to find empirical support for the general random information diffusion model in networks of given density. According to Fararo, contact density has to be adjusted for transitivity and symmetry of relationships within the network. Information reaches more nodes in networks which have lower levels of transitivity. Information is less likely to get trapped in local cliques. In the job information diffusion-chain length model, Granovetter (1974) recognizes that the
random diffusion model fails for jobs of certain types—especially professional/managerial white-collar jobs.

In his empirical analysis, Granovetter (1974) finds that most information passed through short chains is earmarked for a specific individual (see also Bowes, 1987; Collinson, et al., 1990). Most of this information is about better quality jobs (typically, these jobs were high salaried, professional or administrative type positions). He also finds that some employers will design new jobs with a particular individual in mind, and that most job changers are not actively searching for work when they learn of the opening (see also Osterman, 1984; Doeringer and Piore, 1971). Furthermore, he finds that employers are most likely to contact people who are not currently in the labor market through short chains. Long chains, on the other hand, disseminate information about less desirable jobs.

Implicit in Granovetter’s theory is the assumption that employers prefer to use social contacts to disseminate job information. As we shall see in the next chapter, there are other legal, political and economic considerations which Granovetter’s model fails to incorporate. These factors will play an important role in how employers recruit for vacancies. However, Granovetter’s model is an improvement over the neoclassical search model. It can easily incorporate the
empirical findings of many sociologists and economists, such as social relations in labor markets, ineffectiveness of advertising, and employer dislike of employment agencies. I will use the labor demand model as a theoretical framework with which to address important issues concerning job matching and occupational segregation.

Work and Job Information Networks

Granovetter's labor demand model emphasizes the structural relations among organizations and the social organization of work in the dissemination of job information. In Granovetter's (1974; 1985) model, the social organization of work plays an important role in establishing and maintaining inter-organizational networks and social contacts. In his earlier work, Granovetter (1974) claims that in a highly differentiated economy few firms are self-sufficient. Organizations comprise part of the external environment for one another. Therefore, it is necessary for almost any company to maintain face-to-face communication with other companies in similar or complementary fields. The transmission of routinized, straight-forward information is best suited for non face-to-face interactions (such as phone calls, letters, or fax communications). However, non-routine transactions between firms requires face-to-face interactions. This allows and requires members of different organizations to
frequently interact with one another. Incumbents of links where organizations are interconnected are apt to form social relations with one another, which not only facilitate information flow between organizations, but also tends to stabilize interorganizational relations.

Granovetter (1974) claims that purchasing and sales involve the most important firm interfaces because buying and selling relationships rarely, if ever, reflect the spot market model of classical economic theory (but see Baker, 1990). Personnel in these positions have frequent, complex contact with other firms. Granovetter stresses the point that job and employee information flows freely between firms that frequently do business with one another because of the social relations that individuals in one firm make with individuals in other firms through their work-related interactions. Additionally, the relatively high level of interfirm mobility in the United States insures that a particular worker will be reasonably well-known throughout the firms that engage in activities that require the skills of that particular individual.

Granovetter (1985) maintains that those who frequently engage in inter-organizational business transactions with one another are apt to form social relations, and cites evidence to support his claim that economic transactions are often overlaid with social relations. He concludes that it is these social relations
that stabilize the market, and guard against malfeasance, mistrust and opportunism. These social relations also stabilize labor markets, for it is through these social relations that much job/employee information flows. Information that flows through these inter-organizational relationships is most reliable. The social aspect of the relationship carries strong normative expectations of trust. One is not likely to cheat or mislead a friend, for fear of retaliation for violating that norm (Granovetter, 1985; Baker, 1990). The interconnectedness of organizations, and the social relations that pervade these organizational interfaces aid in the process of information dissemination. This process, in turn, helps individuals search for jobs and employers recruit new employees.³

Granovetter’s (1988) research on how people find jobs underscores the importance of inter-organizational contacts in transmitting job information and clearing labor markets. Granovetter (1988: 194-5) suggests that the market situation of an individual changes with the number of individuals to whom one’s skills and characteristics are known, and the market mobility of those people. Market situation is also dependent upon the

³ Granovetter (1988: 193) argues that employers gather a great amount of information on employees from those individuals known to both.
number of firms with which one has contact. The more people a worker has contact with, the more social contacts the worker has, the broader the worker’s work-related network structure, and consequently, the better the worker’s market situation. Granovetter (1988: 195) argues that when long-tenured and isolated employees are let go after a corporate takeover, these individuals are not well-suited for the job market, despite having great human capital qualifications (work experience, stable work history, educational credentials). Granovetter further argues that these individuals are not taken seriously by employers who prefer to recruit informally because the prospective employee lacks the important social contacts which could convey the type of information for which the employer is searching.

Summary

This chapter began with a critique of neoclassical job matching models in economics. Labor market models in economics tend to rely upon job searchers seeking their reservation wages to clear labor markets. Unfortunately, this model rests upon the assumptions of perfect information (about jobs and prospective employees) in labor markets, and no social relations among buyers and sellers of labor. The review of literature in this chapter shows that labor markets have a stronger social component than the economic models will allow. Employers
want the best possible information about prospective employees (Rees and Schultz, 1970; Stinchcombe, 1990; Bowes, 1987). Information from informal sources is accurate and reliable, so employers will use these sources to locate employees. What makes the information accurate is the social and economic forces that structure the relationship between the actors exchanging information. While most information about jobs comes from friends and relatives (Granovetter, 1974), most information about employees comes from current or former workers and colleagues (Rees and Schultz, 1970). Those with whom one has an economic relationship have an economic incentive to be trustworthy. The social aspect of the relationship carries strong normative expectations of trust. The norm of reciprocity guards against malfeasance (Granovetter, 1985). Theoretically, informal channels play an important role in the movement of job information through labor markets. Moreover, understanding how that information flows through the informal channels will reveal information about the underlying structure of the labor market, and can be used to explain labor market inequality manifested in the form of occupational segregation.
CHAPTER 3. RECRUITMENT AND WORK STRUCTURE CORRELATES

The empirical analysis in this chapter builds on the labor demand model by focusing on work structure correlates that affect employers' use of formal and informal recruitment techniques to fill job vacancies. I review literature on recruitment from sociology, economics, and other fields to support path (a) of the conceptual model and derive hypotheses about the relationships between work structure correlates and recruitment techniques. The empirical analysis tests the hypothesized effects of work structure correlates on the recruitment techniques used to recruit for particular jobs. The goal of this chapter is to establish an empirical link between recruitment practices and the characteristics of jobs, and the work structures in which these jobs are embedded. Focusing on the relationship between the given characteristics and informal recruiting practices improves the labor demand model and increases our understanding of the job match process.4

4This dissertation focuses primarily on the manner in which employers recruit employees, and the relationship between informal recruitment and labor market inequality. However, I review several studies which focus on the manner in which employees find jobs. I do this for two reasons. First, due to the complex nature of collecting establishment level data that are representative of an entire labor market, there is a lack of existing literature which thoroughly examines the manner in which employers recruit for employees. Second, most of the recruitment studies that I will review work from the same assumptions as the employee search studies: Information
Literature Review

A 1986 report to the American Management Association (Arthur, 1986) finds that less than 8% of all positions in that sample are recruited through informal recruiting practices (using customers, clients, and current employees to recruit for vacancies). Despite the argument that techniques which cost the least are most preferred, the commission also finds that formal methods of advertising (trade publications, regional newspapers), and internal job posting are the preferred manner of recruiting new employees. Perhaps this explains why the management literature gives little attention to informal methods of recruitment (see White and Thorner, 1982; Smith and Robertson, 1986; Arthur, 1986). The main points of interest for personnel management theorists are the cost and techniques of formal recruitment (budget, travel, interviewing, etc.) and procedures for billing appropriate departments for hiring services.

In a critique of human resource theory, Bowes (1987) concludes that most personnel management theory has little bearing on how individuals are actually recruited and employed in organizations. Moreover, he concludes that informal methods of recruiting and job searching are about jobs moves through informal networks. Reviewing the employee search studies helps to clarify the role of informal networks on both sides of the market.
important to both employers and employees, but both prefer
different methods at different job and career levels. I
will show in the following sections that sociologists and
economists recognize the important role that informal
methods play in job search and recruitment. Moreover, the
literature presented, and the data analyzed in this
dissertation will show that informal recruitment is more
prevalent than the human resource literature claims.

Job Search and Social Contacts

Most of the sociological literature on the match
between employees and jobs focuses on the role of social
resources in employee search and status attainment
(Marsden and Hurlbert, 1988; Wegener, 1991; Granovetter,
1974; 1982; 1986; 1988; Bridges and Villemez, 1986; Lin,
Estell and Vaughn 1981; Campbell and Rosenfeld; 1985;
Campbell, Marsden and Hurlbert, 1986; Lin and Dumin,
1986). These studies use a micro-level mobility theory
(Wegener, 1991), and rely on the weak-tie hypothesis
(Granovetter, 1974; 1982). Granovetter’s study focuses
attention on the social dimensions of labor markets. He
concludes that most individuals find jobs through social
contacts, and that information acquired about jobs is
often a by-product of other social interactions.

The core idea of Granovetter’s theory is that
individuals find better jobs by utilizing distant
acquaintances of higher status and superior information
(weak ties) when searching for job information. Close, personal friends (strong ties) provide redundant information, making them a less useful source of job information (Granovetter, 1974; 1982). Empirical studies support Granovetter’s argument. Individuals searching for jobs use higher status contacts to get information (Marsden and Hurlbert, 1988), because these contacts have wider ranging networks and better job information (see also Lin, 1982). Those who acquire jobs through weak-ties have higher levels of job satisfaction, autonomy, occupational status and income (Granovetter, 1974; Campbell, Marsden and Hurlbert, 1986).

But there is also evidence contrary to the weak-tie hypothesis (see Wegener, 1991). Bridges and Villemez (1986) find that contact status (weak-tie vs strong-tie) does not have a significant effect on income (see also Marsden and Hurlbert, 1988). Campbell and Rosenfeld (1985) conclude that personal contacts are more efficacious for men than women, because women are more likely to contain other women in their networks, who are not likely to be empowered with quality job information. Montgomery (1992) argues that the weak/strong tie difference in efficacy depends upon the relative strength of the two distributions. If an individual has a dispersed strong-tie network, and a stochastic weak-tie network, then that individual has a higher probability of

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finding a job through a strong tie. Conversely, with a stochastic strong-tie network and a dispersed weak-tie network, the probability of finding a job through a weak-tie is higher. Montgomery adds that, under the assumption that information may pass more freely through strong-ties, the probability of finding a job through a strong-tie is higher for those individuals with near equal weak and strong-tie distributions.

Micro-mobility theory and research contributes greatly to our understanding of how workers find out about jobs. However, this dissertation focuses on how employers find employees. I turn now to a discussion of recent attempts to address job matching issues from the employer perspective.

**Formal and Informal Methods of Recruitment**

A small number of economists, sociologists, and other scholars (Marsden and Campbell, 1988; Granovetter, 1974; Barron, Bishop and Dunkelberg, 1982; Barron and Bishop, 1985; Rees and Schultz, 1970; Rees, 1966; Malm, 1973; Wanous, 1980; Bowes, 1987) address the ways in which organizations obtain workers. Marsden and Campbell (1990) contend that there are two general types of recruitment methods: formal and informal. Formal methods involve some intermediary between the employee and the firm. These methods include the use of personnel agencies, direct advertisements in newspapers and trade journals,
recruitment on the campuses of colleges and trade schools, and help wanted signs placed in windows. Firms may employ another firm as a recruiting agent, such as employment agencies or recruiting firms (headhunters). Informal methods include the use of current employees to serve as recruiters. Informal recruitment may also occur through others who are in contact with the firm, such as asking customers, suppliers or others with whom they have contact to notify potential applicants of the job opening, or to recommend individuals for the job. Professional colleagues and business associates are other informal sources of potential employees. Informal recruitment may also occur through organizations exogenous to the firm, such as professional occupational associations (Kalleberg and Berg, 1987).

While I acknowledge the importance of Marsden and Campbell’s work, I prefer a different definition of informal and formal recruiting techniques. I believe that the differences between formal and informal recruiting techniques involve more than just formal market intermediaries. The differences between formal and informal recruitment techniques are essentially differences in the visibility of job information in labor markets, and differences in who has access to that job information. When employers recruit through formal methods, such as advertising, they increase the visibility
of job information and the degree of public access to that information (see also Haulman et al., 1987). Conversely, when employers use informal methods to recruit, such as current employees or colleagues at other firms, they decrease the visibility of vacancy information in labor markets and restrict the degree of public access to job information.

This is an important distinction to make. Formal recruitment techniques can restrict who has access to job information. For example, Marsden and Campbell (1990) consider private employment agencies formal recruitment techniques. I consider them informal because they restrict public access to job information through the fees (sometimes one month’s salary) that they charge. Additionally, employers are using electronic bulletin boards to recruit for new employees. Whether or not electronic bulletin boards are considered formal or informal depends upon the degree to which they restrict access to job information. There are substantial fees involved in gaining access to these bulletin boards. Therefore, these services restrict access to job information, and are informal recruiting techniques.

Marsden and Campbell (1990) contend that there are two stages in hiring new employees: recruitment and selection. During recruitment, employers collect preliminary information about a pool of potential
applicants. These applicants are later screened, and the remaining applicants are subjected to closer scrutiny during selection. Positions can be recruited for using one or more methods, either simultaneously or sequentially. Recruiting may include a mix of formal and informal methods, a mix of formal methods, or first formal then informal when trying to fill a position. Additionally, many job searchers apply directly to firms without knowledge of possible openings. Firms can formally recruit without having to do anything.

Marsden and Campbell (1990) argue that selection and recruitment techniques will vary by the type of position being filled and by the characteristics of the organization doing the hiring. Most applicants are screened initially with a brief interview. More intensive screening processes include testing, checking references and credentials, and extensive psychological and medical tests (Rees and Schultz, 1970). Selection and recruiting also vary in costs. However, the costs of a job going unfilled or inadequately filled are also high. Therefore, a tradeoff must be established between recruiting and selection costs and the costs of not adequately filling the position.

Another important issue when distinguishing between recruitment and selection is whether or not the manner in which employers search for employees is consistent with
the manner in which they find employees. Put in other words, do employers use the same techniques to look for workers that they use to find workers? Employers may use both advertisements and informal recruitment through business associates to recruit for vacancies. However, they may hire those workers found primarily through informal recruitment via business associates. This is an important issue because employers with federal contracts are required by law (Executive Order 11375) to make fully public (i.e. advertise) all vacancies. However, they are not required to hire only through advertisements, and as Reskin and Hartmann (1986) point out, employees for jobs covered under this Executive Order are not always found through advertisements.

Job Match and Economic Literature

Economists focus on two aspects of recruitment, search at the extensive and intensive margins (Rees, 1966; Rees and Schultz, 1970; Barron and Bishop, 1985; Barron, Bishop and Dunkelberg, 1982; Cain, 1976). Rees (1966) argues that in any market buyers shop at the extensive margins by getting quotes on different homogenous items (e.g. similar automobiles). Buyers shop at the intensive margin by getting more information on items for which they have offers or quotes (more information about the automobile for which they have received a sales price). This idea is extended to employer search activities.
(Barron, Bishop and Dunkelberg, 1982; Barron and Bishop, 1985; see also Pissarides, 1984). Extensive search activities refer to the number of applicants seen prior to an employment offer. Search at extensive margins involves interviewing a number of potential employees before hiring. Intensive search refers to the quantity of information gathered concerning a typical applicant, or an expanded set of information obtained from each applicant who is interviewed. Barron and Bishop (1985: 365) summarize the goals of employers: "The objective of the employer is to choose intensive and extensive search to maximize the expected present value of labor services of the person hired minus hiring costs and the present value of compensation paid the new employee."\(^5\)

Economists also examine the relationship between search and wages (Lippmann and McCall, 1976a; 1976b). Employers make a three-way trade-off between search amount, wages, and quality of workers. Some firms adopt a high wage strategy, in which they pay wages so high that the best workers cannot refuse the offers. Economists argue that high wages allow firms to recruit informally because firms do not have to invest in employee searches

\(^5\) Empirical research operationalizes extensive strategies as the number of applicants per offer made, and operationalizes intensive research by the number of hours spent per applicant (Barron, Bishop and Dunkelburg, 1982).
to find workers who are willing to take high wage jobs. Firms with low wages, however, adopt high search strategies, because they have to search hard for employees at lower wage levels. Firms which pay low wages typically use formal recruitment methods because they reach a broader potential workforce. A third strategy is the high training strategy. These firms offer low initial wages which rise with experience, and also typically use formal recruitment methods.

Corcoran, Datcher and Duncan (1980) offer both supply-side and demand-side explanations for why firms pay higher wages to those employees acquired through informal methods. The supply-side argument contends that market characteristics (fluctuations in the business cycle and product demand, imperfections in supply and/or demand side of the market) generate a distribution of potential wage offers to workers of a given level of competence. Job searchers gain information about these jobs through search, which takes time and money. The supply-side model assumes that the harder a worker searches, the higher the maximum offer found in the market. The model also assumes that workers search for offers until the expected marginal return (marginal wage rate increase from one additional search) equals the marginal cost of search. Factors that lower search costs increase search intensity, and therefore wages. Such factors include finding out about
jobs through informal channels (which are assumed to be cost-free to firms and employees).

The model indicates that search intensity has a positive impact on the wage offered. The wage offer is maximized at the point of diminishing return, where the cost of one more search is higher than the marginal wage rate increase. This is the reservation wage (Lippman and McCall, 1976a). Finding out about a job through informal contacts has the effect of lowering search costs and raising the maximum offer. In addition, having a contact in the firm can reduce the costs of intensive margin search on behalf of the prospective employee (what the boss is like, etc). This lowers intensive margin search costs and gives the employee a short term advantage in wages. This last point is empirically supported by Corcoran, Datcher and Duncan (1980).

The demand side explanation contends that firms rely on informal channels to substitute wages for search. The higher the wage rate, the more quickly high quality workers will accept wage offers and the shorter the amount of time required for search and training activities. Also, where turnover costs are high (in positions with high skill specificity and in-house training) informal methods are used to insure a better match between position and worker.
Economists put less focus on recruitment techniques. Sociologists focus on the formal and informal methods of recruiting, but economists concentrate on the equilibrium between employer search and wages. The exception to this is the 1962 Chicago labor market survey done by Rees and associates (Rees, 1966; Rees and Schultz, 1970). Rees and Schultz identify formal and informal job information networks. Formal networks include state and private employment agencies, newspaper advertisements, recruitment at schools/colleges, trade unions and hiring halls. Informal networks are characterized by no formal contact arranged between firm and employee. Informal networks include referrals by other employees, other employers, friends or other individuals. One major advantage of using informal networks to find employees is that the firm is generally guaranteed of good recommendations, because those that make the recommendation are putting their reputation on the line and therefore will recommend quality applicants (see also Granovetter, 1974). Additionally, some firms pay bonuses to employees who make good referrals.

Advantages and Disadvantages of Recruiting Methods

The most often cited advantage of informal recruiting is cost (Marsden and Campbell, 1990; Granovetter, 1974; Malm, 1973; Rees and Schultz, 1970). Most formal methods of recruitment are expensive, while informal methods are
virtually cost free (in terms of dollars). Another major advantage of informal recruitment for job searchers is that they can get much of the information about a particular job that an agency would not know, such as information about the fairness and attitudes of supervisors or the informal working environment. This reduces the possibility of a bad match between position and employee, and reduces turnover costs (Wanous, 1980). Employers like informal recruitment methods because they locate better applicants (Marsden and Campbell, 1990). Firms in the Rees and Schultz study prefer to hire informally because these channels pull employees from the neighborhoods surrounding the establishment, which reduces tardiness and increases company loyalty. The major advantages of formal methods are the ability to reach a broader range of socially and geographically dispersed individuals (Corcoran, Datcher and Duncan, 1980), and recruiting in areas where networks are incomplete, such as when a firm moves into a new location (Marsden and Campbell, 1990).

One of the major disadvantages cited by employers of informal networks is that they tend to create worker cliques in the firm, since employees tend to recommend friends and acquaintances for jobs. Marsden and Campbell (1990) report that current employees and others associated with the firm are likely to pass along information to
socially similar individuals. This is particularly problematic to firms attempting to adhere to EEOC employment standards (Bowes, 1987). Corcoran, Datcher and Duncan (1980) conclude that this practice sustains labor market segmentation, because workers are likely to pass along job information to workers in the same economic sector. Similar job matching arguments are supported by Stinchcombe (1990).

There are many disadvantages associated with formal methods of recruitment, cost and quality of applicants are the most frequently cited (Marsden and Campbell, 1990). Formally recruited employees also have higher turnover rates (Rees and Schultz, 1970). One criticism of using agencies is poor screening. Rees and Schultz (1970) find that agencies often send under-qualified and over-qualified candidates for interviews. Several firms in the Rees and Schultz (1970) sample complained that employment agencies were sending too many non-white applicants on job interviews. Other complaints include the high turnover of counselors at private agencies, and employee pirating. This is a process by which employment agencies contact recent placements and offer them other jobs, in order to collect another fee. Employers rate public employment agencies as the least desirable source of employees, on account of bad referrals (discipline problems, etc.,) and high turnover rates, (Wanous, 1980).
Up to this point I have discussed the various advantages and disadvantages of different recruiting techniques. In the next section, I show how recruitment techniques are related to occupational, job, organizational and industry characteristics.

**Structural Characteristics that Influence Recruitment**

The literature reviewed in this section shows that the structural features of organizations, jobs, occupations, and industries influence the manner in which an organization recruits for a vacancy. This section makes a link between the recruitment literature and Granovetter's labor demand model. Granovetter argues that employers prefer to recruit informally through social contacts. This section will show that the use of social contacts to recruit for positions is constrained by political and legal factors. I also show how the literature on recruitment can be integrated into the new structuralist framework, a perspective which emphasizes the manner in which the characteristics of organizations, occupations and industries influence labor market outcomes.

The new structuralist perspective is, in part, a critique of the neoclassical model of earnings and labor allocation (Kalleberg and Sørenson, 1981). My use of the term new structuralism is consistent with Baron and Bielby's (1980) challenge to "bring the firm back in."
use new structuralism to assess how organizational characteristics and behavior—and the interconnections among market types, industries and occupations—affect the demand for labor, and how that demand is satisfied.

New structuralism maintains that many characteristics of firms, jobs and occupations have profound influences on the manner in which new employees are recruited into positions (Corcoran, Datcher and Duncan, 1980; Marsden and Campbell, 1990; Malm, 1973; Rees, 1966; Rees and Schultz, 1970; Barron and Bishop, 1985; Barron, Bishop and Dunkelberg, 1982; Pissarides, 1984). The organizational characteristics identified include size of the firm, fixed high wages in the firm, unions in the firm, and firms with government contracts. Job and occupational level effects cited include the long-term costs of making a hiring error, level of skill complexity, level of firm-specific training, level of training and education required, blue-collar vs white-collar, and jobs in seniority systems or internal labor markets. Each of these factors in some manner represents a correlate of a work structure in the new structuralist literature. In this section, I make more explicit the link between recruitment and these characteristics of jobs, industries and establishments, and derive hypotheses to be tested.

A number of neoclassical revisionist economists (see Kerr, 1988; Kaufman, 1988; Dunlop, 1988; Rees and Schultz,
1970; Doeringer and Piore, 1971) and new structuralist sociologists (see Granovetter, 1974; 1981; 1985; 1986; 1988; Osterman, 1984; Kalleberg and Berg, 1987; Kalleberg and Sørenson, 1979; 1981) argue that markets, especially labor markets, are comprised of significant social characteristics. Such factors identified include seniority systems, internal labor markets and social relations among employers.

These revisionists seek to isolate the social forces that limit the role and influence of competition, and to identify empirical deviations from the neoclassical labor market model. Unemployment, uniform wage rates, long-term attachment to firms, higher than market wages, unions, pirate codes, internal labor markets and collective bargaining are some of the empirical observations that revisionists present as evidence of a divergence between empirical labor markets and competitive price theory (Kerr, 1988; Kaufman, 1988; Doeringer and Piore, 1971.3). Similarly, new structuralist sociologists observe that the allocation and pricing of labor, as well as the distribution of job rewards, often varies across work structures such as firms, industry sectors, occupations and social classes (Kalleberg and Berg, 1987; Kalleberg and Lincoln, 1988; Kalleberg, 1988; Beck, Horan and Tolbert, 1978; Tolbert, Horan, and Beck, 1980; Jacobs, 1983; Hodson, 1984; Wholey, 1985). New structural
theorists stress that characteristics of firms, occupations and industries shape the context in which certain credentials and social statuses (i.e. education, experience, race, age, gender) are rewarded.

Work structures are at the core of the new structuralist perspective (Kalleberg and Berg, 1987). Kalleberg and Berg (1987) identify six interrelated and complimentary work structures: nation-states, industries, occupations, unions, organizations, and social classes. Work structures emerge as a result of social and historical forces operating in four markets: labor, product, resource and capital. Fluctuations in these markets lead to changes in the corresponding work structures. Work structures are differentiated and interrelated by their correlates. An example of a work structure correlate is size of establishment. Organizations (a work structure) are often differentiated by their size.

Characteristics of establishments affect the recruitment techniques used to recruit for vacancies. Organizations are key work structures. Organizations are differentiated by their range of work, hiring practices, growth rate, size, product market size, geographical dispersion, divisional structure, hierarchical grade structure, technology, demography, and level of unionization (Stewman and Konda, 1983; Baron, 1984;
Wholey, 1985; Baron, Davis-Blake and Bielby, 1986; Stinchcombe, 1990; Marsden and Campbell, 1990; Wharton, 1985; Lester, 1988; Thompson, 1967). Size of firm or establishment is the organizational correlate which is most often cited in the recruitment literature. Marsden and Campbell (1990) argue that large firms are less likely to recruit through informal methods. First, large firms have more positions and are likely to have more openings, therefore, they receive a greater proportion of unsolicited applications and inquiries than smaller firms. Second, smaller firms are more likely to satisfy all of their labor needs in the local labor market. Larger firms, however, are more likely to recruit from different labor markets, making it necessary to employ formal recruiting methods to reach a wider geographical base. Additionally, Marsden and Campbell (1990) point out that large firms are more likely to have bureaucratic personnel structures to administer recruitment policies. Bureaucratic personnel structures allow firms to place more emphasis on screening. Large firms also have higher visibility, and as a result, may be more susceptible to scrutiny by the EEOC and interests groups which seek fairness in hiring (Taylor, 1979; Bridges and Villemez, 1991; Bowes, 1987). As a result, large firms will use formal methods of recruitment in order to present the image of full-compliance with government hiring.
guidelines, especially if the firm has a high percentage of revenue from government agencies.

While the sociological literature finds that firm size has a negative effect on informal recruitment, economists (Barron and Bishop, 1985; Barron, Bishop and Dunkelberg, 1982; Rees and Schultz, 1970) identify scenarios where informal recruitment may be utilized by large firms. For example, Barron, Bishop and Dunkelberg (1982) argue that hiring errors are costlier for large firms. This encourages firms to fully exploit formal and informal methods of recruitment. Large firms have higher monitoring costs and, as a result, have the most to lose by not making the best match between job and employee. Informal recruitment is one method of getting better information to the potential employee, and also finding out more about the qualifications of the potential employee. In addition to monitoring costs, positions with high termination costs are also typically found in larger firms. Termination costs are highest for union jobs and jobs in administrative bureaucratic structures (internal labor markets). For positions where employees are hard to release, it is imperative that a good match is made between employee and job. Other points mentioned in this literature are that positions in larger firms are typically higher skilled, require more education, higher paid, and are often firm-specific in their training. Each
of these factors increases the use of informal recruitment techniques.

This discussion indicates that larger establishments generally use formal methods of recruiting, but that informal methods might be incorporated in certain contexts. These contexts, however, are defined by job characteristics (i.e. firm-specific training), which represent work structure correlates other than size. I present hypotheses about these other characteristics below. The first hypothesis to be tested in the analysis is formally stated as follows:

$H_1$: There is an inverse relationship between the size of the establishment in which a job is embedded and the use of informal recruitment techniques to recruit for the position.

Public sector employment also affects employer recruitment practices. Government agencies are one of the largest employers at federal, state and local levels (Taylor, 1979). Government agencies are viewed as more egalitarian employers because of standardized entrance exams, and civil rights legislation aimed at reducing hiring and wage discrimination (Kaufman, 1986; Taylor, 1979; Burstein, 1979; 1985; DiPrete, 1987; Smith, 1980). The 1963 Equal Pay Act outlaws discriminatory pay practices, while Title VII of the 1964 Civil Rights Act prohibits discriminatory practices in hiring. The 1964 act created the EEOC, but gave it no power to prosecute
offenders (Burstein, 1979). However, the 1972 amendment to Title VII extends limited prosecutorial power to the EEOC. The positive effects of EEOC have been limited primarily to the public sector (Taylor, 1979; Smith, 1980; Eisinger, 1986).

While the effects of EEOC have been limited to the public sector, Executive Orders 11246 and 11375 extend anti-discrimination guidelines to federal contractors. The Department of Labor consolidated all previous monitoring agencies under the Office of Federal Contract Compliance Programs (OFCCP). OFCCP is empowered with authority to prosecute contractors who fail to implement nondiscriminatory recruiting and hiring practices and affirmative action programs to help women and minorities (Reskin and Hartmann, 1986: 87). Additionally, OFCCP has enforcement power over private contractors, and public agencies and local governments who receive federal funds. OFCCP is generally believed to be much more effective at enforcing anti-discrimination guidelines (Bergmann, 1986; Braun, 1984; Burstein, 1985).

According to Burstein (1985), the primary aim of equal employment legislation is the elimination of discriminatory employment practices. Moreover, the intent of Title VII is the application of universal criteria in hiring in both the public and private sectors. Taylor (1979) argues that government agencies are better
promoters of equal opportunity and affirmative action in employment because of congressional scrutiny, public scrutiny and private sector criticism. In particular, private sector firms are vocal critics of government malfeasance because private firms expect the government agencies to adhere to the standards that the government tries to impose on others. Taylor (1979) concludes that government agencies are less likely to discriminate than other firms. I maintain from the above evidence that recruitment procedures for public sector jobs, and for jobs in establishments with federal contracts are more likely to be formal. The following hypotheses are derived from this discussion:

$H_2$: There is an inverse relationship between the public sector status of a position and the use of informal recruitment to fill the position.

$H_3$: There is an inverse relationship between the percentage of establishment revenue from federal contracts and the use of informal methods to recruit for vacancies in the establishment.

Internal labor markets are work structure correlates which differentiate firms (Kalleberg and Berg, 1987; Kalleberg, 1988; Baron, 1984). According to Doeringer and Piore (1971), internal labor markets are a set of administered rules and regulations, which govern the allocation of workers to jobs and determine wages. These structures are often referred to as firm internal labor markets. Within internal labor markets, there are no
supply and demand curves for a given position, jobs are posted internally, and limited applicants for each position is limited (Doeringer and Piore, 1971). Mobility is often based on seniority. Internal labor markets create long-term attachment to the firm, reduce inter-firm mobility and lessen the effects of competitive forces in pricing labor.

Doeringer and Piore (1971) also point out that there are portals of entry into and exit from internal labor markets. Entry portals are typically connected to internal mobility clusters, or groupings of jobs within which an employee is customarily upgraded, downgraded, laid off or transferred. Exit from internal labor markets is also regulated by rules and procedures, such as those specifying when to switch from one mobility cluster to another, or when to retire from the firm. There are also rules and procedures which govern the process of portal exit (exit interviews, severance pay, conversion of retirement benefits, etc.).

Economists (Barron and Bishop, 1985) contend that structures such as unions and internal labor markets represent high fixed wages in firms. Where wages are fixed at a high level, firms are forced to economize elsewhere, such as with the cost savings of informal recruitment. Internal labor markets are efficient responses to insure an adequate supply of trained labor,
especially for jobs in which the training is firm-specific (Stinchcombe, 1990). Consequently, the presence of internal labor markets implies potentially high turnover costs to a firm. Therefore, firms with such work structures are inclined to recruit informally, in order to best fill these positions. In a similar argument, unions represent high fixed wages for a firm, and workers who are hard to release (Corcoran, Datcher and Duncan, 1980; Malm, 1973). Therefore, firms with unions are likely to recruit informally (Barron and Bishop, 1985).

However, unions and union contracts are associated with bureaucratic rules and procedures for hiring, firing and promotion. Therefore, companies that employ union workers are likely to recruit them through formalized procedures. Additionally, unions generally reserve the right to assign workers to particular firms. Therefore, the interesting question concerning recruitment, unions and inequality is how union members are recruited into unions, and assigned to jobs with different companies by union bosses (see Roos and Reskin, 1984; Rees, 1977). Also, jobs covered by union contracts must employ only union members, and these are generally from a local union shop. Therefore, I expect companies to have formal arrangements with local unions concerning employees.

The above discussion indicates that internal labor markets and unions represent high wage structures and high
potential turnover costs. Unions and firm internal labor markets are labor allocation structures where workers are hard to release due to poor performance and where turnover costs are higher (Bridges and Villemez, 1991). However, companies that recruit union members from union halls may do so through formal procedures, which might have been negotiated as part of a collective bargaining arrangement. Therefore, I expect job ladder entry portals to be recruited for through informal methods, and unions to be recruited for through formal methods. The hypotheses are formally stated:

**H₄:** There is an inverse relationship between union job status and the use of informal methods to recruit for those jobs.

**H₅:** There is a positive relationship between job ladder entry portal status and the use of informal recruitment techniques to recruit for such positions.

Job level characteristics have important effects on recruitment (Marsden and Campbell, 1990). Organizations are more vulnerable in some spots than others. Long-run costs of inappropriate recruitment decisions for many comparatively attractive positions can be quite high. Turnover costs are especially high for highly skilled positions, and those positions for which training is firm-specific. For these vulnerable positions, the match between job and employee is crucial for organizational success. Personnel who occupy these positions will have an important impact on the organization and are likely to...
be governed by rules and procedures which insulate them from dismissal. Therefore, it is important to get the right person into the right job. Firms maximize their recruiting efforts for important positions, and this implies exhausting all efforts to find the best fit between employee and organizational needs (Marsden and Campbell, 1990). Other positions are less important and organizations will "satisfice" in recruiting for these positions, or minimize recruiting costs by hiring from among a few adequate candidates.

The blue-collar/white-collar job status distinction is another job characteristic that has demonstrated an influence on recruitment in past studies. Corcoran, Datcher and Duncan (1980) contend that informal channels are most useful in recruiting blue-collar workers, and that employers rely on these methods because they are a way of certifying workers (see also Stinchcombe, 1990). They further argue that for white-collar occupations, formal degrees and certificates serve as signals to employees. Rees and Schultz (1970) report that one-half of white-collar workers, and four-fifths of blue-collar workers are recruited through informal networks. Malm (1973) shows that there is a clear, positive relationship between white-collar professional occupations and informal recruitment. Anecdotal evidence also supports the importance of informal recruitment for white-
collar/professional jobs. Rees and Schultz (1970) report that one firm recruited and hired the accountant who prepared the firm's taxes the previous year. Campbell and Rosenfeld (1985) argue that low and middle level white-collar jobs are more likely to be filled through formal methods, in particular formal employment agencies, but that individuals are apt to find out about upper-level white-collar jobs through informal networks.

Occupational internal labor markets are closely related to job level characteristics. Occupational internal labor markets are work structure correlates which differentiate occupations (Kalleberg and Berg, 1987). Althauser (1989a; 1989b) argues that occupational internal labor markets are discrete clusters, or subsets of jobs. These are found within or across occupational categories. They are also found within and across firms. They are often referred to as career lines across firms (Spilerman, 1977; Osterman, 1984), and are more likely to include white-collar, professional jobs.

The factors which differentiate OILM structures from firm internal labor markets include easier access from the external market, and jobs that require more general rather than firm-specific training. Mobility in occupational internal labor markets occurs across companies. Job security comes through the competitive supply of skill, which is typically controlled by an occupational group or
organization, and often sanctioned by the state, through certification and licensing (Kalleberg and Berg, 1987; Althauser, 1989a; 1989b).

Occupations in OILMs are more likely to have a professional membership association. Such associations help to establish informal networks among members of the same occupation, which can be utilized to recruit new employees (Kalleberg and Berg, 1987; DiMaggio and Powell, 1990). Informal recruitment methods also have a tendency to become institutionalized in white-collar and professional labor markets (Stinchcombe, 1990: 261; Roos and Reskin, 1984: 236). That is, informal recruitment practices become stable fixtures in certain labor markets across time.

According to DiMaggio and Powell’s theory of institutionalization, mimetic and normative isomorphic processes can lead to the institutionalization of organizational practices. According to this theory, uncertainty in the external environment forces mimetic isomorphism. Organizations reduce uncertainty by mimicking other perceived successful organizations in their environment. Moreover, managers search for successful operating models, often imitating the managing and personnel practices of other firms. Normative pressures toward institutional isomorphism are driven primarily by the professionalization of certain
occupations. According to DiMaggio and Powell (1990: 70),
professionalization is the attempt to achieve social
closure over membership, ground the occupation in a
cognitive base of knowledge, and establish legitimacy for
occupational autonomy.

One important step in the process of
professionalization is the expansion of occupational
member networks across organizations which allow for
diffusion of the occupational professional model.
Filtering personnel is an important process in
professionalization. Members are carefully recruited,
socialized and placed in the profession through inter-
organizational networks and professional organizations
(see also Stinchcombe, 1990: 261-2). As the networks
expand and the occupation approaches professional status,
uniform practices, procedures and policies for members of
the profession emerge and become formalized in the
structure of organizations.

One explanation for the institutionalization of
informal recruitment practices in white-collar labor
markets is the isomorphic pressure of mimetic and
normative processes. The professionalization of certain
occupations leads to the institutionalization of inter-
organizational networks (see also Granovetter, 1985) and
the customary or normative practice of using informal
recruitment networks to fill vacancies within certain
occupations. Furthermore, once occupations become professionalized, and the personnel policies regarding these occupations become institutionalized in organizational and market structures, managers may use one occupational recruitment model for other (similar) occupations.

Another factor which explains why informal recruitment practices become entrenched in the formal structure of organizations is the perception that these techniques are cost efficient. Zucker (1987) contends that practices which are compatible with organizational goals of reducing search and evaluation costs are more likely to become institutionalized in the formal procedures of organizations. Granovetter’s labor demand model stresses the effectiveness of using informal market contacts to recruit (see also Marsden and Campbell, 1990). Combining both of these ideas together, I argue that informal recruitment techniques become institutionalized in certain labor markets, in part, because of their perceived effectiveness at locating employees and reducing search costs.

Roos and Reskin (1984; 1992) offer an alternative explanation for the institutionalization of informal recruitment practices in certain labor markets. They contend that informal recruitment serves to deny females and minorities access to certain jobs because they are not
informed of the openings. Moreover, informal recruitment practices are supported by the prevailing culturally defined appropriate roles for males and females, whites and non-whites. In essence, the segregating effects of informal recruitment serve to sustain their practice across time because the results reinforce culturally defined norms of proper social roles. I will expand this argument further in Chapters 4 and 5.

The above discussion shows that occupational status and job content directly affect the manner in which establishments recruit for such vacancies. Jobs with high levels of complexity and high skill demands represent vulnerable spots in organizations. Others argue that informal recruitment techniques tend to become institutionalized in professional, managerial and other high status white-collar labor markets. Additionally, middle and lower status white-collar occupations are more likely to be recruited for through formal channels, such as employment agencies. From the discussion, I derive the following hypotheses to be formally tested in the analysis:

H$_6$: There is a positive relationship between the professional, managerial and executive occupational status of a position and the use of informal methods to recruit for those positions.

H$_7$: There is a positive relationship between the data complexity of a position and the use of informal methods to recruit for the position.
There is an inverse relationship between the non-professional, non-managerial, white-collar occupational status of a position and the use of informal methods to recruit for the position.

Industry sectors also affect the manner in which vacancies are recruited for. Market sectors have been defined by occupation, industry, organizational characteristics, social class, firm size and unionization (Sakamoto and Chen, 1991). One of the most well-known alternatives is to define sectors around the relationship between firms and product markets. This approach (sometimes referred to as dual economy theory) challenges the assumption that economic returns are uniform for worker characteristics within primary and secondary industry sectors (Beck, Horan and Tolbert, 1978; Tolbert, Horan and Beck, 1980; Jacobs, 1983; Hodson, 1984; Kalleberg and Berg, 1987; Sakamoto and Chen, 1991; Hachen, 1992). Large firms with a stable market share, capital intensity, and above average wages constitute the core sector, while firms with tenuous market shares, which utilize labor intensive technology, and which pay lower than average wages constitute the peripheral or competitive sector.

Core firms tend to be capital intensive and utilize cutting edge technology, this results in high turnover costs and long-term planning. As a result, these firms are willing to offer contracts to workers in return for
long-term attachment to the firm. Consequently, primary sector firms often contain unions and internal labor markets. These structures enable firms to consider labor a fixed cost over the long-run, which enables managers to plan more effectively and to retain their share of the product market.

Competitive firms are labor intensive. Positions in this sector are typically low-skilled. Short term profits are the goal of the firm, and market share is tenuous. Firms in these markets better reflect the neoclassical competitive labor market model. Manufacturing jobs of this sort are apt to head overseas in search of cheaper labor (Falk and Lyson, 1988).

Granovetter (1974; 1988) suggests that jobs in the core sector are more apt to be recruited for through short chains, while jobs in the competitive sector are more likely to be recruited for through long chains, which are basically formal methods of recruitment. Also, many of the characteristics of jobs in the core sector have already been identified as factors which positively influence the use of informal methods in recruiting for those positions (e.g. professional occupations, jobs on internal labor markets, jobs with high levels of firm-specific training). Given this evidence, one might conclude that informal recruitment is more likely for jobs in the core sector.
Additionally, movement between sectors is argued by some to be nearly impossible, because jobs in the core sector usually have highly screened entry portals and access to entry portals is often based on skills and credentials not possessed by workers in competitive sectors (Kalleberg and Sørenson, 1979). This is an important point to some scholars (see Corcoran, Datcher and Duncan, 1980) who argue for the ubiquity of informal recruitment methods in core and competitive sectors. Informal recruitment is one method by which inequality is perpetuated. Workers in the competitive sector often lack the network structure to learn of jobs in the core sector (Campbell and Rosenfeld, 1985; Corcoran Datcher and Duncan, 1980). Therefore, informal recruiting has the tendency to fill core sector openings with core sector workers, and to further impede the movement of workers from the competitive to the core sector.

However, Jacobs' (1989a) revolving door theory contradicts these assumptions. His analysis shows that there is more movement between sectors than the dual economy model predicts. Also, in the past, the dual economy theory has been challenged on the empirical existence of the core and periphery sectors (see Hodson and Kaufman, 1982; Snipp and Bloomquist, 1989). Given past critiques of the dual economy model, I argue that it is important to control for the durable goods
manufacturing industry status, instead of the core/periphery distinction. Companies in this industry sector produce tangible goods which better allow them to develop economies of scale (see Kaufman, 1986; Singelmann and Mencken, 1992). In addition, Kaufman (1986) argues that achieving economies of scale is important because it allows companies to engage in long-term strategic planning and to better weather business cycle fluctuations. In addition, Kaufman (1986) argues that durable goods manufacturing plants tend to employ only white-males. Analyzing the effects of this industry sector on recruitment will allow me to assess what role recruitment plays in keeping females and minorities out of this sector. I expect that durable goods manufacturing establishments use informal recruitment because firms in this sector use firm-specific technology, generally have higher turnover costs and offer long-term contracts to employees. Others (Corcoran, Datcher and Duncan, 1980; Stinchcombe, 1990) imply that informal recruitment is one method by which males retain their dominance in these sectors.

According to Singelmann and Mencken (1992), economies of scale are easier to achieve in goods producing industry sectors than in service or information producing sectors because goods can be stockpiled, while services need to be consumed as they are produced. Stockpiling allows companies to engage in better long-term planning, and to regulate inventory and production with fluctuations in product demand.
sectors. The following hypothesis is derived to address industry sector effects on recruitment:

\[ H_9: \text{There is a positive relationship between durable goods manufacturing status and the use of informal recruitment methods.} \]

Turnover costs greatly affect the manner in which positions are recruited for. As a general rule, where turnover costs are perceived to be higher, informal recruitment techniques are used. Much of the discussion concerning the characteristics of jobs and recruitment focuses on the costs of replacing workers who do not work out well in the positions for which they are hired. Economists (Rees and Schultz, 1970; Barron and Bishop, 1985; Barron et al., 1982) focus on turnover costs, and emphasize informal methods of recruitment as a way of reducing turnover costs. Wanous (1980) provides a detailed monetary analysis of what turnover actually costs a firm for given positions.

Turnover results from worker job-mismatch, which manifests itself in poor performance and low job satisfaction. Turnover also results from poor information on part of both workers and firms. Many firms recruit according to a traditional scheme that emphasizes "selling the organization." Only the most positive aspects of the firms are presented to the prospective employee. This process is designed to attract as many candidates as possible, in order to achieve a preferable selection.
ratio. The selection ratio is the criteria which personnel departments use to justify their budgets to upper management. By hiring only a few of the applicants for a position, the personnel department makes itself look active, and justifies their current level of spending. Large numbers of applicants also make the company look desirable to those in the market place (i.e. a lot of people want to work there). This, in turn, makes market actors more eager to accept offers.

Another problem with the traditional way of recruiting is the focus on matching firm needs with a candidate’s abilities. Most interviewees are motivated to receive as many offers as possible (Wanous, 1980: 23). Therefore, they do not disclose to interviewers their shortcomings, and will describe the job that they are looking for to match the job that they believe the organization has to fill. Applicants who mislead employers of their abilities are at risk of being offered, and accepting, jobs for which they are not qualified. This, in turn, can lead to poor performance, low job satisfaction, and employee turnover. Misinformation also comes from employers. Wanous (1980) claims that companies attempt to project the best possible image. In the process, they often mislead candidates about the working environment and advancement opportunities. Therefore, information systems are important in labor markets to
clarify misinformation. Employers will use social contacts to find out as much information concerning the "true" capabilities of a candidate. Prospective employees will use their social resources to find out as much information about the company as possible.

Wanous' analysis makes clear the importance of transmitting quality information about jobs and employees, and adds further support for the benefits of using informal networks when recruiting employees. However, Wanous' analysis focuses primarily on formal methods of recruitment, mainly at colleges and universities. Other studies show (see Campbell and Rosenfeld, 1985; see also Granovetter, 1981) that this type of recruiting (formal at colleges/universities) makes up a small percentage of all recruiting efforts. In fact, Wanous (1980: 33) cites other evidence which suggests that employers in his survey prefer to use informal channels to fill positions.

In a similar argument, Stinchcombe (1990) claims that all new employees are an unknown commodity. One of the most complex uncertainties that firms must contend with is whether or not employees that are hired are willing or able to do the work that is required of them (see also Corcoran, Datcher and Duncan, 1980). Measuring performance on the job is an imperfect task. There are few standard measures of productivity in any field. Any information that an organization can gather on a potential
employee represents data that can be used to reduce the risk that the employee will not match the job that s/he is hired to perform. For hiring and promotion decisions, one needs information about how the employee performed in the past, as well as information on how s/he will perform in the future. Therefore, employers rely on certification systems to make predictions about potential employees.

The certification systems cited by Stinchcombe (1990) include seniority systems, internal labor markets, craft or professional certification, strong-tie networks and certification through union shops. These systems fill the gap between the poor measurement and the poor predictability of productivity. These systems allow employers to find out as much information on a new employee as possible. They transmit signals to the employer that the employee is capable of doing the job for which they are being considered. This reduces some of the uncertainty in the job match process, and long-term turnover costs. However, Stinchcombe's typology is incomplete. Informal recruitment methods allow employees to find out about the firm, their prospective boss, and other factors, while at the same time allow the firm to acquire better information about the employee. This process is believed to enhance the possibility of a good match between worker interests/abilities and firm needs.
Turnover costs and the need for a good match between employee and position are cited as primary reasons why employers recruit informally for employees. Wanous (1980) points out that the actual turnover costs for a position are difficult to calculate. However, there are several measures used in other studies as indicators of turnover costs (i.e. firm-specific training, transportability of skills from firm to firm, time to learn a job-- see Bridges and Villemez, 1991). I use similar measures in my analysis. The following hypotheses are derived to test the relationship between turnover costs and recruitment.

$H_{10}$: There is a positive relationship between the length of time that an employee is expected to stay with the establishment and the use of informal recruitment methods to recruit for the position.

$H_{11}$: There is a positive relationship between the amount of time that it takes a worker to learn a job and the use of informal methods to recruit for the position.

$H_{12}$: There is an inverse relationship between the marketability of skills learned on a job and the use of informal methods to recruit for the position.

Analysis

Data

The analysis uses OLS and logistic regression to analyze the effects of establishment, job and industry characteristics on eight recruitment measures (Pedhauzer, 1973; Agresti, 1990). The data for the first model come from the Metropolitan Employer-Worker Survey (MEWS). This study includes data from a dual telephone survey of
employees and their employers in 1981. The employee sample is based on a random-digit-dial telephone survey of 2,713 employed adults in the Chicago SMSA. Eligible employee respondents are 18 years or older who worked 20 hours or more per week for someone else (not self-employed). A random-digit-dial telephone survey is used to collect the data, with a response rate of 86% of eligible participants (Villemez and Bridges, 1988; Bridges and Villemez, 1986). In the second survey, personnel managers involved in the hiring decisions are interviewed. They are asked specific questions concerning the position held by the employee, as well as general questions concerning the firm's hiring practices. These data are supplemented by data provided by Brad and Dunstreet, and other industrial data sources (Villemez and Bridges, 1988). The sample is representative of workers in the greater Chicago area.

The employee file has 2,713 cases and the individual is the unit of analysis. The corresponding employer file

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7 The Metropolitan Employer-Worker Survey was funded by NSF grant SES-8012117.

8 The sample is representative of workers in the Chicago area, but this may pose a problem when the employer file is used. Large establishments are over-represented in the sample. Establishment size has relevance for any study that addresses hiring issues because establishments with less than 25 employees are exempt from EEOC guidelines. However, the sample is representative of workers in the labor market.
has 1,927 cases, and the position in the establishment is the unit of analysis. There are no employer data available for 786 individuals. Furthermore, the employer file is differentiated by whether the position is recruited for exclusively outside of the establishment, from both within and outside of the establishment, and exclusively within the establishment. Of the 1,927 positions in the employer file, 969 are recruited exclusively from outside of the establishment, 341 from both within or outside of the establishment, and 617 are recruited for exclusively from within the establishment. I am concerned primarily with job matching issues in the external labor market, and I use only those 969 cases which are recruited for exclusively through the external market. I drop the 341 cases from the internal/external file because I do not have questions concerning how these positions are recruited for when they are filled internally. Only partial recruitment information is available. It could be that internal recruitment is more important for these cases than external recruitment, but the data do not allow me to address this question.

Recruitment Measures

I use 8 recruitment measures. Two are discrete measures of the use of formal or informal recruiting techniques. These measures permit a contrast of formal only to all others, and informal only to all others.
There are six measures of recruitment that capture frequency of use. The six scales have ordinal properties and should prove useful in examining the relationship between work structure correlates and recruitment.

The MEWS contains six questions asked of key informants that address external recruitment. I classify the first two as informal and the following four as formal.

Informal:

1. When seeking applicants from outside (company name) do you often ask your employees for recommendations? (Employees)

2. When seeking applicants from outside (company name) do you often ask business associates or professional colleagues for names of applicants? (Colleagues and Associates)

Formal:

1. When seeking applicants from outside (company name) do you often place advertisements in newspapers, on the radio, or other mass circulation? (Advertisements)

2. Do you often use signs outside on your premises? (Signs)

3. Do you often notify employment agencies? (Employment Agencies)

4. Do you often rely on applicants walking in or applying on their own? (Walk-ins)

For each of the above questions to which the respondents answered "yes," they were asked the following question: How many of your employees presently working as (job) have been recruited in this way? Would you say
1) none, 2) a few, 3) some, 4) most, 5) all. If they respond with a "no" to the first question, then that position is assigned to the "none" category. This provides an ordinal scale of recruitment consistency for each of the techniques used to recruit for a position. Also, I have measures of informal-only recruitment and formal-only recruitment. Positions for which none of the four formal techniques are used to recruit are classified as informal only. Positions for which neither of the two informal methods is used are classified as formal-only. Both of these measures are binary variables (1, 0).

Independent Variables

The independent variables in the models are operationalized as follows:9

1. Size of establishment—this variable is operationalized as the number of full and part time employees employed in that location.10 This is a continuous measure. Since the distribution of establishment size is skewed toward large establishments,

9 In the proposal, I originally included a measure of the number of significant competitors an establishment has. I am excluding this measure because over 30% of the cases are missing.

10 The measure for establishment size is taken from the employer file. Where these data were missing, Villemez and Bridges combined measures from the employee file and from Dun and Bradstreet (see Villemez and Bridges, 1988: 242).
the natural log of establishment size is used throughout the analysis.

2. Government agency status- this measure is operationalized by the response to the following question: Is this establishment part of federal, state or local government? The measure is a binary variable (1,0), with a score of 1 meaning the establishment is part of a government agency.

3. Percent of revenue from government sales (% of Sales from Government)- this measure is operationalized by the following question: About what percentage of the revenue of this establishment comes from shipments, sales or services to government agencies? The measure is the actual percentage of sales to government agencies.

4-6. Professional, executive/managerial, white-collar status (Professional, Executive/Managerial, White-Collar)- I operationalize these three measures as binary variables (0,1), using the 1980 Census occupational codes. If the position is located under one of these major headings, then it is considered to have professional, executive/managerial, or white-collar occupational status, and has a score of 1. The comparison category is all other occupations.

7. Internal job ladder (Job Ladder Entry Point)- whether or not the position is part of an internal job ladder is operationalized as a binary variable by the
following question: Is this job part of a regular series of positions by which people move to a higher level? If the answer is yes, then a score of 1 is assigned, if the answer is no, then a value of 0 is assigned.

8. Union Job- this measure is operationalized as a binary variable by the following question: To be eligible for the job, is it required that the applicant be a member of a particular union?

9. Durable Goods Manufacturing Establishment- this variable is operationalized as a binary variable (0,1) taken from all United States Bureau of the Census Standard Industrial Classification codes. It includes all industry codes that fall under the major heading of durable goods manufacturing industries.

10. Data complexity (DOT Data Complexity Score)- this variable is operationalized by the Dictionary of Occupational Titles (DOT) measure of job complexity. Scores were originally assigned to base occupations by Department of Labor occupational analyst. These scores were transformed onto Census occupational categories, by taking the average score on each job title in a particular Census occupational category (Spenner, 1980). The range on this measure is from 1 to 9, where 9 represents an occupation with low levels of data complexity. I take the inverse of these scores, so that the range is from .111 to 1, with a value of 1 representing the highest level of
data complexity. Examples of occupations with high levels of data complexity are electrical and civil engineers, lawyers, editors, social scientists, and management analysts.¹¹

¹¹-¹³. Firm specific training/turnover costs—there are three variables to measure this concept. The first (Time Needed to Learn Job) is the response to the following question: From the time that they begin, how much time does a typical new employee need to learn the job of __ in your establishment? 6) years, 5) months, 4) weeks, 3) days, 2) hours, 1) minutes. It assume that the longer the employee needs to learn the job, the more firm specific the training. For non-firm specific positions, I assume that the employee acquired the skills prior to employment. The second measure (Transportability of Skills Learned) is a Likert scale based on the previous question, and is as follows: How much of what the employee learns during this period of time would be useful to the employee if he or she moved to a similar job in a different organization? Would you say 1) all of it, 2)

¹¹ When the DOT were constructed by the Department of Labor, the following definitions were used to operationalize data: Information, knowledge, and conceptions related to data, people, or things, obtained by observation, investigation, interpretation, visualization, mental creation; incapable of being touched; written data take the form of numbers, words, symbols; other data are ideas, concepts, oral verbalization (Morris, 1990).
most of it, 3) about half, 4) less than half, 5) none of it. The higher the value, the less valuable the skills are at another company and the more firm-specific the training. The third measure (Permanence of Employee) captures how long a new employee is expected to stay with the establishment. When looking for a quality in a worker, is it 4) extremely important, 3) somewhat important, 2) not very important, 1) not at all important that the candidate is likely to stay with the organization for a long time, that is, are permanent.

Measurement Issues

The measurement of the independent variables in this analysis are more reliable because they are management-source data. Villemez and Bridges (1988) maintain that management-source data are more accurate than data collected from non-members of management, especially when measuring establishment and job content characteristics. However, there are several issues concerning these measures which will affect the interpretation of the analysis, and the discussion of the conceptual model. First, I maintain that entry portals for internal job ladders are more likely to be recruited for through informal methods because competition for jobs further up the ladder is limited. However, I cannot assess to what extent the measure in the analysis represents job ladders where future competition is limited. The question in the
MEWS asks whether or not employees who stay with the company 10 years would be promoted to a higher level. It asks nothing concerning competition for jobs further up the ladder. These job ladders could have other entry portals. If the ladders are fairly permeable at higher rungs, it implies that asset-specificity is reduced because the needed skills can be acquired from elsewhere. This, in turn, may affect the recruitment practices for entry portals.

The analysis also contains several occupational status measures. I include measures of professional, executive/managerial and white-collar occupations. These categories overlap. However, I do this to analyze the effects of professional occupational status and executive/managerial status on recruitment practices. In addition, I include the white-collar measure to first assess the white-collar/blue-collar distinction in recruiting, an important distinction addressed by others (Malm, 1973; Corcoran, Datcher and Duncan, 1980; Rees and Schultz, 1970). Second, in regression analysis, the effects of white-collar are net of the effects of professional, and executive/managerial occupational status. Therefore, white-collar status contrasts the effects of non-professional/executive-managerial white-collar occupations against blue-collar occupations.
I also include a measure of data complexity taken from the DOT (see Spenner, 1980). A score of data complexity is attached to each 1980 occupational category. There is a distribution of data complexity scores within each of the above occupational status categories. I assume that the DOT scores represent job content better than broad occupational categories (professional, executive/managerial). This allows me to address the institutional vs efficiency argument in the recruitment literature. If the efficiency argument holds, then I expect that job complexity is more important (i.e. to have larger relative effects) than occupational categories. Morris (1990) has raised some questions concerning the ordinal properties of DOT measures. However, data complexity is used as an ordinal measure elsewhere (see England et al., 1988).

The literature review indicates that turnover costs are important factors which influence the use of informal recruitment techniques. In the analysis I attempt to measure turnover costs with three indirect measures of asset specificity and external market viability. I argue that jobs which take a long time to learn also have high turnover costs, since substantial training investments must be made in the worker. I also assume that employers would want to keep the worker for long periods of time for jobs that are high in asset specificity, and which have
higher turnover costs. The measure of how permanent the employer wants the worker to be is designed to capture this dimension. Finally, I expect that jobs which have transportable skills across companies have high external market viability. That is, the skills acquired at one company are useful at another company. My concern with these measures is that employers may misinterpret the intent of these questions. For example, employers may substitute experience for skills. Positive experience at any job would be useful for any other job that an individual might acquire, regardless whether or not the skills learned in one job are useful for another. Therefore, when employers answer questions concerning how useful the skills an employee learns at one job would be at another job, the employer may substitute experience for skills when giving a response.

Another possible issue concerns the length of time that employers want employees to stay with the firm. Employers may report that they want all of their employees to stay with the company for a long time. Employers may confuse tenure with a company with worker stability and answer the question based on this perception. However, I use the measure to indirectly assess the establishment specific nature of the skills used in the job. I assume that employers want workers who will stay a long time with
the establishment for jobs that are high in asset-specificity.

There are several measurement issues concerning the dependent variables in this chapter. In the conceptual model, recruitment techniques are the endogenous dimension in path (a). In the empirical operationalization of this path, the recruitment indicators are not as exhaustive as I would prefer. I have two ordinal measures of informal recruitment and four ordinal measures of formal recruitment. Unfortunately, I do not have an indicator which measures the use of head-hunter firms to recruit for vacancies. These recruitment agencies are particularly important in recruiting for higher status white-collar jobs (Marsden and Campbell, 1990). Moreover, given the absence of this measure, the employment agency indicator may represent some of the recruitment through head-hunter firms. Therefore, some of the employment agency effects may be attributable to head-hunter firms.

Another issue concerns the correlation between the two informal measures of recruitment. It is conceivable that employers use colleagues and business associates, and current employees to recruit for a professional, or executive/managerial vacancy. However, it is not likely that employers use business associates and colleagues to recruit for low level jobs with high external market viability. Yet, it is very likely that they use current
employees in the same position to recruit for such jobs (see Rees and Schultz, 1970). Using current employees allows employers to avoid advertising costs for low-level jobs. Also, they can hold current employees responsible for the friends that they recommend. My problem is how to manage the potential bimodal nature of this type of recruitment. In regression analysis, the positive association between the use of current employees to recruit and the characteristics of both "good" and "bad" jobs may yield an equation with no clear relationships. Unfortunately, for the dichotomous measure for informal-only recruiting, these two measures could not be separated, because to do so would skew the binary distribution (less than ten percent of responses in the 0 or 1 category) so that a generalized linear model could not be used (Agresti, 1990).

The analysis in this chapter concentrates on the relative effects of the independent variables on each of the recruitment techniques. Little attention is given to examining the variance explained in each model. The use of five-point ordinal scales as dependent variables suppresses the variance. Therefore, it is not reasonable to expect that the model will explain a high percentage of the variance in the dependent variables. One alternative to ordinary least squares analysis is to use an ordinal response generalized linear logit model with maximum
likelihood estimation. However, Agresti (1990) points out that there are problems with using continuous measures (such as establishment size) as predictors in these models. The results which I am searching for can be acquired using OLS, and the interpretations do not involve logits and odds-ratios, making them more straight-forward.

**Correlation Results**

Table 3.1 presents simple descriptive statistics for all variables in the analysis. Table 3.1 shows that about 10% of the jobs that are recruited for exclusively in the external labor market are done so through informal recruiting methods only (colleagues and current employees). Moreover, about 35% of all jobs are recruited for through formal recruiting methods, and the remaining 55% are recruited for with both formal and informal techniques. This shows that informal methods are important to employers for recruiting; about 65% of all jobs recruited for in the external labor market are recruited for, in some manner, by informal recruitment techniques. This finding challenges the claim made by Arthur (1986) that less than 8 percent of all vacancies are recruited with informal recruitment techniques.

Table 3.2 presents the zero-order correlation coefficients for all of the recruitment variables in this analysis. The correlations show that none of the recruitment measures are highly associated (no positive
Table 3.1. Simple Descriptive Statistics for the Variables in Chapter 3 (n=812).

<table>
<thead>
<tr>
<th>Recruitment</th>
<th>Mean</th>
<th>Std</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertisements (1-5)</td>
<td>1.408</td>
<td>1.575</td>
</tr>
<tr>
<td>Signs (1-5)</td>
<td>.246</td>
<td>.816</td>
</tr>
<tr>
<td>Walk-ins (1-5)</td>
<td>1.269</td>
<td>1.528</td>
</tr>
<tr>
<td>Employment Agencies (1-5)</td>
<td>.461</td>
<td>1.552</td>
</tr>
<tr>
<td>Employees (1-5)</td>
<td>1.370</td>
<td>1.434</td>
</tr>
<tr>
<td>Colleagues/Associates (1-5)</td>
<td>.759</td>
<td>1.120</td>
</tr>
<tr>
<td>Informal-Only (0,1)</td>
<td>.101</td>
<td>.306</td>
</tr>
<tr>
<td>Formal-Only (0,1)</td>
<td>.344</td>
<td>.474</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Job Characteristics</th>
<th>Mean</th>
<th>Std</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Ladder Entry Point (0,1)</td>
<td>.451</td>
<td>.497</td>
</tr>
<tr>
<td>Time Needed to Learn Job (1-6)</td>
<td>4.621</td>
<td>1.030</td>
</tr>
<tr>
<td>Transportability of Skills Learned (1-5)</td>
<td>3.153</td>
<td>.849</td>
</tr>
<tr>
<td>Permanence of Employee (1-4)</td>
<td>1.715</td>
<td>.727</td>
</tr>
<tr>
<td>Union Job (0,1)</td>
<td>.269</td>
<td>.444</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organizational Characteristics</th>
<th>Mean</th>
<th>Std</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of Establishment (ln) (0-10.085)</td>
<td>4.852</td>
<td>1.981</td>
</tr>
<tr>
<td>% of Sales From Govt. (0-100)</td>
<td>4.240</td>
<td>13.598</td>
</tr>
<tr>
<td>Government Agency (0,1)</td>
<td>.166</td>
<td>.372</td>
</tr>
<tr>
<td>Manuf. Durable Good Est. (0,1)</td>
<td>.171</td>
<td>.376</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupational Characteristics</th>
<th>Mean</th>
<th>Std</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Data Complexity (.111-1.00)</td>
<td>.541</td>
<td>.935</td>
</tr>
<tr>
<td>White-Collar (0,1)</td>
<td>.650</td>
<td>.477</td>
</tr>
<tr>
<td>Executive/Managerial (0,1)</td>
<td>.128</td>
<td>.334</td>
</tr>
<tr>
<td>Professional (0,1)</td>
<td>.207</td>
<td>.405</td>
</tr>
</tbody>
</table>
Table 3.2. Zero-Order Correlations among Dependent Variables (n=812).

<table>
<thead>
<tr>
<th></th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertisements (X1)</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signs (X2)</td>
<td>.074*</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk-Ins (X3)</td>
<td>-.111*</td>
<td>.186*</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment Agencies (X4)</td>
<td>.062*</td>
<td>.006</td>
<td>-.060*</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees (X5)</td>
<td>.013</td>
<td>.091*</td>
<td>.026</td>
<td>.011</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Colleagues and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Associates (X6)</td>
<td>.037</td>
<td>.001</td>
<td>-.133*</td>
<td>.096*</td>
<td>.211*</td>
<td>1.000</td>
</tr>
</tbody>
</table>

*p<.05
correlation over .30). The lack of strong correlations reinforces my design to analyze the effects of each recruitment scale separately. One possible alternative is to subject these measures to factor analysis to see if some of these form distinct dimensions of recruitment. The low correlations advise against this.

**Multivariate OLS Results**

The goal of this analysis is to show which characteristics of jobs, industries, organizations and occupations significantly affect which recruitment techniques are used to recruit employees. The R-SQUARE statistics for most of the models are not terribly impressive. This is partly attributable to using only a five-point ordinal dependent variable. Additionally, the models are not designed to forecast recruitment use, but to test to what extent certain work structure correlates influence the use of certain recruitment techniques. Therefore, the emphases are on the individual coefficients, and not on the total amount of variation that each model explains.

Table 3.3 presents the ordinary least squares results. The analysis for the use of current employees to recruit fails to show a regression (F Value=1.41, p=.15). Therefore, the results for this model are not interpretable. One reason why the model does not deviate from independence is because the use of current employees
Table 3.3. The Effects of Work Structure Correlates on Recruitment Practices (Unstandardized Coefficients, n=812).

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Formal</th>
<th>Informal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Advertisements</td>
<td>Signs</td>
</tr>
<tr>
<td><strong>Job Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Ladder Entry Point</td>
<td>.121</td>
<td>.268***</td>
</tr>
<tr>
<td>Time Needed to Learn Job</td>
<td>-.128*</td>
<td>-.132***</td>
</tr>
<tr>
<td>Transportability of Skills Learned</td>
<td>.014</td>
<td>-.002</td>
</tr>
<tr>
<td>Permanence of Employee</td>
<td>-.099</td>
<td>-.045</td>
</tr>
<tr>
<td>Union job</td>
<td>-.701***</td>
<td>.075</td>
</tr>
<tr>
<td><strong>Organizational Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size of Establishment</td>
<td>.086***</td>
<td>-.023</td>
</tr>
<tr>
<td>% of Sales From Govt.</td>
<td>.005</td>
<td>-.003</td>
</tr>
<tr>
<td>Government Agency</td>
<td>-.159</td>
<td>-.129@</td>
</tr>
<tr>
<td>Manufacturing Durable Good Est.</td>
<td>.495***</td>
<td>.143@</td>
</tr>
<tr>
<td><strong>Occupational Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOT Data Complexity Scores</td>
<td>-.053</td>
<td>-.040</td>
</tr>
<tr>
<td>White-Collar</td>
<td>.243@</td>
<td>-.025</td>
</tr>
<tr>
<td>Executive/Managerial</td>
<td>-.068</td>
<td>-.152@</td>
</tr>
<tr>
<td>Professional</td>
<td>-.237@</td>
<td>-.063</td>
</tr>
</tbody>
</table>

Adj. R-Square | .092*** | .069*** | .048*** | .155*** | .005 | .079***

@p<.10; *p<.05; **p<.01; ***p<.001
to recruit is associated with good and bad jobs. Quadratic or non-linear effects may improve the fit of this model.

The analysis for using advertisements to recruit shows that union status and the time it takes to learn a job have negative effects on advertisement use, while establishment size and durable goods manufacturing status both have positive effects. The larger the employer, the more likely that openings will be consistently recruited for through advertisements. Employers in the durable goods manufacturing sector are more likely to advertise than are employers in other industry sectors. This finding partially contradicts my hypothesis. However, it may be that durable goods manufacturing establishments have more bureaucratic personnel structures than establishments in other industries. The presence of these structures would allow such plants to devote more resources to employee testing and screening.

Durable goods manufacturing establishments may use deferred compensation structures to offset potential turnover costs (Sørenson, 1983). With deferred compensation structures, employees are typically hired in at lower than market wages, with the promise of promotion to secure jobs with higher than market wages in the future. Job matching at the bottom of the ladder, where wages are low and responsibilities are minimal, is not as
important as job matching near the top of the ladder, where wages are higher and responsibilities greater. According to Sørenson (1983) employers control labor by failing to promote those workers that do not perform well. This allows employers to better manager their turnover costs. In addition, using deferred compensation structures to regulate job matching could be preferable to informal recruitment because these structures are internal to the company, and better insulated from external observation than recruiting practices.

The model for using signs outside of the premises to recruit shows that time and job ladder status are both significant predictors of the consistent use of signs to recruit for some vacancies. Time has an expected negative effect, while job ladder status has an unexpected positive effect. Jobs that require a long time to learn represent a major investment on behalf of the establishment, and therefore I expect that the establishment will attempt to locate the best applicants. Relying on signs outside of the premises is not a proven way of acquiring the best workers (Marsden and Campbell, 1990; Rees and Schultz, 1970).

The job ladder effect is unexpected. Internal job ladders are typically protected by bureaucratic procedures which make it difficult to release a non-productive employee (Doeringer and Piore, 1971). Therefore, I expect
that these positions are recruited informally, since informal recruitment leads to better job candidates and a better job match (Marsden and Campbell, 1990). Moreover, if formal methods are used to recruit for such jobs, I would not expect that posting signs outside of establishments is a popular manner of recruiting for such positions. However, as with durable goods manufacturing establishments, employers may use deferred compensation structures— as opposed to informal recruitment— to control for turnover costs (Sørenson, 1983). Therefore, how workers are found is not a major issue.

The model for employment agency shows that white-collar occupational status and job ladder status are both significant predictors of employment agency use to recruit for vacancies. Both have positive effects. The white-collar status finding is consistent with Campbell and Rosenfeld's (1985) untested hypothesis that certain white-collar occupations are filled through employment agencies. The effects of white-collar occupational status in this model are net of the effects of professional occupational status, executive-managerial occupational status and data complexity. Therefore, in the regression models, white-collar occupational status represents the effects of non-professional, non-executive/managerial white-collar occupations. Moreover, I hypothesized that lower status white-collar occupations are more likely to be recruited
formally. These findings support this hypothesis, and that presented by Campbell and Rosenfeld (1985), who argue that employers recruit for middle and lower-level white-collar vacancies through employment agencies.

As with the sign model, the effects for job ladder status are unexpected. Rees and Schultz (1970) show that employment agencies are expensive and unreliable sources of applicants (see also Doeringer and Piore, 1971). Moreover, as I mentioned before, incumbents of these positions are often guaranteed extensive due process, which makes discipline and dismissal difficult (Bridges and Villemez, 1991; Boswell, 1988). Therefore, I do not expect employers to use employment agencies to recruit for internal job ladder entry portals. Again, the interpretation regarding deferred compensation structures (see above) may apply to employment agencies as well.

Government agency and establishment size are positive predictors of reliance upon walk-ins to recruit. The larger the establishment, the more likely that walk-ins are relied upon for recruiting. Public sector jobs also rely upon walk-ins, as do union jobs. The finding for establishment size supports my hypothesis concerning size and recruitment, and supports previous research in this area (Marsden and Campbell, 1990; Rees and Schultz, 1970). Larger establishments have higher visibility and thus receive more unsolicited applications for employment.
(Marsden and Campbell, 1988). The highest status firms may also receive unsolicited applications from the best qualified applicants (i.e. IBM). Therefore, it may not be necessary for some firms to engage in active recruitment. Governments (federal, state, local) are the largest employers and their employment process and internal governance structures are the most bureaucratic. Given the high visibility of government and civil service agencies, it is probably unnecessary to actively recruit for most vacancies.

It is also possible that job searchers have positive perceptions about public sector employment and apply for jobs in this sector. Marsden and Campbell (1990) imply that job searchers perceive the positive benefits of working in a large establishment that social scientists have recognized (better pay, benefits, opportunities for advancement, job security, etc.). Moreover, job searchers operate under a time constraint. It is a better investment on behalf of a job searcher to apply to larger establishments because they are more likely to have an opening. The same argument can be made for government agencies. Government agencies are the largest employer at all levels. The positive benefits of public sector employment (especially for blacks and females) have been identified above (Smith 1980; Zwerling and Silver, 1992; DiPrete and Soule, 1988; Braun, 1984; Taylor, 1979).
Large pools of unsolicited applications may negate the need to invest financial and social capital in recruiting.

Several variables have negative effects on the reliance upon walk-ins to recruit. White-collar jobs are not likely to be recruited by relying upon walk-ins. Also, data complexity negatively affects reliance upon walk-ins to recruit. The amount of time it takes a new employee to learn a job also has a negative effect on the use of walk-ins to recruit for openings. All of these findings are expected. The data complexity and time variables represent establishment vulnerability to turnover and job mis-match. Therefore, active recruitment is warranted in order to optimize the job match. These negative relationships suggest that, despite the size of the establishments, unsolicited applications cannot be relied upon to fill every position. These results also show that job characteristics have important, independent effects net of establishment and industry characteristics.

The results for union jobs fit my expectations, but dispute earlier claims. Granovetter (1974) argues that many union, blue-collar jobs are filled through the recommendations of current employees (see also Stinchcombe, 1990: 268). However, the present analysis shows that there is not a significant relationship between the union status of the job and the frequency of using current employees to recruit for these jobs. Moreover,
union jobs are negatively associated with advertising and positively associated with reliance upon walk-ins. One possible explanation is the manner in which union members are assigned to jobs. Unions are given considerable autonomy in whom to admit into the union (Rees, 1977). As part of the collective bargaining process, unions may have won the right to assign members to particular jobs, based primarily on seniority. If that is the case, I would expect establishments to rely upon unions to send them proper applicants. This may explain why establishments rely on walk-ins when recruiting for union jobs. Unfortunately, these data are not designed to answer questions about union membership procedures. However, the results suggest that the topic is worthy of further investigation.

The use of colleagues and business associates is the last of the recruitment scales to be analyzed. Public sector job status has a negative effect on using colleagues to recommend applicants for positions. Government agencies are required, both formally and informally, to abide by EEOC and Affirmative Action hiring policies (Taylor, 1979). Therefore, it is unlikely that they will recruit informally. Executive/managerial occupations are more likely to be recruited for through colleague recommendations than are other occupations. Professional and white-collar occupations are more likely
to be recruited for through colleagues and business associates also. These findings are consistent with the theme playing throughout the literature review: Better jobs are more likely to be filled through informal recruitment.

**Logistic Regression Results**

The logistic regression results are presented in Table 3.4. Table 3.1 (simple statistics) shows that less than 11% of all cases in the sample are recruited exclusively by informal techniques, and 34% of all positions in the sample are recruited exclusively by formal methods. The logistic regression model for the informal-only model deviates significantly from independence (chi-square=60.94 w/13 d.f.), and reduces 11.02% of the error in the intercept-only model (independence).\(^\text{12}\) However, there are only two significant coefficients in the model, establishment size and professional occupational status. The estimate for the natural log of establishment size is \(-.395\). This shows that a 1% increase in establishment size increases the odds that informal-only recruiting methods are not used by 49%. A 10% increase in establishment size increases the odds that informal-only recruiting methods are not used by

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\(^\text{12}\)The error represents that portion of the -2 log likelihood function not explained by the model. At independence, the error is equal to the -2 log likelihood function (see Agresti, 1990).
Table 3.4. Logistic Regression Models for Formal-Only and Informal-Only Recruitment Techniques (n=812).

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Formal-Only</th>
<th>Informal-Only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>Odds-Ratio</td>
</tr>
<tr>
<td><strong>Job Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Ladder Entry Point</td>
<td>-.025</td>
<td>.980</td>
</tr>
<tr>
<td>Time Needed to Learn Job</td>
<td>-.005</td>
<td>.994</td>
</tr>
<tr>
<td>Transportability of Skills Learned</td>
<td>-.135</td>
<td>.874</td>
</tr>
<tr>
<td>Permanence of Employee</td>
<td>.055</td>
<td>1.057</td>
</tr>
<tr>
<td>Union job</td>
<td>-.191</td>
<td>.820</td>
</tr>
<tr>
<td><strong>Organizational Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size of Establishment (ln)</td>
<td>.216***</td>
<td>1.242</td>
</tr>
<tr>
<td>% of Sales From Govt.</td>
<td>.003</td>
<td>1.003</td>
</tr>
<tr>
<td>Government Agency</td>
<td>.516***</td>
<td>1.675</td>
</tr>
<tr>
<td>Manufacturing Durable Good Est.</td>
<td>.013</td>
<td>1.014</td>
</tr>
<tr>
<td><strong>Occupational Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOT Data Complexity</td>
<td>.106</td>
<td>1.112</td>
</tr>
<tr>
<td>White-Collar</td>
<td>-.412*</td>
<td>.662</td>
</tr>
<tr>
<td>Executive/Managerial</td>
<td>-1.044***</td>
<td>.352</td>
</tr>
<tr>
<td>Professional</td>
<td>-.433</td>
<td>.649</td>
</tr>
<tr>
<td><strong>- 2 Log Likelihood (Intercept Only)</strong></td>
<td>1142.835***</td>
<td>552.772***</td>
</tr>
<tr>
<td>Model Chi-Square</td>
<td>69.286***</td>
<td></td>
</tr>
<tr>
<td>Proportional Reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In Error</td>
<td>.060***</td>
<td></td>
</tr>
</tbody>
</table>

*p<.05; **p<.01; ***p<.001
over 500 percent. It is clear that jobs in larger establishments are not going to be recruited for exclusively by informal methods. Net of the size effect, professional jobs are twice as likely to be recruited for through informal-only methods than non-professional jobs (odds ratio of 2.05).

The model for formal-only recruitment reduces the error in the independence model by 6.0%. The reduction is significant (chi-square=69.28, w/13 d.f.). Size and government job status have positive effects. A 1% increase in the size of establishment increases the odds that formal-only methods are used by 24%. Jobs in larger establishments have a higher probability of being recruited for through formal-only techniques. Government jobs are 67% more likely to be recruited for through formal-only methods than are non-government jobs. Both of these findings support the multivariate findings for each separate recruitment scale, and the hypotheses concerning the relationship between establishment size, public sector status and recruitment.

While size is clearly a strong predictor in the model, the effects of white-collar occupational status, executive/managerial occupational status and the transportability of skills are significant. All are negatively associated with formal-only techniques. White-collar jobs are 51% less likely to be recruited for
Executive/managerial jobs are 184% less likely to be recruited for exclusively by formal methods than are non-executive/managerial jobs.

The logistic regression analysis addresses the important distinction between how employers look for employees, and how employers find workers. The informal-only and formal-only measures are taken from the recruitment filter questions that ask how employers typically look for employees. The recruitment measures in the multivariate analysis are taken from the questions which measure how employers typically find employees (i.e. how many current employees were recruited in that way).

In order to better address these questions, I re-analyze the models using both logistic regression and cumulative logit models. Logistic regression models are used to estimate the effects of the independent variables on the initial filter questions presented above. This analysis addresses whether or not employers typically look for employees with a certain technique.

The cumulative logit analysis replicates the OLS analysis, but cumulative logit models are more appropriate given the restricted ordinal nature of the recruitment measures. The cumulative logit analysis addresses how employers find workers because it assess how many workers currently employed in that position with that company were
recruited in that way. I do not show these coefficients in a table. The analysis for all six measures shows that the same characteristics that influence employers to look, also influence employers to find employees. For example, professional occupational status and executive/managerial occupational status both have positive effects on employers looking for employees through colleagues and business associates, and finding employees through colleagues and business associates. The one interesting inconsistency between looking and finding is with employment agencies. Executive/managerial occupational status has a positive effect on the use of employment agencies to look for employees, but no effect on the use of agencies to find employees. Another interpretation is that executive/managerial occupations are recruited for through employment agencies, but employers do not typically locate employees through employment agencies. However, as the OLS analysis in Table 3.3 shows, executive/managerial status has a positive effect on the use of colleagues and business associates. While employers may recruit through employment agencies for executive/managerial positions, they locate these workers through colleagues and business associates. In Chapters 4 and 5 I will address the consequences of this finding for the gender and racial composition of these jobs.
Discussion

The goal of this chapter is to uncover recruitment patterns in external labor markets. The analysis establishes some interesting patterns between work structure correlates and recruitment techniques. Employers use advertisements to recruit for jobs on internal job ladders and in durable goods manufacturing plants. Employers use employment agencies to recruit for jobs in larger establishments, and lower-level white-collar jobs. Employers also rely on signs and walk-ins to recruit for government jobs, union jobs, and jobs on internal job ladders.

One of the most important findings that relates the analyses in this chapter to the overall goals of the dissertation, is the relationship between informal recruitment through colleagues and business associates and occupational status, especially high-quality white-collar occupations. The professional and executive/managerial occupational status variables have positive effects on the use of colleagues and business associates to recruit for employees. This is the first step in addressing the relationship between recruitment practices and the occupational segregation process. The next step is to assess the structuring effects of recruitment techniques and how they deny individuals access to job information. Chapters 4 and 5 will address these issues in greater
detail. The remainder of this chapter is devoted to the contribution that the empirical results make to the recruitment literature discussed at the beginning of this chapter.

The analysis makes contributions to the recruitment literature in several areas. Some economists (Barron and Bishop, 1985; Barron, Bishop and Dunkelberg, 1982) argue that there may be situations where large establishments will need to recruit informally. Large establishments have higher monitoring costs and higher potential turnover costs. Yet there is no evidence in my study to suggest that large establishments utilize informal methods in any systematic manner. One solution that could satisfy both arguments is to focus on selection rather than recruitment. Since large establishments are likely to have large bureaucratic personnel departments (Villemez and Bridges, 1988), large establishments can devote more resources to employee screening to avoid the potential problems raised by economists (see Barron and Bishop, 1985). Moreover, formal recruitment techniques allow large establishments to avoid pressure from the EEOC and public groups, such as Operation PUSH (see public sector employment below). Further investigation of screening practices with appropriate data are warranted.

The effects of occupational status on recruitment are another area where this analysis makes a contribution to
the recruitment literature. First, Corcoran, Datcher and Duncan (1980) argue that education and training requirements of professional occupations make informal recruitment less likely because these serve as credentials to signal employers that they are qualified to fill the position. My analysis shows little support for this position. The analysis shows a positive relationship between recruitment through colleagues and business associates and professional, executive-managerial and white-collar occupational status. The two competing explanations for this finding are efficiency theory and institutional theory. The efficiency perspective contends that jobs which represent vulnerable spots in the organization are likely to be recruited for through informal channels because these methods reduce risks in hiring and increase the probability of a successful job match (Marsden and Campbell, 1990; Rees and Schultz, 1970; Barron and Bishop, 1985; see also Granovetter, 1981).

Stinchcombe's (1990) institutional explanation is that informal recruitment through colleagues and associates has become institutionalized in white-collar, occupational internal labor markets. Entry and advancement in occupational internal labor markets is typically controlled by the workers, at least to a greater extent than in other labor markets (Stinchcombe, 1990: 261). Historically, in many high status professional and
managerial labor markets, there was often a "peer group" which enforced market closure over who gets in (see also Sørenson and Kalleberg, 1981). Movement of workers within OILMs often involved the consent or advice of the "peer group" (Stinchcombe, 1990: 262). The industrial transformation from a manufacturing to a service economy greatly increased the relative number and labor force representation of professional, managerial white-collar occupations (Singelmann and Tienda, 1985). Therefore it is unlikely that a peer group can fully control who gets what job; but Stinchcombe (1990) implies that traces of the customary practice of informal recruitment for these jobs still remain.

A closely related argument is provided by Dimaggio and Powell (1990). They argue that normative pressures toward professionalization of some occupations establishes an inter-organizational network of occupation members who are responsible for recruiting, screening, socializing and allocating new members. These informal practices remain in occupational labor markets long after professionalization is complete. Kalleberg and Berg (1987) imply that professional associations support the institutionalization of these practices. Professional associations, a structure of which DiMaggio and Powell (1990) argue facilitates professionalization, serve to support the long-term institutionalization of informal
recruitment practices because hiring managers use contacts with these associations to find new employees.

The perceived effectiveness of informal recruiting practices explains why they become institutionalized in certain labor markets. According to Zucker (1987), practices which are perceived to be compatible with organizational goals of reducing search and evaluation costs will enjoy long-term entrenchment in organizational policies. Throughout this chapter I have documented the perceived cost benefit of informal recruiting. Employers perceive informal recruitment as an efficient method of reducing employer search costs; and, as a result, these techniques become permanent fixtures in certain labor markets. The complimentary argument that the segregating effects of informal recruiting practices help to institutionalize these practices is further expanded upon in Chapters 4 and 5.

The regression results for occupational status and job content support the institutional explanation. Professional, managerial and white-collar status are significantly associated with informal recruitment, while data complexity is not. Data complexity scores are attached to each occupational title, while the categories of professional/executive/managerial collapse many occupational titles into binary categories. Moreover, there is a distribution of data complexity scores within
each category. Under the efficiency assumption that job content is more important to an establishment than occupational category, data complexity should have greater relative effects on recruitment than occupational status. These results show just the opposite. When I remove the estimates for occupational status from the regression model, the effects of data complexity become significant, but the drop in variance explained is significant also.

The role that professional associations play in disseminating job information is worthy of further research. Informal recruitment may be facilitated through professional associations (i.e. American Bar Association). Kalleberg and Berg (1987) imply that institutionalization may persist because of professional organizations and associations. DiMaggio and Powell (1990) stress the importance of professional organizations in the process of professionalization. Unfortunately, these data are not

Collinearity is one possible consideration why data complexity is not significant and the other measures of occupational status are significant. There is a positive correlation between data complexity and professional occupational status (r=.372). However, the standardized estimate for data complexity (.04) is lower than that for professional job status (.09) and executive/managerial status (.19). If the non-significant estimate for data complexity is due to collinearity, the standardized coefficient should be similar to the other variables in question. Furthermore, standard collinearity indicators in SAS did not indicate collinearity was a problem in any of the models (see also Belsley, Kuh and Welsch, 1980).
adequate to address the role of professional organizations in recruitment. However, it is certainly a topic worthy of further research.

The analyses for the informal-only and formal-only models reinforce my other findings regarding informal recruitment methods and white-collar labor markets. Professional job status has a positive effect on informal-only recruiting; executive/managerial and white-collar occupational status have negative effects on formal-only techniques. Moreover, the measure I use in the logistic regression analysis only measures whether or not the technique is used to recruit for the position. The OLS analysis provides better indicators of technique use, because it measures how many of the current employees in a given position were recruited by a certain method. While the logistic regression model fails to show that white-collar and executive-managerial jobs are recruited exclusively through informal methods, the OLS models show that colleagues and associates are used to successfully recruit a significant proportion of white-collar, professional and executive/managerial employees.

The analysis finds mixed support for the assumptions about firm-specific training/turnover costs in the recruitment literature. The relationship between recruitment and firm-specific training/turnover costs is not as clear as the literature predicted. Jobs where
turnover costs are higher should have a higher probability of being recruited for through informal methods. However, my results are inconclusive. I expected that the use of informal recruiting methods would increase with the time it took to learn a new job, and the length of time that the employer wanted the employee to stay with the establishment. I predicted that the use of informal methods of recruiting would decrease with the transportability of skills from one company to another (external market viability). Only one of these measures produces an effect. The time it takes to learn a job has a negative effect on the use of signs, advertisements and reliance upon walk-ins, but the relationships between the time measure and the informal recruitment measures are not significant.¹⁴ My conclusion is that firm-specific training/turnover concerns may not drive recruitment to the extent that other research suggests. My advice is to redirect research agendas to address the institutionalization of recruitment techniques in various labor markets.

The findings for jobs that are entry portals into internal labor markets need further elaboration. The analysis shows that these jobs are more likely to be

¹⁴ There is the possibility that these estimates of firm-specific training are collinear, but none of the three measures are significantly correlated.
recruited for through employment agencies and signs outside of the establishment. This is an unexpected finding. Following the advice of the literature, I argue that the best technique to maximize the job match is informal recruitment. However, there may be substantive reasons to believe otherwise. One consideration is that informal contacts play a more important role in job movement once the employee is on the internal job ladder (DiPrete and Soule, 1988; Roos and Reskin, 1984). That is, it is an internal labor market issue. Furthermore, Sørenson (1983) argues that the deferred compensation promotion structures in firm internal labor markets screen unsuccessful candidates (see also Sørenson and Kalleberg, 1981). Turnover costs are minimal at entry portals. Typically, employees are hired at the ground level and are promoted once they acquire a certain level of proficiency and seniority. The failure to promote employees who do not perform well encourages these employees to pursue other employment. Therefore, organizations do not have to worry about mismatches at the entry portals, and as a result, informal recruitment is not necessary.

The other possible explanation is that informal recruitment techniques are not measured properly enough to capture the true informal recruiting at that job level. Colleagues and associates might not be a proper manner to recruit for entry portal vacancies. Also, relying on
employees to refer individuals can be problematic because it can lead to worker cliques in organizations (Marsden and Campbell, 1990). Therefore, poor measurement might partially explain the lack of association between entry portal jobs and informal recruitment.

The analysis also makes a connection between recruitment, politico-legal pressures in labor markets and the assumptions of Granovetter’s labor demand model. The results for public sector employment show that these agencies rely upon self-initiated applicants, and avoid using informal recruitment techniques. Standard entrance exams and the legal and political ramifications of EEOC hiring guidelines make informal recruitment unattractive to government agencies and firms with government contracts (DiPrete, 1987; Taylor, 1979). EEOC protects minority groups from discrimination in government agency hiring, and government agencies are constrained by congress, public pressure and private firms to abide by these guidelines. Moreover, Executive Orders 11246 and 11375 require all vacancies to be made fully public (Braun, 1984). These orders cover all federal agencies, state and local agencies with federal money, and private firms with federal contracts. The Office of Federal Contract Compliance has the power to enforce these guidelines, and can take away federal contracts from public agencies and private firms that violate these guidelines (see Reskin
and Hartmann, 1986). Therefore, these establishments will not use informal recruitment techniques to avoid investigation by the OFCCP. Additionally, larger firms and establishments make better political targets for public interest groups which seek fairness in hiring, and this partially explains why large firms and establishments rely upon formal methods of recruitment (Taylor, 1979; Marsden and Campbell, 1990). This evidence requires that Granovetter's labor demand model to be amended to incorporate politico-legal market structures which interfere with the informal transmission of job information.

Net of these problems, though, the analysis makes two important contributions to Granovetter's labor demand model. First, the results generally support Granovetter's claim that social contacts play an important role in disseminating information in labor markets and filling job vacancies. Recall from Table 3.1 that 65% of all jobs in the external labor market are recruited by some form of informal recruitment. Second, given that colleagues and business associates are used to recruit externally for certain vacancies, this analysis also supports Granovetter's claim that the organization of work in an advanced capitalist society helps to build inter-organizational network structures which are utilized by employers to move job information.
Beyond these findings, the analysis brings into question the base assumption of Granovetter's labor demand model and suggests some needed modifications. Granovetter assumes that employers prefer to recruit informally because they get better information about better quality candidates. I question the validity of this assumption, given my results which fail to show a relationship between informal recruitment and the vulnerability of a job to the establishment, as measured by firm-specific training/turnover costs and data complexity. However, since I did not directly examine employers' motivations for using informal recruitment techniques, the analysis does not directly dispute Granovetter's assumption, either. What the analysis does suggest is that employers may use social contacts to recruit for certain vacancies because these practices have become institutionalized in certain labor markets. One reason for the institutionalization of these practices is that they may be perceived as fitting well with organizational goals of reducing search and evaluation costs. Because the analysis fails to show a positive connection between the use of social contacts and the vulnerability of a job to the establishment (as measured by firm-specific training/turnover costs and data complexity), I conclude
that the institutionalization of these practices explains their presence in certain labor markets.15

The lack of findings for recruitment through employees is the last issue that I discuss in this chapter. The results fail to show a regression, or a linear relationship between recruitment through current employees and the independent variables in the analysis. One methodological explanation mentioned above concerns the non-linear properties of recruitment through current employees. Employers may use current employees to recruit for both good and bad jobs. Therefore, non-linear effects need to be estimated. However, I believe that the reason for the lack of effects is that recruitment through current employees is not perceived by employers as a useful way of finding employees. Some employers may use them, others may not; but for whatever reason, there are no clear patterns of using current employees to recruit for vacancies.

15However, this evidence in no way weakens Granovetter’s labor supply or job search model. Although political and legal barriers may force employers to use formal recruitment techniques, individual job searchers may discover these formally advertised positions through social contacts. Take, for example, someone who finds out about a job recently posted at an employment agency through a friend of a friend. While the analysis shows that formal recruitment methods are used in certain context, it fails to weaken the critique of the neoclassical search model which emphasizes the social dimensions of labor markets.
In the next chapter I examine to what extent recruitment practices segment external labor markets. I build on Boylan's (1992) theory which argues that certain job matching processes structure and segment external labor markets—much in the same manner that FILMs segment internal labor markets—through denying individuals access to job information. I also begin to examine the relationship between recruitment and the racial and gender composition of jobs.

Summary

The analyses in this chapter uncover interesting patterns between recruitment and work structure correlates. The size of an establishment and the durable goods manufacturing status of an establishment positively affect the use of advertisements to recruit. Employment agencies are used to recruit for jobs in larger establishments and job ladder entry portals. Government agencies have a tendency to rely upon walk-ins to recruit. Companies also rely upon walk-ins to recruit for union jobs.

The analysis in Chapter 3 establishes clear, positive relationships between professional occupational status, executive/managerial occupational status, and informal recruitment through colleagues and business associates. This is an important finding because recruiting has been identified previously (see Roos and Reskin, 1984) as an
important mechanism which affects the gender and racial composition of these occupations. Does informal recruitment for these jobs serve to deny females and minorities access to these jobs? This chapter also shows a positive association between non-professional/executive-managerial white-collar jobs and recruitment through employment agencies. Does, as Campbell and Rosenfeld (1985) suggest, formal recruitment for such jobs lead to female and possibly minority employment? These questions will be directly examined in the next two chapters.
CHAPTER 4. RECRUITMENT AND EXTERNAL LABOR MARKET STRUCTURE

The results in Chapter 3 show that certain work structure correlates are associated with particular recruitment practices. Recruitment techniques affect the visibility of, and public access to job information. The purpose of this chapter is to build on these results and show that recruitment techniques restrict access to job information, and in the process structure and segment external labor markets. In this chapter, I review pertinent labor market theories and research and, in conjunction with the findings in the last chapter, attempt to build support for path (b) of the conceptual model presented in Chapter 1. Empirically, I attempt to show that recruitment practices structure external labor markets by identifying distinct clusters of job characteristics and recruitment practices. In addition, I attempt to assess the structuring affects of recruitment techniques by examining the racial and gender composition of jobs within market segments.

Literature Review

Markets are the central feature in society that serve the basic human need of exchanging goods and services. Exchanges take place in labor, capital, product and resource markets, each of which can be arrayed along a continuum from more to less competitive. The new structuralist perspective argues that work structures--
organizations, occupations, classes, unions, industries—emerge from these markets. Different conditions in product, labor, capital and resource markets lead to the emergence of different work structure correlates (i.e. size, skill, technology). Moreover, work structure correlates represent different market context in which ascriptive and achieved characteristics of individuals are rewarded (Kalleberg and Berg, 1987). Of the four market types, labor markets are most central to stratification research because it is in labor markets where individuals exchange their skills with employers for wages, status and other job rewards. However, no labor market is perfectly competitive and, like all market types, labor markets are segmented along a continuum from competitive to monopolistic.

Analyses of less competitive labor market segments (Doeringer and Piore, 1971; Althauser, 1989a; Sørenson, 1983; Sørenson and Kalleberg, 1981) show how recruitment and job matching practices structure and segment internal labor markets. Vacancies on certain internal job ladders are restricted to a narrow pool of internal candidates on the same job ladder. Competition for such positions is limited, and workers in these labor market segments are often allocated based on non-competitive criteria, such as seniority (Osterman, 1984; Doeringer and Piore, 1971). Market segments at the competitive end of the market
continuum, on the other hand, are predominantly external to the firm and workers are matched to work structures based on the laws of competitive supply and demand (Boylan, 1992; Bridges and Villemez, 1991). However, Boylan (1992) maintains that there is structure in external labor markets. If the manner in which workers are matched and recruited to jobs can segment internal labor markets (Sørenson, 1983), then according to Boylan (1992), job matching practices can segment external markets. I argue that recruitment techniques segment external labor markets because different formal and informal recruitment techniques limit the access individuals have to job information. Moreover, competition for jobs is limited when information about those jobs is restricted to contacts along informal networks. I use Boylan's work to build the hypothesis that recruitment techniques structure external labor market segments.

Identifying Labor Market Segments

Several studies suggest that labor market segments can be identified by the personnel policies which govern those segments (Boswell, 1988; Bridges and Villemez, 1991; Williamson, 1981). Boswell (1988) builds on Williamson's (1981; 1985) theory of transaction costs and governance structures, with particular emphasis on the concepts of metering difficulty and asset specificity. The primary
thrust of Boswell’s work is that different personnel policies are required for workers in different labor market segments. The personnel policies which govern particular labor market segments reflect both the control workers have over their work, and the their market power over competition.

Boswell (1988: 145) cross-classifies power by control and develops nine unique personnel policies, or governance structures, which are used to identify labor market segments. For example, strict market contracts are used to govern personnel with no power and no control. Firm internal labor markets, on the other hand, govern workers where turnover costs are high, and assets are firm-specific. One governance structure is not ubiquitous throughout the firm. Different policies are applied at different levels in the organization. Boswell’s approach is similar to the new structuralist approach in that personnel policies (or governance structures) emerge from labor markets which are differentiated along the dimensions of power and control.

While less specific than Boswell’s theory, Bridges and Villemez (1991) imply that certain labor market segments can be identified by the personnel policies used to govern those positions. Certain personnel policies (internal allocation structures, due process procedures, etc.) can be used to identify market segments which are
less competitive, where the skills are firm-specific, and where the markets have been internalized by the firm to insure an adequate and stable labor supply. In contrast, those workers who posses skills that are easily transportable across firms are not likely to be covered by due process procedures or to occupy jobs that are included on an internal job ladder.16

The models presented by Boswell (1988) and Bridges and Villemez (1991) coincide with the focus of the recruitment theories presented in Chapter 3. The same characteristics which influence the use of informal recruitment techniques also occupy an important role in these models. For example, asset-specificity and information closure (professional closure over a body of knowledge) both positively affect the use of informal recruitment techniques. In the Bridges and Villemez model, these market conditions are associated with due process structures. In the Boswell model, these factors reflect the power and control workers have, and influence the emergence of internal governance structures, such as firm internal labor markets (Boswell, 1988). Unfortunately, these theories fit best with internal labor markets. Both models tend to view external labor markets

16 Bridges and Villemez (1991) argue that this model is not applicable to professional and other high-status white-collar occupations.
as highly competitive, and similar to the ideal type market depicted in the neoclassical wage determination model.

Boylan (1992), however, does provide a theory of external labor market structures which fits well with the recruitment literature. In contrast to internal labor markets, external labor markets are assumed to be unstructured and to better reflect the neoclassical competitive model. Boylan argues that unemployment, fixed wages, lack of fluidity across employers and the lack of uniform pricing are evidence of external market structure. Moreover, structural theorists downplay structure in external labor markets because there is no administrative apparatus to enforce the structure—such as with an internal labor market. That is, these structures have not become formalized in the structures of organizations.

According to Boylan (1992), most structural theorists rely upon the concept of occupational internal labor markets (OILM) to capture structure in the external labor market. However, OILMs do a poor job because much mobility in external markets is across, not within, occupational categories. Also, intrinsic to the OILM concept is the ability of certain professional occupations to control membership through licensing and certification (Stinchcombe, 1990). However, the growth in these occupations due to the expansion of producer and social
service industrial sectors has reduced the capacity of professional groups to manage membership (Freidson, 1986; Singelmann and Tienda, 1985; Singelmann, 1978). Therefore, professionals are less able to regulate OILMs.

In addition to OILMs, Boylan (1992) criticizes career-line research, another attempt to capture structure in the external market. Where OILMs fail to represent enough structure by failing to account for movement across occupational categories, there are too many possible combinations of career lines to represent any semblance of structure.

Boylan (1992) uses a resource approach to capture structure in the external labor market. Resources are attached to positions which give the incumbents of these positions advantages in acquiring other good jobs in the external labor market. Boylan (1992) identifies four sources of advantage. First, jobs may impart skills which are in demand and transferable across employers. Second, certain positions confer credentials upon incumbents, thus providing other employment opportunities. Third, some positions offer the potential to signal other employers of their abilities. Finally, some positions provide inter-organizational social contacts which are useful in learning of other job opportunities. This dissertation focuses on this resource.
Boylan (1992) maintains that certain jobs give incumbents advantages in external labor markets because they put the incumbent in contact with other organizations, and with inter-organizational network structures which are useful in getting jobs that are often recruited for through these networks. Theory and research in Chapter 3 of this dissertation shows that certain occupations (professional, executive/managerial, white-collar) which are filled through the external labor market are consistently recruited for through business colleagues and associates. Granovetter's (1981; 1985; 1988) labor demand model contends that an inter-organizational network of social contacts plays an important role in clearing labor markets, especially white-collar labor markets. Employers prefer to recruit through these channels because of the social dimensions of the relationships forged through inter-organizational transactions and communications. Information acquired through these relationships is of better quality because of the normative constraints that regulate these relationships (Granovetter, 1985).

Fararo's biased information diffusion model supports the argument for structure in external labor markets. Fararo (1989) contends that we can understand the underlying structure of a given context by analyzing how information flows through that context. Therefore, we can
understand the underlying structure of labor markets by analyzing how job information flows from employers to prospective employees. Recruitment techniques are the primary manner in which employers disseminate job information. Moreover, based on the assumptions of Fararo’s (1989) market structure model, the underlying structure of a labor market which is characterized by informal recruiting through colleagues and business associates looks different from the underlying structure of labor markets in which formal recruitment techniques are used. And as the recruitment literature suggests (Haulman et al., 1987; Granovetter, 1974; 1981; Marsden and Campbell, 1990), information about jobs that are recruited for through formal methods reaches a greater number of job searchers than information about jobs that are recruited for through informal networks. According to Fararo’s model, a market characterized by informal recruitment has a different underlying structure than a market characterized by formal recruitment. In essence, the manner in which information is disseminated from employers to employees is one of the defining features of the market. If recruitment technique is one of the defining features of a market, as Boylan (1992) implies, then recruitment techniques serve to segment external labor markets.
In an attempt to advance Boylan’s theory, I argue that recruitment techniques represent structure in external labor markets, and that recruitment techniques serve to further segment labor markets. Similar to Granovetter (1981), I conceptualize labor markets as an arena where workers exchange skills for income and status (see also Kalleberg and Berg, 1987). Empirically, labor markets consist of employers looking for employees to fill vacancies, prospective employees looking for jobs, and a process of clearing the market, or informing job searchers about job openings. Recruitment processes take place in external labor markets. Other dimensions of the job match, such as forecasting, screening and selection are typically done within the firm or establishment (Bills, 1992; Marsden and Campbell, 1990).

Theory and research shows that the mode of recruitment in a given market segment depends upon the characteristics of the job openings (Marsden and Campbell, Rees and Schultz, 1970; Barron and Bishop, 1985; Barron, Bishop and Dunkelberg, 1982; Bills, 1992). Therefore, in order to identify a labor market segment, two criteria must be met. One, there needs to be distinguishable characteristics of the jobs being recruited for; and two, there needs to be methods of information dissemination. These include informal (business networks) and formal (advertisements, employment agencies) techniques of
notifying potential workers about openings. Unfortunately, there are no standard measures of labor markets, or an agreed upon technique of identifying markets or market segments.\footnote{For example, Jones and Rosenfeld (1989) take a macro-spatial approach, equating labor markets with SMSAs. Harrison (1989) identifies labor markets by clusters of temporally linked occupational categories. Hodson and Kaufman (1982) use detailed occupation by industry categories.} Given the lack of an agreed upon model for identifying external labor market segments, the analysis has an exploratory focus.

The criteria I choose are used to identify labor market segments with cross-sectional survey data. One important implication of this definition of a labor market segment is that labor markets exist temporally until the job match is completed. In fact, most of the critique of the neoclassical labor market model in economics focuses on the model's failure to understand that labor markets are sustained by on-going social processes related to the organization of work in society and the inter-connection between firms and customers/clients in product and resource markets (Granovetter, 1974; 1985; 1986; 1988). The social structure of a labor market that connects actors and facilitates the flow of information among buyers and sellers of labor is not a temporary feature that disappears once the exchange is completed (i.e. once the worker is matched to a job). Conceptualizing markets
as jobs to be filled and a manner of informing workers about jobs has the potential to reduce the definition of markets to information, which ignores the other important aspects of the market, such as the social arrangements through which job information flows. Unfortunately, measuring all structural dimensions of a labor market with cross-sectional survey data, is not feasible. Therefore, I narrow my definition to the key components of a market that I can measure.

I use cluster analysis to fit my criteria for labor market segments. I construct clusters from the Metropolitan Employer-Worker Survey employer subsample, using characteristics of establishments, jobs, industries, and recruitment techniques (Bridges and Villemez, 1986). I then use discriminant analysis to derive discriminant functions to test which work structure correlates and recruitment techniques function to discriminate the clusters. That is, which establishment, job, industry characteristics and recruitment techniques best determine which observations in the sample belong in each cluster.

New structuralist theory sets no boundaries on the number of external labor market segments. Each of the work structure correlate/recruitment combinations could, in theory, represent a labor market segment. Therefore, an abundant number of hypotheses would be required to cover all possible combinations. I formally state only two
hypotheses to be tested, but discuss all relationships discovered in the analysis in detail. The two hypotheses are:

- \( H_{13} \): Professional and executive/managerial positions cluster with recruitment through colleagues and business associates.

- \( H_{14} \): Positions in large establishments, and public industry sectors cluster with formal recruitment techniques.

Hypothesis \( H_{13} \) is taken from the institutional arguments presented in Chapter 3. The institutional hypothesis contends that informal recruitment techniques have become permanent fixtures in certain white-collar labor markets. Efficiency theorists argue that informal recruitment techniques are prevalent in white-collar labor markets because they improve the job match (Stinchcombe, 1990; Granovetter, 1981). Employers prefer informal recruiting because these practices gather better information on prospective employees (Marsden and Campbell, 1990; Granovetter, 1981; Wanous, 1980). Moreover, these practices also allow potential employees to gather better information about the job, typically information that would not be acquired during an interview (i.e. what the working environment is like, what the boss is like). According to Wanous (1980), better information on behalf of employers and employees improves the job match.
Hypothesis $H_{14}$ comes from my critique of Granovetter's labor demand model. Granovetter (1981; 1988) operates from the assumption that employers prefer to recruit through social contacts at all job levels. My analysis shows that his model needs to be amended to incorporate political and legal structures in the labor market. Briefly, my analysis in Chapter 3 shows that large establishments use formal recruiting techniques; and I argue that this is primarily because of the political visibility of larger establishments and firms. Larger employers are more likely to be targets of EEOC investigations and political pressure from groups which seek fairness in hiring (i.e. Operation Push). In order to avoid political and legal battles, larger employers recruit formally (Marsden and Campbell, 1990; Taylor, 1979).

According to Taylor (1979), the same argument applies to public sector agencies. The federal government and Executive Orders 11246 and 11375 require all federal contractors (public and private) to publicly advertise all vacancies. Moreover, the federal government is formally required to adhere to all EEOC and Affirmative Action hiring guidelines. Along with legal requirements, federal agencies are under the scrutiny of private firms to comply. Taylor (1979) maintains that private firms are resentful of public intervention into their hiring.
practices, and therefore pressure public sector agencies to adhere to the hiring guidelines which they attempt to force on others. Theoretically, I argue that public sector positions and positions in large establishments are in market segments associated with formal recruitment techniques. Empirically, I expect public sector positions and large establishment positions to cluster with formal recruitment techniques.

Kalleberg and Berg (1987) predict that the manner in which individuals are recruited to different work structure correlates explains why certain structures have more or less individuals with particular attributes. Institutional theorists have theoretically linked the practice of informal recruitment to gender and racial occupational segregation (Roos and Reskin, 1984; 1992; Kaufman, 1986). Moreover, these scholars argue that the institutionalization of informal recruitment practices in labor markets is strongly supported by the prevailing culturally defined appropriate roles for males and females, whites and non-whites. Roos and Reskin (1984) contend that informal recruiting practices are institutionalized because their segregating effects reinforce existing cultural beliefs, and root these practices in the prevailing gender-role ideology. While less straight-forward, others suggest that the segregating effects of these practices reinforce a prevailing white-

Tomaskovic-Devey (1993a) argues for a theory of patriarchal closure to explain racial and gender segregation. According to this theory, racial and gender segregation results from conscious attempts by white-males to maintain their privileged position in the labor force and in society. Simply put, employers reserve the best jobs for white-males, while females and minorities are relegated to other less desirable jobs. All actions which bring about closure and segregation can be understood as attempts by white males to protect not only their status, but also their perceptions of self as members of the superordinate group (Collinson et al., 1990). What I intend to do is to integrate recruitment practices into this line of theory and research, and show that informal recruitment practices are associated with the best jobs and that these techniques exclude females and minorities from these jobs.

I derive the following hypothesis concerning market structures and the racial and gender composition of positions in the market segment. I predict that the clusters derived will explain a significant amount of the variation in racial and gender composition of jobs. I expect that the between cluster variation in percent female and percent black is greater than the within
cluster variation for each model. Moreover, I expect that clusters which are characterized by informal recruitment are more likely to employ fewer females and blacks, and as a result, there should be a lower percentage of blacks and females occupying jobs in these clusters.

$$H_0:$$ Clusters, or market segments, which are characterized by recruitment through business colleagues and associates have a lower percentage of females and blacks employed in positions within that market segment.

Analysis

Data

The data used in this chapter are the same used in the previous chapter: The MEWS employer file. I restrict my analysis to the subsample of positions which are recruited for exclusively from the external labor market. The industry, establishment and job characteristic variables (independent variables in Chapter 3) in the analysis are operationalized in Chapter 3. The six ordinal recruitment measures are the same used in Chapter 3.

The measures for racial and gender job composition are taken from the 1980 Census data for the greater Chicago SMSA. First, six digit occupation-by-industry codes are computed by cross-classifying three digit Census occupation by three digit SIC industry codes. Percent black is the number of blacks employed in each six digit occupation-by-industry code divided by the total number of
individuals employed in each category. Percent female is the number of females employed in each six-digit occupation-by-industry category, divided by the total in each category. The numerator and denominators for the respective composition variables are restricted to the greater Chicago SMSA.

Measurement Issues

The measurement issues concerning the variables in the analysis are discussed in Chapter 3. One key measurement issue that Chapter 4 addresses concerns the correlation between the two informal measures of recruitment. It is conceivable that employers use colleagues and business associates, and current employees to recruit for a professional, or executive/managerial vacancy. However, it is not likely that employers use business associates and colleagues to recruit for lower level jobs with high external market viability. Yet, it is very likely that employers use current employees in the same position to recruit for such jobs (see Rees and Schultz, 1970). That is, employers use current employees to recruit for lower level jobs to save on recruiting costs. In regression analysis, the positive association between the use of current employees to recruit, and the characteristics of both "good" and "bad" jobs, may yield an equation which requires quadratic or non-linear effects. Fortunately, cluster analysis does not force
linear relationships, and allows informal recruitment through employees to cluster with characteristics of both "good" and "bad" jobs.

One major measurement issue in this chapter concerns the measurement of gender and racial job composition. Conceptually, I assume that recruitment affects the gender and racial composition of jobs. However, the measures used to test the hypothesis are gender and racial composition of 6 digit occupation-by-industry categories in the greater Chicago SMSA. Most of the previous studies which address issues of occupational segregation utilize occupational level data. The problem, according to Bielby and Baron (1986; 1984), is that there is considerable differentiation even within so-called gender-mixed occupations (see also Roos and Reskin, 1992). Within categories, women and minorities tend to be concentrated in jobs with less desirable duties (Reskin and Roos, 1990; Roos and Reskin, 1992). However, using the occupation-by-industry gender composition data will better reflect the degree of true segregation than will occupation data. Previous research has shown that the quality of work for the same occupation can vary greatly.

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According to Harrison (1989), occupational level data are the best measures of job composition to which most scientists have access, but see Bielby and Baron (1984; 1986) for an exception.
across industry categories (Tolbert et al., 1980; Tienda et al., 1987).

Tomaskovic-Devey (1993a) maintains that gender and racial composition should be analyzed at the job level, not the occupational level. The characteristics of jobs affect the tendency toward exclusionary social closure based on race and gender. For example, characteristics such as authority, autonomy, opportunity for promotion, and task complexity are job-level characteristics, not occupational characteristics. The characteristics of these jobs affect social closure. As the quality of a job increases (i.e. as autonomy, authority, task complexity increase), employers exclude minorities and females from these jobs. Moreover, within occupations, women are less likely to be in positions of affective authority, with decision-making power over products and budgets. In terms of authority, blacks are likely to be employed in jobs which supervise other blacks.

Another job level factor said to influence the racial and gender composition of jobs is task fragmentation. Tasks are specialized and differentiated at the job level. Within occupations, the proliferation of tasks and job titles leads to a hierarchy of jobs which ranges from high to low, based on job desirability. Jobs at the top end of the hierarchy are more desirable and reserved for white-males. Jobs at the lower end of the hierarchy are
reserved for females and minorities, and have a low desirability rating. While task differentiation increases segregation, size of job and task standardization interact to reduce segregation. Tomaskovic-Devey (1993a) shows that jobs with a large number of incumbents and standardized tasks tend to be occupied by both men and women.

Another reason why composition and segregation need to be studied at the job level is that organizational practices affect the task fragmentation and differentiation of jobs. For a given occupation, the division of labor within organizations affects which characteristics are assigned to which job titles (which jobs have autonomy, authority, etc.,). Therefore, measuring the gender and racial composition of an occupation neglects the important processes that occur within the firms which employ members of that occupation. Another organizational level process that affects the gender and racial composition of jobs is the formalization of the employment relationship. For a given occupation, different degrees of formalization will affect tendencies toward exclusionary closure. Formal employment arrangements, such as written job descriptions, promotion schedules, and performance evaluations remove some of the subjectivity in the hiring, assignment and promotion of workers. This has a tendency to reduce closure and
segregation. Measuring composition at the job level is important because it better captures the organization-specific influences which affect social closure and the gender and racial composition of jobs.

While Tomaskovic-Devey's argument is well-noted, my analysis is an improvement over most (i.e. Harrison, 1989), because I measure composition at the detailed occupation-by-industry level. Tomaskovic-Devey's research shows that industry sector has an important affect on the gender composition of jobs (however, not on the racial composition). His research also shows that for some occupations, especially semi-professional (1993a: 75) and unskilled blue-collar occupations (1993a: 90), gender and racial composition at the job level is near identical to composition at the occupational level. In addition, I believe that his conclusions are over-stated, given that he relies upon employee source data to measure the gender and racial composition of jobs. Others have shown that employee-source data are not always reliable (see Villemez and Bridges, 1988).

As mentioned above, one problematic area of past research is the identification of labor markets. The sociological study of labor markets has brought forth different conceptualizations. Abstractly, Osterman (1984: 1) defines a labor market as "...a bourse where employers bid against each other for the service of workers, who in
turn, shop around for the employment that offers the greatest net advantage." Sociologists, however, have conceptualized and operationalized labor markets in many various ways, ranging from SMSAs to occupational categories (see above). Sociological interests in labor markets receives a scholastic boost from the sociological dual economy perspective (Beck, Horan and Tolbert, 1978; Tolbert, Horan and Beck, 1980; Kalleberg and Sørenson, 1979; Hodson, 1984). This vein of research emphasizes two economic sectors, core and periphery, which are largely organized around industrial sectors. Moreover, each sector has a corresponding labor market (primary and secondary). These labor markets are identified by certain characteristics: size of firms in the sector, wages, unionization, capital intensity, conglomerate organization, internal job ladders to name a few (Hodson and Kaufman, 1982). Workers in primary labor markets enjoy higher wages, better benefits, union protection from arbitrary discipline and greater job security. Secondary labor markets are characterized by high turnover, low wages, low on-the-job training, layoffs and poorer working conditions. The dual economy theorists assume that these characteristics identify the labor market and industry sector location of workers.

Hodson and Kaufman (1982) criticize the dual economy model for being anti-theoretical and inconsistent with
empirical observations. First, Hodson and Kaufman (1982) argue that there are more than two economic sectors. They provide as evidence firms which fit characteristics of both sectors. For example, insurance companies are large in size and located in a product market with relatively few competitors. Despite the oligopolistic nature of the insurance product market, the industry is very competitive. Second, Hodson and Kaufman (1982) argue for greater mobility between economic sectors than the dual economy model allows (see also Jacobs, 1989a).

In a later piece, Hodson (1984) attempts to resolve whether companies or industries are the appropriate units of analysis to identify labor markets. Companies define concentrations of economic power, and since most firms utilize organizational-specific skills, companies are the appropriate unit of analysis. The argument for industries is based on the assumption that competing firms in a particular industry sector utilize like technologies. Therefore, an industry sector represents a large proportion of workers with similar skills and is the appropriate unit of analysis. Hodson (1984) shows that, in fact, each is preferable in different context. Hodson (1984) further argues that dimensions of economic structures and economic characteristics define distinct markets and sectors. These economic characteristics are the same observations that dual economy theorists use to
differentiate economic sectors, and include such factors as size of firm, product market concentration, internal labor markets and others.

In my conceptualization and operationalization of labor markets, I integrate the company and industry-based approaches. I incorporate as many characteristics of establishments, industries, occupations and jobs in my attempts to identify labor markets. However, my conceptual definition of labor markets remains simple, and close to Granovetter's (1981). According to my theory, labor markets are characterized by employees looking for jobs, employers with jobs to be filled, and some mechanism(s) of clearing the market, or moving job information from employers to potential employees.

Cluster Analysis Results

Originally, I proposed to use Boswell's theory of personnel practices to drive the analysis. However, this is inappropriate for two reasons. First, by his own admission, Boswell's model is not exhaustive, but meant to serve as a theoretical framework from which future analysis could proceed. Therefore, restricting the analysis to 9 clusters neglects the labor market segments which are not captured by his model. Second, only two cells in Boswell's model address external market segments, spot-market competitive segments and OILMs. Both of these concepts are the targets of Boylan's (1992) critique of
existing external labor market theories. According to Boylan (1992), there is structure in the external market not captured by OILMs. Moreover, this is an analysis of jobs filled through the external labor market. Since Boswell's typology applies mainly to internal governance structures, there is not a strong conceptual basis for using this typology to drive the analysis. However, this does not diminish the importance of his proposal that governance structures and personnel practices can be used to identify labor market segments (see also Bridges and Villemez, 1991).

In the analysis, I cluster all of the positions in the MEWS subsample by the independent variables in the last chapter, plus the six ordinal recruitment scales. There are three steps in the analysis. The first step is a disjoint cluster analysis of all the positions in the sample by establishment, job and industrial characteristics, and the six ordinal recruitment scales. Each variable in the analysis is first standardized to a mean of zero, and a standard deviation of one.\textsuperscript{19} Disjoint cluster analysis is based on Euclidean distances from one or more numerical variables. The observations are placed into clusters so that the clusters are mutually

\textsuperscript{19}I use PROC STANDARD in SAS (SUGI, 1985).
Theoretically, the clusters represent observations that are spatially similar in dimensions of space. Empirically, the clusters represent observations that are numerically similar to one another in terms of the variables in the analysis. Yet for this analysis, cluster analysis is more desirable than correlation or other forms of linear analysis because it does not force linear assumptions.

I perform a sensitivity disjoint cluster analysis and verify with a hierarchical cluster analysis. I begin with 20 clusters and reduce the analysis until I have twelve clusters. I attempt to maximize two criteria: 1) the average distance between clusters, and 2) the number of cases within each cluster. Setting an average distance criteria of 1 standard unit between clusters yields 12 clusters with at least 2% of the total cases included in each cluster. I derive the clusters from the following process. First, I perform a disjoint cluster analysis and cluster the observations by variables setting the number of clusters to 20, 15, 10 and 5. Second, I use hierarchical cluster analysis to examine the distance between clusters at each level. The greater the distance between each cluster, the fewer the number of clusters. The hierarchical cluster analysis shows 12 clusters at one

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20 One observation is in one and only one cluster.
average standard distance between cluster means. Moreover, each of these twelve clusters contains at least 2% of the total cases in the sample.\textsuperscript{21} There is an F-statistic computed in cluster analysis to show that the within cluster variation is significantly less than the between cluster variation. The F-statistic for the twelve clusters (F=48.56) indicates that the within cluster variation is significantly less than the between cluster variation. However, Aldenderfer (1984) cautions against interpreting and reporting these statistics. Therefore, I use discriminant analysis to better test the validity of these clusters (Klecka, 1980).

The second stage of the analysis is an attempt to show which variables influence the clustering of the observations into the various clusters. This is the important step in determining which clusters meet my criteria for labor market segments. I use discriminant analysis to compute discriminant functions for each cluster. There are two tests in discriminant analysis. The first analyzes the distance between cluster centroids in chi-square units. This test predicts whether or not the distances between group centroids are statistically significant, as indicated by the $D^2$ statistic. The $D^2$

\textsuperscript{21} There is no set standard regarding the number of appropriate cases in each cell, I use the maximum likelihood criteria of at least 2% of the total cases in each cell (Agresti, 1990).
statistic has chi-square properties (Klecka, 1980). I do not report these statistics; however, the analysis shows that all cluster centroids are different from one another.

The second test is central to the discussion. Discriminant functions are produced for each group. If the variables in the analysis are not standardized, the discriminant coefficients have little interpretive value. However, if the variables in the analysis are standardized, the effects of the discriminant functions have canonical properties (Klecka, 1980: 43). The discriminant coefficients show which variables within a cluster contribute the most to the discriminant (centroid) scores of that cluster. Another interpretation is that these scores represent which variables are most strongly associated with membership in each particular cluster. Positive discriminant functions have positive effects on the observation being included in the cluster. For example, if Cluster 1 has establishment size as a positive discriminant function, then the interpretation is that size is positively associated with an observation being included in the cluster.

One alternative to discriminant and cluster analysis is principle components factor analysis. This procedure indicates which variables share variance with other variables. For example, I expect recruitment through colleagues and business associates to share variance with
executive/managerial and professional occupations. However, I chose discriminant and cluster analysis because these two procedures compliment each other, and allow observations to belong to mutually exclusive clusters. Factor analysis, on the other hand, assigns factor scores to each observation. The benefit of mutually exclusive clusters is the ability to examine the racial and gender composition of OCC/IND jobs in each cluster, and to examine those compositions within the context of the key discriminant variables in each cluster. Given my conceptualization of a labor market segment, characteristics of jobs to be filled and a manner of information dissemination, cluster and discriminant analysis are more appropriate techniques to address path (b) of the conceptual model.

Table 4.1 presents the three strongest positive discriminators for each cluster. Conceptually, I define labor markets as employees looking for jobs, employers with jobs to be filled, and some mechanism(s) for clearing the market, or moving job information from employers to potential employees. Empirically, each cluster must contain discriminators which identify both characteristics of job openings in the market, and a recruitment practice (or practices) to notify workers of the potential opening. Clusters which are comprised of recruitment technique
<table>
<thead>
<tr>
<th>Cluster</th>
<th>(n)</th>
<th>Variable (Disc. Value)</th>
<th>Cluster</th>
<th>(n)</th>
<th>Variable (Disc. Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster 1* (n=59)</td>
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<td>Cluster 2* (n=37)</td>
<td>Signs (2.52)</td>
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<td></td>
<td>Professional Occ. (3.27)</td>
<td></td>
<td>White Collar (1.03)</td>
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<tr>
<td></td>
<td>Colleagues &amp; Assc. (1.11)</td>
<td></td>
<td>Employees (.856)</td>
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<tr>
<td></td>
<td>%Female (39) %Black (9)</td>
<td></td>
<td>%Female (62) %Black (21)</td>
<td></td>
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</tr>
<tr>
<td>Cluster 3 (n=34)</td>
<td>Sign (14.5)</td>
<td>Cluster 4* (n=101)</td>
<td>Variable (Disc. Value)</td>
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<tr>
<td></td>
<td>Walk-Ins (1.32)</td>
<td></td>
<td>Exec/Man. Occ (4.22)</td>
<td></td>
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<tr>
<td></td>
<td>Trans. of Skills (.770)</td>
<td></td>
<td>Emp. Agency (3.45)</td>
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<tr>
<td></td>
<td>%Female (66) %Black (16)</td>
<td></td>
<td>White Collar (1.10)</td>
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<tr>
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<td>Cluster 6* (n=39)</td>
<td>Variable (Disc. Value)</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Trans. of Skills (.676)</td>
<td></td>
<td>Exec/Man. Occ (4.23)</td>
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<td></td>
<td>Union Job (.559)</td>
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<td>Emp. Agency (3.38)</td>
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<td>Colleagues (1.73)</td>
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<tr>
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<td>Man. Durable Gds (1.55)</td>
<td>Cluster 8* (n=35)</td>
<td>Variable (Disc. Value)</td>
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<tr>
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<td></td>
<td>Professional Occ (2.85)</td>
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<tr>
<td></td>
<td>Walk-Ins (.700)</td>
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<td>Colleagues &amp; Assc. (1.40)</td>
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<td>Cluster 10 (n=80)</td>
<td>Variable (Disc. Value)</td>
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<td>Government Agency (1.07)</td>
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<td>Professional Occ (1.27)</td>
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<td>White Collar (1.06)</td>
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<td>Signs (11.7)</td>
<td>Cluster 12 (n=132)</td>
<td>Variable (Disc. Value)</td>
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<tr>
<td></td>
<td>Union Job (2.02)</td>
<td></td>
<td>Government Agency (1.55)</td>
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<td></td>
<td>Job Ladder Entry Portal (.763)</td>
<td></td>
<td>Walk-Ins (.652)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>%Female (39) %Black (24)</td>
<td></td>
<td>Time to Learn Job (.532)</td>
<td></td>
<td></td>
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</tbody>
</table>

*Meets Labor Market Criteria  
®Note- The percent female employed throughout the greater Chicago SMSA is 41%. The percent black is 14%. These percentages are taken from the 1980 PUMS-D file.
discriminators, or job characteristic discriminators do not represent market segments.\textsuperscript{22}

Six of the cluster cells (1, 2, 4, 6, 8, 11) fit my criteria for labor market segments. Three others (3, 7, 10) show tendencies in that direction, while three (5, 9, 12) show no clear patterns. Cluster 1 shows that data complexity, professional occupational status and the use of colleagues and business associates to recruit for such positions are the discriminating variables which best determine observation membership in this cluster. This cluster represents an external labor market segment in which professional occupations high in data complexity are recruited through business associates and colleagues. Boylan's (1992) external market structure theory argues that these positions have external advantage because they are embedded in an inter-organizational network which is used to recruit for vacancies, restricting competition to workers connected to the network.

Clusters 2 and 4 also meet my criteria for labor market segments. Cluster 2 is characterized by white-collar occupations which are recruited for through signs, and to a lesser extent current employees. Signs and

\textsuperscript{22} At least one job characteristic (i.e. size, professional occupation) and one recruitment technique must be among the three strongest, positive discriminators in the cluster cell in order for that cell to be considered a labor market segment.
employee referrals are identified as means of recruiting for low status jobs (Corcoran, Datcher and Duncan, 1980).

Cluster 4 is characterized by executive-managerial occupations and other white-collar occupations that are recruited for through employment agencies. Campbell and Rosenfeld (1985) suggest that these occupations represent middle and lower level managerial and white-collar occupations which are filled predominantly by females, who are more likely to find employment through formal channels, especially private employment agencies.

The association between executive-managerial jobs and employment agencies may be attributable to the failure of the MEWS to distinguish between employment agencies and head-hunter firms. The latter are often used to recruit executives and other high status professionals (Marsden and Campbell, 1990). Cluster 6 shows that some executive/managerial jobs are also filled by recruitment through colleagues and business associates. Again, according to Boylan (1992), informal recruitment for these jobs provides external market advantages to those individuals who are connected to the network structures through which these positions are recruited.

Cluster 11 shows a labor market segment of union and job ladder entry-portal jobs. These segments are characterized by sign recruitment, a recruitment technique generally reserved for lower status jobs (Corcoran,
Datcher and Duncan, 1980). Signs and walk-ins are almost benign methods of recruitment. Entry-portal jobs are filled through these techniques because greater emphasis is placed on screening, because employers use internal job ladders and deferred salary structures to encourage unproductive employees to pursue employment elsewhere (Sørenson, 1983; Sørenson and Kalleberg, 1981). I also argue in Chapter 3 that benign recruiting serves to guard against government investigation of impropriety in recruiting and hiring.

Cluster 8 is characterized by professional and government jobs that are recruited for by colleagues and business associates. What is interesting about this cluster is the relationship between government job status and informal recruitment. In Chapter 3, I show a negative, linear relationship between colleague recruitment and government job status. Government agencies are supposed to publicly advertise all positions and recruit through formal procedures (Braun, 1984). However, this analysis shows some relationship between informal recruitment and government jobs, especially professional jobs. One possible reason why government agencies may recruit informally for some professional jobs is the inability of government agencies to recruit professional workers away from larger salaries in the
private sector. However further research with appropriate data are needed to support this claim.

Clusters 7, 3, and 10 show some tendencies toward market segments. Cluster 10 includes professional, white-collar jobs, and durable goods manufacturing jobs that are recruited for through advertisements. However, advertising (.601) is not as powerful a discriminator as is white-collar job status (1.06). Therefore, I am hesitant to interpret these findings as showing a market segment. Cluster 3 has similar properties. The discriminant variables in this cluster are the use of signs to recruit, reliance upon walk-ins to recruit and transportable skills across establishments and firms. This finding is partially consistent with external market viability theory proposed by Bridges and Villemez (1991). They maintain that workers in jobs where skills are less firm-specific have high external market viability. This means that employers recognize that their skills are easily transportable across firms, and that firms will typically not cover such jobs with governance structures of due process and promotions. The use of formal recruitment techniques, such as signs and reliance upon walk-ins is consistent with jobs where skills are less firm-specific and labor is more easily replaced from the external labor market.
Cluster 7 shows a segment of union and manufacturing jobs. These positions are associated with reliance upon walk-ins to fill these positions. I argue in Chapter 3 that employers yield autonomy to unions in deciding which member occupies which position. The relationship between durable goods manufacturing establishments and unions is documented elsewhere (Kalleberg and Berg, 1987; Rees, 1977). I conclude in Chapter 3 that unions often retain autonomy in deciding which employee works in which position. Therefore, I expect employers with union positions to defer to the union when assigning workers to jobs, and this would be reflected in the use of benign formal recruitment techniques.

What do the lack of market criteria imply for the other clusters? One explanation is that Clusters 5 and 12 represent residual cluster categories.\(^2\) A more appealing theoretical argument is that these clusters represent competitive external labor market segments. According to Boylan (1992), external markets are competitive, and are often described as chaotic, with no clear mechanism for matching workers to jobs. Clusters 12 and 5 show no clear

\(^{21}\) During the sensitivity analysis I expand the clusters to fifteen, and these six clusters (1, 2, 4, 6, 8, 11) were the only to satisfy my criteria. Moreover, the number of observations in Clusters 5, 12 and 9 change very little. If these are residual clusters, then I assume that increasing the number of clusters would allow some of the observations in these clusters to break away and form other clusters.
pattern of matching workers to jobs, nor do they show clear discriminators (i.e. discriminant function of greater/equal 1). The only significant discriminator in Cluster 5 is permanent employment status, in Cluster 12, government agency status is the only significant discriminator. Cluster Nine has only 22 cases. This may explain the lack of consistent patterns.

The first hypothesis that professional and executive/managerial positions cluster with informal recruitment through colleagues and business associates is supported. However, the analysis also shows a relationship between executive/managerial occupations and agency recruitment. Again, given the measures of recruitment in the MEWS, I speculate that some of the relationship between employment agencies and executive/managerial occupational status may reflect the use of headhunter firms to recruit for such positions.\textsuperscript{24} Hypothesis $H_4$ is not supported. Size of establishment does not appear to be a powerful discriminator in market segments. Public sector status and formal recruitment do not discriminate labor market segments to the extent that I predict. Cluster 12 shows some weak evidence for this hypothesis, however, none of the recruitment coefficients

\footnote{\textsuperscript{24} Haulman et al. (1987) maintain that jobs recruited for through headhunter firms have very restricted public access.}
are powerful discriminators. Additionally, there appears to be some informal recruitment for professional jobs in government agencies, which is not captured in the regression analysis in Chapter 3.

Boylan (1992) argues that informal recruitment offers advantage in the labor market, and that systematic informal recruitment represents structure in the external market because it denies individuals access to job information. The conceptual model in this dissertation attempts to build on this relationship by showing that job matching processes structure and segment external labor markets much in the same manner that job matching processes segment internal labor markets (Sørenson, 1983; Sørenson and Kalleberg, 1981). My analysis shows some general support for this theory. However, the best support that I can provide for this hypothesis is to show that the structuring of these markets has implications for job composition.

I made reference earlier to the hypothesis presented by Kalleberg and Berg (1987) that the manner in which individuals are recruited to work structures explains why certain work structures have more or less individuals with certain characteristics (race, gender, age). Similarly, institutional theorists focus on the effects of informal recruitment on the racial and gender composition of jobs (Roos and Reskin, 1984; 1992; Corcoran, Datcher and...
Institutional theorists maintain that informal recruitment practices have become rooted in certain labor markets and deny qualified females and minorities access to jobs in these markets.

Others maintain that the inherent uncertainty in hiring new employees forces employers to rely upon certification systems to reduce hiring risks. Females and minorities are often denied access to labor markets because they are structurally unconnected to the certification systems which employers use to recruit and screen applicants (Stinchcombe, 1990). Other structural theorists maintain that the segregating effects of informal recruitment are a result of the gender and racial composition of work-related networks through which many jobs are recruited (Campbell and Rosenfeld, 1985; Kanter, 1977; Corcoran, Datcher and Duncan, 1980; Collinson et al., 1990). Moreover, Campbell and Rosenfeld (1985) contend that females are more likely to be employed in lower and middle level white-collar jobs because these jobs are recruited for through formal channels, and less likely to be employed in higher status white-collar jobs because these vacancies are often recruited for through gender-segregated networks. All of these explanations are consistent with Fararo's (1989) biased information
dissemination model. He argues that the underlying structure of a given context (in this case labor markets) biases the flow of information (in this case job information) through the network. What I am trying to show is that in certain market segments, information about certain jobs is channeled away from blacks and females, and this is reflected in the racial and gender composition of jobs in those segments. The basic theme presented in the above arguments is that recruitment practices serve to deny certain categories of individuals access to certain market segments; by that, I mean that individuals cannot compete for job openings about which they have no information. If recruitment practices actually structure and segment external labor markets, as the above arguments suggest, then the racial and gender composition of jobs should vary significantly across market segments. Moreover, as I state in hypothesis H₁₅ above, I expect that the percent female and percent black employed in the market segments which are characterized by informal recruitment to be significantly lower than the percent female and black employed in segments characterized by formal recruitment.

I use analysis of variance to test the between segment and within segment variations in percent female and percent black. I include all twelve clusters in the analysis in order to test if the gender and racial
composition of jobs in the market clusters differ from the composition of jobs in the non-market sectors. These results are presented in Table 4.2. I also report the percent female and percent black by each cluster in Table 4.1. The analysis of variance shows that the clusters do explain a significant amount of the variation in the racial and gender composition of jobs. The clusters explain 11.3% of the variation in percent black, and 10.7% of the variation in percent female. This shows that the distribution of percent black and percent female across market segments is influenced to some extent by the job and recruitment characteristics of the market segments. The analysis of variance also shows that the grand mean for percent female across all clusters is 49%, with a standard deviation of 34.8%. The grand mean for percent black is 15.3%, with a standard deviation of 14.5%. The grand mean for percent black closely resembles the proportion of blacks in the greater Chicago SMSA in 1980 (14%). The grand mean for percent female (49%) is slightly higher than the female representation in the greater Chicago SMSA in 1980 (41.5%). Because percent black/female in OCC/IND categories are a function of the recruitment practices of employers, I use the labor force representation percentages to compare with the mean.

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25 These labor force representation data for the greater Chicago SMSA are taken from the 1980 PUMS-D file.
Table 4.2. Analysis of Variance for Percent Female and Percent Black across the 12 Market Clusters.

<table>
<thead>
<tr>
<th></th>
<th>Percent Female</th>
<th></th>
<th>Percent Black</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sum of Squares</td>
<td>Mean Square</td>
<td>F-Value</td>
</tr>
<tr>
<td>DF</td>
<td>11</td>
<td>14.3</td>
<td>1.19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10.78***</td>
</tr>
<tr>
<td>R-Square</td>
<td>10.77***</td>
<td>Anova Mean</td>
<td>49.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DF</td>
<td>11</td>
<td>2.7</td>
<td>.225</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11.38***</td>
</tr>
<tr>
<td>R-Square</td>
<td>11.29***</td>
<td>Anova Mean</td>
<td>15.4%</td>
</tr>
</tbody>
</table>

***P<.001, N=744
percent black/female employed in OCC/IND categories in each cluster.

Table 4.1 shows the mean percent female and the mean percent black for the OCC/IND categories in each cluster. Of the six identifiable clusters, females are under-represented in Clusters 6 and 11. On the other hand, females are over-represented in Clusters 2 and 8. Females are just-represented in Clusters 1 and 4. Blacks are under-represented in Clusters 1, 4, and 6. Moreover, blacks are over-represented in Clusters 2, and 11; and just-represented in Cluster 8. Females are slightly under-represented in Cluster 6 (31% vs 41%), and just-represented in Cluster 1 (39% vs 41%). Blacks are under-represented in Clusters 1 (9% vs 14%) and 6 (7% vs 14%). Cluster 1 is characterized by informal recruitment through colleagues and business associates and professional jobs, and jobs high in data complexity. These two clusters are characterized by informal recruitment through colleagues and business associates. This analysis suggests that jobs in labor market segments where workers are allocated to jobs through informal recruitment through colleagues and business associates are less likely to employ blacks. Moreover, there is a moderate negative relationship between the percent female employed and market segments characterized by executive/managerial jobs and informal recruitment. The finding that blacks and females are
under-represented in one or more of the clusters which are characterized by informal recruitment serves to support hypothesis H15 that jobs in labor market segments with informal recruitment employ fewer females and blacks.

A further interesting comparison can be drawn between Clusters 4 and 6. The percent black employed in each cluster is near equal, but the percent female differs by ten percentage points. The strongest discriminator in each cluster is executive/managerial occupations. The second strongest discriminator is employment agency use. The better representation of females employed in Cluster 4 may be attributed to the lack of informal recruitment in that cluster. The discriminant function for recruitment through colleagues in Cluster 6 is 1.73, compared to .46 in Cluster 4.26 What this disparity in percent female suggests is that a greater percentage of females in executive/managerial occupations are likely to be allocated to these positions through employment agencies, while males are more likely than females to be recruited through business colleagues and associates for executive/managerial positions.

Females are over-represented in Clusters 2 and 8. In Cluster 8 the average percentage female in a job is over

26 The discriminant function for recruitment through colleagues is not reported for Cluster 4 because the value (.46) is not in the top three positive discriminators.
20 percentage points above the percent female employed in the greater SMSA (41% vs 67%). Cluster 8 consists of professional and government jobs that are recruited for through colleagues and business associates. The relationship between government job status and informal recruitment is addressed above. The other relationship of interest is that between colleagues recruitment and percent female. One possible scenario is that female professionals are more likely to be employed in the public sector because of the perceived benefits which accrue to females and minorities in the public sector (Smith, 1980; DiPrete, 1987). In addition, given the relationship between professional occupations and informal recruitment through colleagues and business associates, recruitment of female professionals in the public sector could still be informal. According to Braun (1984), the federal government disapproves of informal recruitment by any government agency (state, local or federal). However, if informal recruitment is helping a group which the legislation (EO 11375) against informal recruitment is intended to help, then the federal government may be willing to look the other way. Of course, this is just speculation. Further testing with appropriate data are warranted to better support this hypothesis.

Blacks and females are over-represented in Cluster 2. Moreover, this cluster is characterized by white-collar
occupations and formal recruitment. These findings suggest that Cluster 2 represents labor market segments where females and blacks (Roos and Reskin, 1990) are matched to lower-level white-collar jobs. Both the association of these jobs with the use of signs to advertise, and the lack of professional and managerial jobs in this sector support this position. These findings are consistent with Hypothesis H15 that females and minorities are over-concentrated in labor market segments which are characterized by formal recruitment techniques.

While females are over-represented in Cluster 8, blacks are not. This suggests that the informal recruitment of professional jobs in the public sector may help females more than blacks. The mean percentage of blacks employed in positions in Cluster 11 is higher than percent black employed in the greater Chicago SMSA. Females are just-represented in this cluster. The analysis shows that this is a segment of unionized jobs where workers are recruited through benign formal methods (signs and walk-ins). Blacks (probably black males—Reskin and Roos, 1990) are over-represented in these jobs.

Clusters 3 and 7 partially represent labor market segments. Cluster 3 is comprised of jobs that are recruited for through formal techniques. This sector is comprised of some jobs where skills are applicable across establishments and firms. Females are over-represented in
Cluster 3. The mean percent female employed in jobs in this cluster is 66%. Blacks appear to be just-represented (mean=16%). These findings suggest that females, but not blacks, tend to be over-concentrated in market segments which have high external viability. However, the lack of strong discriminators in the analysis requires that caution be used when interpreting these results.

Cluster 7 also shows tendencies toward a labor market segment. This segment appears to be characterized by union and manufacturing jobs. Females are under-represented in this segment (cluster mean=29%), while blacks are over-represented (cluster mean=20%). These findings are consistent with other union segments in the analysis, where a larger proportion of blacks are employed in these jobs. Again, caution should be exercised when interpreting the results for these two clusters.

If Clusters 12, 5, and 9 represent competitive external labor markets then the distribution of blacks and females in these sectors is noteworthy. For Cluster 12, the mean percent female is 57%, and the mean percent black is 27%. For Cluster 9 the respective scores are 66% and 19%. Females and blacks are also slightly over-represented in Cluster 5 (47% and 18%). If these clusters represent competitive external markets, as I suggest above, then the distribution of females and minorities supports other theories that females and minorities are
more likely to compete for jobs in competitive labor markets, while white males tend to be concentrated in less competitive markets (Corcoran, Datcher and Duncan, 1980; Roos and Reskin, 1984; 1992; Reskin and Roos, 1990; Stinchcombe, 1990).

Discussion

The purpose of this chapter is to test path (b) of the conceptual model, which represents the relationship between work structure correlates, recruitment techniques and external labor market segments. Employer recruitment and job matching practices segment external labor markets by restricting access to job information. I find clusters of jobs and recruitment practices which, empirically, represent the market segments in the conceptual model. The analysis does show some relationship between recruitment and job characteristics. Moreover, in order for recruitment techniques to structure and segment markets, the recruitment practices should have the effect of denying individuals access to certain markets. The analysis does show that the racial and gender composition of jobs differs significantly across clusters. The analysis also shows that blacks are under-represented in most clusters characterized by informal recruitment through colleagues and business associates. Likewise, females are slightly under-represented in Cluster 6, characterized by informal recruitment via colleagues and
business associates. Females are also over-represented in clusters which are characterized by formal recruitment and white-collar occupations (see Clusters 2 and 4).

I conclude in Chapter 3, with the support of Granovetter’s job match theory, that colleagues and business associates represent an inter-organizational network through which job and employee information flow. Overlaying my findings with Boylan’s theory shows that jobs which are recruited for informally through colleagues and associates have structural advantages in the external market and should have outcome consequences for individuals. The analysis shows a tendency for blacks and females to be under-represented in some labor market segments which are characterized by informal recruitment. Furthermore, these findings tend to support the new structuralist hypothesis that market-specific recruitment techniques have consequences for individuals because the manner in which workers are recruited to work structures explains why certain work structures have more or less individuals with certain attributes (Kalleberg and Berg, 1987).

However, the hypothesis that informal recruitment techniques serve to close-off opportunities for certain groups, especially females and minorities is not completely supported. The analysis shows that females are better represented in market segments which are
characterized by informal recruitment than the recruitment and segregation literature predicts. Females are well-represented in Clusters 1 and 8, and slightly underrepresented in Cluster 6, while blacks are also well-represented in Cluster 8. All of these are market segments which are characterized by informal recruitment.

What these results suggest is that further analyses within each cluster are warranted. To further address this issue, I analyze the correlation between percent female and recruitment through colleagues and associates within Cluster 1. The analysis shows a negative relationship between percent female and colleagues (r=-.399; p<.001), and a positive relationship between percent female and recruitment through employment agencies (r=.226; p<.05). Within Cluster 1, informal recruitment is positively associated with the percentage of men employed in those jobs, while formal recruitment is positively associated with the percent female. In addition, for percent black, these correlations are in the expected direction; however, they are not significant.

I also conduct the correlation analysis for Cluster 4, which is characterized by executive/managerial positions, white-collar occupations, and agency recruitment. In this cluster, percent female is negatively correlated with colleague recruitment (r=-.167; p<.05); but there is no relationship between percent
female and agency recruitment. This suggests that employment agencies recruit for gender neutral jobs within this sector, while recruitment through informal colleagues and business associates recruits for predominantly male jobs. I also analyze these patterns within Cluster 6. The number of cases in this cluster is limited, and the analysis fails to show strong relationships. However, within Cluster 6, there is a positive relationship between percent black and informal recruitment through current employees ($r=.35; p<.05$).

In order to address to what extent informal recruitment leads to inequality, I construct a variable to measure the average starting salary of the job in question from the MEWS. Unfortunately, over 15% of the cases for this variable are missing. Therefore, I substitute the mean salary from OCC/IND categories for missing cases, and this explains why I do not use this variable in the main analyses (see Cohen and Cohen, 1975). The values are reported in hourly wages, weekly wages, monthly wages and annual salary. I convert all values to annual salary. For hourly wages, I compute salary based on a forty hour work week, and 52 weeks a year. This assumes that all wage jobs are full-time jobs (40 hours a week), and it ignores the wages earned from overtime, which can vary.

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27 The question asks: What is the average starting salary for (job) in your establishment?
greatly from job to job. Also, my measure assumes that salaried jobs are not temporary jobs. I take the natural log because the distribution is skewed toward the lower end.

The relationships in Cluster 1 show a negative correlation between starting salary and percent female \((r=-.301; p<.01)\), a negative relationship between agency recruitment and salary \((r=-.21; p<.05)\), and a positive relationship between percent female and agency recruitment \((r=2.26; p<.05)\). What this analysis shows is that even within informal market segments, female jobs tend to be recruited for thorough employment agencies, and that these jobs have lower starting salaries than jobs recruited for through other methods. Cluster 6 shows a negative relationship between salary and percent female \((r=-.507; p<.001)\); but no other clear relationships. Cluster 4 shows negative relationships between salary and percent black \((r=-.228; p<.01)\), and percent female \((r=-.249; p<.001)\), but no significant patterns with any other variables.

Returning to labor market structure theory, these clusters and correlations within clusters suggest that recruitment through colleagues and business associates is positively correlated with the percentage of men employed in jobs, while employment agency use is positively correlated with percent female. These patterns suggest
two distinct paths of information flow, one path where job information reaches predominantly males (informal recruitment path) and one path which reaches predominantly females (formal recruitment path). Given the negative relationships between percent female and starting salary in all three clusters analyzed, and the negative relationship between salary and employment agency recruitment (especially within Cluster 1), these findings further suggest that the flow of information of higher paying jobs away from information channels through which females learn of openings (employment agencies) leads to labor market inequality.

However, caution must be exercised when interpreting these results. First, the cluster analysis does not stringently control for other factors that influence the salary of a job (education and experienced required, etc.). Second, the cluster analysis does not adequately control for the quality of the labor supply. That is, male-dominated jobs may be found in certain clusters because the majority of females in the greater Chicago SMSA do not possess the human capital credentials, nor the desire to occupy these jobs, although there is literature to suggest otherwise (England et al., 1988; Jacobs, 1989b). Third, the lack of controls leave the results open to criticism. For example, the negative relationship between informal recruitment and percent female may be
spurious if adequate controls for the quality of labor supply are not included. The hypothesized associations between informal recruitment, executive/managerial status, and gender composition may be spurious if males and females of equal credential levels have equal probabilities of learning of these openings. That is, the negative relationship between informal recruitment and gender composition is a product of the fact that females lack the credentials to compete for these jobs, no matter how they are recruited.

In the next chapter I will better address path (c) of the conceptual model by focusing on the direct relationship between recruitment and the racial/gender composition of jobs. I examine the effects of each recruitment practice on the percent female and percent black employed in OCC/IND categories, net of the effects of other establishment, job, occupational and industry characteristics. I also review, in detail, the racial and gender occupational segregation and employment literature, and the literature which attempts to link recruitment to occupational segregation. Other issues, such as racial and gender differences in educational attainment and occupational aspirations are also examined.

Summary

The analysis in this chapter reinforces the conclusions drawn about informal recruitment from the
analysis in Chapter 3. Cluster 1 shows that informal recruitment through colleagues and business associates is associated with professional occupational status and data complexity. Cluster 6 shows that executive/managerial occupations are associated with informal recruitment through colleagues and business associates as well. I conclude at the end of Chapter 3 that employers use colleagues and associates to recruit for high-quality, white-collar jobs. The analysis in this chapter reinforces this conclusion.

One of the advantages of cluster analysis is that it does not force linear assumptions. By eliminating the linear restrictions of correlation and regression analysis, I am better able to assess the relationship between the independent variables and informal recruitment through current employees. Cluster 2 shows a relationship between white-collar occupations and recruitment through current employees. Moreover, females and minorities tend to be concentrated in these jobs, and under-represented in clusters that are characterized by informal recruitment through colleagues and associates. This suggests that recruitment through colleagues matches males to jobs, while recruitment through current employees matches females and minorities to jobs. This is an important finding, given the emerging evidence which suggests that jobs recruited for through colleagues are of higher
quality than those recruited through current employees. I address this topic in detail in Chapter 5.
CHAPTER 5. RECRUITMENT AND JOB COMPOSITION

The analysis in Chapter 3 shows that certain characteristics of organizations, jobs, occupations and industries are associated with particular recruitment techniques. Executive/managerial and professional jobs are associated with informal recruitment through colleagues and business associates, while other white-collar occupations are associated with formal recruitment through advertisements. In Chapter 4, I attempt to show that the manner in which employers recruit for vacancies segment external labor markets much in the same manner that internal job ladder matching processes segment internal labor markets (see Sørenson, 1983; Sørenson and Kalleberg, 1981). In the process of testing this idea, I demonstrate that certain recruitment techniques cluster with certain job characteristics, and argue that these combinations represent labor market segments. I also show that there are a higher proportion of blacks and females employed in the segments which are characterized by formal recruitment, and a lower percentage employed in the segments characterized by informal recruitment.

These findings support my hypothesis that informal recruiting is negatively associated with the percentage of blacks and females employed in a job. However, the possibility exists that these results actually reflect an under-supply of females and blacks with the proper
credentials to occupy the jobs associated with informal recruiting. That is, the negative relationships between percent black/female and informal recruiting through colleagues and business associates could be spurious because of inadequate measures and techniques to control for the supply of qualified workers. Therefore, in this chapter I re-address path (c) of the conceptual model with analytic techniques and controls which strengthen the argument, and reinforce my conclusions presented in Chapter 4.

**Literature Review**

White male domination of power hierarchies in organizations is a result of occupational segregation by race and gender (Charles, 1992; England and Browne, 1992; Roos and Reskin, 1992; Bielby and Baron, 1986; Taylor et al., 1986; Harrison, 1989; Jacobs, 1989a; Jenkins, 1986; Jones and Rosenfeld, 1989; Collinson et al., 1990).

Occupational segregation forces women and minorities into a narrow range of occupations which offer little training and few opportunities for advancement (Charles, 1992; DiPrete and Soule, 1988; Kaufman, 1986). The consequences of occupational segregation are lower wages (Tienda et al., 1987; Rosenfeld, 1980; 1983; Abrahamson and Sigelmann, 1987; Possett et al., 1987; Kaufman, 1986; Jacobs, 1989a; Corcoran, Duncan and Ponza, 1984), less autonomy (Singelmann and Mencken, 1992; Jaffe, 1989), and
less authority (Jaffe, 1989; Wolf and Fligstein, 1979a; 1979b) for affected groups.

Segregation causes other social problems. Occupational segregation and subsequent lower wages are linked to the feminization of poverty (Roos and Reskin, 1992). The wage-gap has long-term negative effects on the earning power of single women, and negative consequences for the educational and occupational attainment of the children in female-headed households (Sandefur, McLanahan, and Wojtkiewicz, 1992). Jacobs (1989a) contends that the wage-gap leads to power inequalities in the household. Moreover, the poor work histories which often result from the occupational segregation of black workers are associated with unemployment, labor market isolation and the cycle of poverty in the inner city (Wilson, 1987: 60). Occupational segregation also constrains the productive capacity of the labor force, robs the economy of valuable human resources, and exacerbates the problems mentioned above (Blau, 1984).

Ideally, norms of bureaucratization, rationalization, and formalization, which characterize industrialized economies, should work to minimize occupational segregation (Charles, 1992). Yet despite legal
decisions,\textsuperscript{28} and female/minority gains in education, work experience, and labor force participation (Bielby and Baron, 1986; Tienda et al., 1987; England and Brown, 1992; Taylor et al., 1986; England et al., 1988), occupational segregation persists. For example, Jacobs (1989b) shows that two-thirds of all women in the labor force work in jobs that are at least 75\% female. These women also earn significantly less money, despite a less than 1 year difference in mean level of education. Reskin and Roos (1990) argue that accounts of the occupational gains of women during the 1970s are greatly overstated. Furthermore, Reskin and Roos (1990) claim that white males are still over-represented in professional/executive/managerial and craft occupations, both high status white and blue-collar occupational categories. White females are over-represented in clerical, administrative support and "semi-professional" occupations. Black females are concentrated in personal service occupations, while black males continue to be under-represented in white-collar managerial and blue-collar craft occupations.

Gender and racial segregation persist, despite increased numbers of skilled women and minority workers, and despite legislation aimed at meritocratic hiring policies. In the next section I review pertinent theories which attempt to account for occupational segregation. Unfortunately, gender segregation is a much better researched topic than racial segregation. There are several reasons for this difference. Roos and Reskin (1990: 6) argue that historically, racial segregation has been less resistant to social change than gender segregation. Therefore, scholars have focused on issues of gender segregation more than racial segregation. Also, Abrahamson and Sigelmann (1987) suggest that to the extent that discrimination is the cause of segregation, the locale of the labor market under scrutiny plays a key role. Racial segregation may be more prevalent in the South than in the West (Fossett et al., 1987). These factors encourage scholars to focus on issues of gender segregation, at the exclusion of racial segregation. I begin with a discussion of gender segregation, and follow with a discussion of racial segregation.

Gender and Occupational Segregation

There are several competing theories to explain occupational segregation. According to choice or labor supply theories, the choices that women and men make concerning their education, training, and careers explain
occupational segregation (England and Browne, 1992; Rosenfeld, 1984; Abrahamson and Sigelmann, 1987). Women choose training paths and careers which are compatible with the division of labor in the family, the caregiver role, and the status of women as being "in service to others." Also, family responsibilities influence women to choose jobs which maximize earnings without having to make a long-term commitment to the labor force. As a result, women choose occupations which offer little on-the-job training, few opportunities for advancement, and flat wage curves (England et al., 1988).

Gender-role ideology and gender-role socialization affect the occupational choices made by women and men (Jones and Rosenfeld, 1989; Mason, 1984; Strober, 1984; Marini and Briton, 1984; Roos and Reskin, 1984). According to Mason (1984: 164), the gender-role ideology has historically been based upon four basic assumptions: 1) sexes are inherently different; 2) women are naturally suited to be mothers and caregivers, and men are naturally suited to be adventures; 3) masculine carries a higher status than feminine; 4) men have the right to control women. Marini and Briton (1984) argue that gender is the first social identification that an individual learns, and that starting at a very young age, boys and girls are rigorously socialized into their proper gender role, as defined by the dominant gender-role ideology. The process
of socialization influences women to choose training and occupations which are compatible with their caregiver roles, and which reaffirm their femininity and gender-role expectations (Strober, 1984).

Jacobs (1989a) argues for a life-time social control explanation for occupational segregation. According to Jacobs, gender-role socialization is a necessary, but insufficient explanation of occupational segregation. He shows that individuals vacillate between male-dominated and female-dominated occupational aspirations prior to and during college and/or labor force entry. Likewise, informal tracking of males and females into male and female dominated college majors plays an insufficient role to explain post-graduate occupational segregation. Males and females move near equally among gender-specific and gender-neutral college majors. Moreover, college major is a less than perfect predictor of future occupation, and a substantial number of individuals change occupations several times during their careers.

According to Jacobs (1989a), there is a life-long system of social control which accounts for occupational segregation. Jacobs (1989a) argues for a "revolving door" theory. According to this theory, as formal and informal labor market controls are relaxed, more women in all age cohorts aspire to and move into male-dominated occupations. However, once in male-dominated occupations,
women face other measures of social control which eventually force them back into female-dominated occupations. Measures of social control at this stage include sexual harassment, undermining of performance, and other actions which create a hostile environment and make women in male occupations appear inferior and feel unwelcome (Jacobs, 1989a: 167). In short, women move into male-dominated occupations as some measures of social control are relaxed, but other measures of social control eventually force them to seek employment in female-dominated occupations.

Labor demand or constraint theories are also popular in sociology and economics. One factor that contributes to gender segregation and to wage differentials is the "taste for discrimination" among employers, male coworkers, and customers (Jacobs, 1989a; Blau, 1984). According to Blau (1984), the neoclassical model assumes that male and female labor are perfect substitutes. That is, there are no inherent biological differences in male and female labor; men and women have equal capacities to be productive and are deserving of equal wages under such circumstances. However, employers with tastes for discrimination will hire women only at a wage level that is sufficiently discounted to compensate for the disutility of hiring women. Also, profit maximizing firms with no tastes for discrimination may segregate and
discount wages if employees or customers have tastes for discrimination. Male workers with tastes for discrimination will work with women only at a wage sufficiently large to compensate them for the disutility of having to work with women. Instead of raising the wages of male employees, they may accommodate these tastes by only hiring men. Customers with tastes for discrimination will purchase goods only at a sufficiently discounted price to accommodate the customers for having to purchase the goods from women. Employers are forced to lower revenues, or employ only males for positions that require customer interaction.

A variant of this is the queuing theory developed by Reskin and Roos (1990). According to queuing theory, there are labor supply and labor demand queues that determine which workers are matched to which jobs. The labor demand queue ranks jobs according to their desirability and credential requirements. The jobs at the top of the queue are the most desirable, and these are wanted by most market actors; but relatively few are qualified to compete for these jobs. Qualifications or credentials usually include human capital factors, such as education and experience, but they may also include personal attributes such as race and gender. Employers prefer white males for certain types of jobs (jobs with authority, autonomy and a high degree of complexity), and
rank jobs in the labor demand queue based on these requirements. Moreover, employers place potential workers in the queue based on these credentials and requirements.

The major difference between queuing theory and the taste for discrimination model is that with queuing theory, employers place jobs in the queue based on the quality of the job. Employers, in turn, place workers in the queue based on the "appropriateness" of certain attributes for certain jobs. For example, most employers would not hire black females for jobs that require them to supervise white males (Reskin and Roos, 1990; Kaufman, 1986). The taste for discrimination model relies upon personal beliefs and prejudices to explain discrimination.

Labor supply queues also affect the job match and occupational segregation. These queues are based on worker differences in qualifications and aspirations. Historically, gender differences in preferences for certain types of work have led to gender differences in occupational aspirations. However, recent evidence (Reskin and Roos, 1990; Tomaskovic-Devey; 1993a; 1993b; Jacobs; 1989a) shows that gender differences in educational and occupational aspirations, and differences in educational achievement have been minimal since the late 1960s. Additionally, Tomaskovic-Devey (1993a) maintains that differences in aspirations cannot explain segregation at the job level, because males and females
both want jobs with autonomy, authority and task complexity.

The effects of labor supply queues on occupational segregation derive from the effects of job characteristics. According to Reskin and Roos (1990), white males will not apply for jobs that have low desirability. The proportion of white males applying for a job decreases directly with the decrease in job quality. Therefore, deskilling a job or occupation increases gender integration, because as the quality of jobs declines, fewer white males place themselves in the labor queue.

The statistical discrimination model is a labor demand economic model which maintains that employers avoid hiring from certain groups in order to minimize hiring risks (Rosenfeld, 1984). Employers are unwilling to take the risk that they will lose their training investment (turnover) and are not likely to hire high risk groups (such as women with children) with unstable work histories (see also Stinchcombe, 1990). England and Browne (1992) argue that in addition to statistical discrimination, managers will also hire men and women based on perceived appropriate gender roles. The preferences of managers are shaped by the same gender-role ideology which structures the training and occupational choices of males and females. Collinson et al. (1990) argue that managers fill jobs according to the cultural notions of femininity and

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masculinity. Males are preferred for certain jobs because breadwinner responsibilities translate into motivation to succeed and compatibility, flexibility, and subservience to firm needs. Females, on the other hand, are better suited for occupations which are compatible with the caregiver role. This stems from the expectations that women are better at caring for others (more nurturing) than men. This explains why certain (caring) occupations are deemed more appropriate for women (secretary, social worker, nurse, teacher). Line managers reason that it makes for a more effective operation of business to fill jobs based on these criteria.

Institutional theory explicitly indicts recruitment practices as contributing to the occupational segregation process. This theory focuses on the institutional barriers which restrict female access to jobs within firms and establishments. Formal barriers originate at the level of the firm and once institutionalized, are tough to remove. These barriers tend to disproportionately disadvantage women (Roos and Reskin 1984; England and Brown, 1992). Roos and Reskin (1984) identify institutional barriers in blue and white-collar labor markets. One reason why women fail to hear about blue-collar jobs is the myth that they are not interested in such jobs. Other institutional barriers to blue-collar jobs include veteran’s status (only veterans are
eligible), union sponsorship, toxic substance laws and gender-bias in machinery design.

While blue-collar barriers are overt, institutionalized barriers in white-collar labor markets are more subtle. Roos and Reskin (1984; 1992) identify lack of access to job information networks as the primary source of institutionalized barriers to professional and managerial jobs. Vacancies in white-collar labor markets are rarely filled through fully public means. Since men hold most of the professional and managerial jobs, they enjoy personal and work associations that facilitate learning of other job opportunities. Women, on the other hand, tend to find out about positions formally advertised (see also Rosenfeld, 1984; Campbell and Rosenfeld, 1985).

Corcoran, Datcher and Duncan (1980) expand this argument to explain white male domination of the core economic sector and primary labor markets. They contend that white males dominate all jobs in the core sector, and that most recruitment is informal. Females and minorities are excluded from most core sector jobs, because white males use informal recruitment and hire only other white males for jobs in this sector. The following quote encompasses their argument:

Since men hold most of the "good" primary sector jobs and recruiting is informal, young white men will be able to use informal channels to obtain good primary sector jobs. If informal channels available to black men and women of both races merely lead to jobs held
by blacks and women, then informal recruitment and influence channels will not benefit these groups as much as white men (Corcoran, Datcher and Duncan, 1980: 6).

Patriarchy theory (Strober, 1984; Collinson et al., 1990; Tomaskovic-Devey, 1993a) claims that the discrimination model does not explain why segregation is gender-based. Strober (1984) argues that employers are not just profit maximizers, because if they are, they would employ only women at lower wages. Employers also seek to maintain their male privilege. Through segregating and discriminatory practices, employers force women into a narrow range of lower status occupations. This practice preserves male domination at the middle and upper-middle strata in organizations. Employers recognize that if male privilege is threatened at these levels, then the top levels would soon follow. Instead of hiring women at lower wages to maximize profits, employers will trade profits to keep the patriarchy system intact.

Tomaskovic-Devey (1993a) provides a theory of social closure which explains why females and minorities are excluded from many jobs. According to this theory, exclusionary practices are understood as attempts to reserve the best jobs for members of the superordinate group (white males). Therefore, personal prejudices and stereotypes do not explain discrimination, as the taste and statistical discrimination models suggest; but
discrimination must be understood as a conscious attempt by superordinate groups to develop and maintain status privilege.

According to Tomaskovic-Devey (1993a), gender occupational segregation is best understood within the context of patriarchy. Males attempt to protect their status through their actions at work and at home. At work, males achieve closure by defining work done by women as inferior or less important, and by denying females access to good jobs. Males seek to dominate the best jobs, which means that gender closure pressures are greatest at the top of the job hierarchy.

Hiring is intricately linked to social closure theory in two ways. First, hiring takes place at the task level (Tomaskovic-Devey, 1993a: 62). Line managers, at the next highest level, make hiring decisions. When females and minorities apply for jobs, they challenge not only the status of the white-male incumbents, but also of the managers making the hiring decisions. Therefore, managers will discriminate to protect their status, as well as that of the incumbents. I argue that hiring is also tied to social closure through recruitment. Social closure theory predicts that formalization of the employee-employer relationship diminishes exclusionary closure. EEOC and Affirmative Action programs are attempts to better formalize the hiring process, and attempts at closure by
usurpation by subordinate groups. Therefore, I argue that one way of achieving closure and protecting status is to recruit informally, which diminishes the pool of females and minorities applying for desirable jobs. In other words, informal recruitment also allows superordinate groups to circumvent attempts at closure by usurpation.

Another institutional factor under investigation includes the manner in which new employees are assigned to firm internal labor markets (DiPrete and Soule, 1988; England and Brown, 1992; Roos and Reskin, 1984; 1992). DiPrete and Soule contend that gender segregation disadvantages equally qualified women because it assigns them to job ladders with low ceilings (low advancement opportunities) and little opportunity to move across ladders. Men, on the other hand, are routinely assigned to upper-tier job ladders, which have high ceilings, or are attached to other job ladders which offer promotion possibilities. These findings are consistent with social closure theory. Male privilege is protected by assigning men to better jobs. Also, men are more likely to switch internal job ladders because such moves are often maneuvered through informal network channels, which tend to advantage men in organizations.

Informal recruitment in white-collar labor markets is rationalized as efficient by employers (Granovetter, 1981; Stinchcombe, 1990; Roos and Reskin, 1984; Marsden and
Campbell, 1990). Employers consider white-collar labor market positions as sensitive areas of the organization. Organizational elites have a stake in hiring the right person for sensitive positions (i.e. managerial job), and will recruit informally to make sure that the new employee can command respect from superiors, colleagues and subordinates. Stinchcombe (1990) contends that employers rely heavily upon certification systems to reduce the inherent risks in hiring new employees. Unfortunately, females and minorities are excluded from certain positions because they often lack access to the certification systems that employers use to fill vacancies (in this case the informal network). Furthermore, Stinchcombe (1990) concludes that such segregation is not the result of malicious intent on behalf of employers, but the irrational consequences of seemingly rational action.

Roos and Reskin (1984) take a more critical view of the institutionalization of informal recruiting practices in certain white-collar labor markets than do efficiency theorists (i.e. Stinchcombe, Granovetter). Roos and Reskin argue that such barriers to job information are set in the hiring policies of organizations and also in other institutional arrangements, such as inter-organizational networks (see also Granovetter, 1981; 1985; 1988). According to Giddens (1984), institutionalization of social practices means consistent repetition through time
and social space. Roos and Reskin (1984) maintain that these recruiting practices are grounded in the overall gender-role ideology, which defines the appropriate roles for men and women and reinforces conventions about the differences between women and men. Moreover, it is the support of the gender-role ideology which allows these recruiting practices to become institutionalized— to exist repetitiously in time and space— because the occupational segregation that results reinforces culturally defined gender-roles.

The literature indicates strongly that there is more than one mechanism of occupational segregation operating. The purpose of this discussion is not to fully explain occupational segregation, but to discuss recruitment of new employees as one of a number of mechanisms that generate and reproduce occupational segregation by gender. Women, despite appropriate credentials, experience, and aspirations (see Jacobs, 1989a; England et al., 1988) cannot compete for positions about which they are not informed. In the next section I address the issue of race and occupational segregation.

Race and Occupational Segregation

Less scholarly work has been done exclusively on racial occupational segregation. England and Browne (1992) argue that an ideology of white supremacy continues to dominate social institutions. This ideology leads to
racial discrimination and segregation in the labor force, and the subsequent racial inequalities in wages, authority, and autonomy. Other research shows that blacks are discriminated against in organizations (Wilson, 1980; Jenkins, 1986), and have been used in the past by management as antagonists to keep workers from organizing (Lieberson, 1980; Kaufman, 1986).

The queueing theory maintains that blacks are ranked by employers as less desirable than whites for certain types of jobs. Like gender, race is an attribute which is easy to identify and often used to discriminate. In terms of labor supply queues, while there have been gender differences in occupational aspirations in the past, there are no racial differences in aspirations. Blacks do not aspire to part-time work and jobs with low levels of authority and autonomy. However, racial differences in credentials are more likely than gender differences in credentials. Historical patterns of overt and institutional racism mean that blacks are more likely than whites to have poorer quality elementary and secondary educations. Blacks are also less likely to have the financial resources to attend college; and if they attend, they are less likely to attend schools which confer high status credentials upon graduates (Tomaskovic-Devey, 1993a).
Racial closure theory argues that occupational segregation by race can be understood as attempts by whites to create and keep a social distance between themselves and blacks, and to retain positions of superiority over blacks (Tomaskovic-Devey, 1993a). Closure is achieved by restricting good job opportunities to whites. Recruitment is one method by which the best jobs are reserved for whites; it keeps blacks from competing for the best jobs.

Racial closure is carried out primarily in the workplace, while gender closure, or patriarchy is carried out both at work and at home. Institutionalized racism leads to lower levels of educational attainment for blacks in some geographical areas. According to Tomaskovic-Devey (1993a), this means that blacks do not challenge whites (i.e. white-males) in high-quality occupations to the extent that females do. Therefore, practices of exclusionary closure are more prevalent in blue-collar occupations than in white-collar occupations. This does not mean that blacks are not excluded from white-collar jobs, only that blacks are more of a challenge to the status of working-class whites (see also Lieberson, 1980).

According to Kaufman (1986), many of the gender segregation arguments also apply to racial occupational segregation. Minority status is a cheap screening device in evaluating potential employees. Therefore, minorities
are channeled into the periphery sector, which leads to unstable work histories and difficulty in moving into the core sector (see also Corcoran, Datcher and Duncan, 1980). Furthermore, this has a spiraling effect, because once a worker is saddled with a bad work history, the problems of statistical discrimination are exacerbated, which further excludes the worker from future opportunities (see also Stinchcombe, 1990)

Tastes for discrimination among employers, employees and clients disadvantage blacks. Kaufman (1986) contends that large firms and unions are great proponents of racial segregation within the workplace, due to the need to keep a "social" distance between black and white workers. Large firms have greater assets to indulge worker tastes for racial discrimination. Unions usually require sponsorship for membership, and white members are reluctant to recommend blacks even if they have no personal tastes for discrimination (see also Rees, 1977). But Taylor (1979) implies that blacks may receive more equitable treatment in some large firms because these tend to be the targets of governmental anti-discrimination action and public pressure (i.e. Operation PUSH).

According to Kaufman (1986), "racial typing" also plays a key role in racial segregation. Racial typing refers to societal misconceptions that certain jobs are more appropriate for blacks. Jobs that are typed
appropriate for blacks are menial, physical, labor-intensive tasks. These jobs have low skill levels, are highly routinized, have low pay, and poor working conditions. Conversely, jobs that are typed inappropriate for blacks include those with formal authority (especially over whites), and autonomy. Also, jobs that have high levels of technical expertise, which also have informal authority, are typed inappropriate for blacks. In sum, jobs that are high in skill requirements are inappropriate for blacks, while those that are low in skill requirement are typed as appropriate.

Wilson (1980) claims that much discrimination since 1964 has been statistical discrimination against lower-class blacks, not blacks in general. He contends that affirmative action and other social programs aimed at helping minorities achieve equal access in the labor force have helped middle-class blacks to the exclusion of the inner city poor. However, Reskin and Roos (1990) show that black males are still under-represented, relative to their skill levels, in managerial and other professional white-collar occupations, and argue that blacks occupy lower rungs on job queues than whites. Other research demonstrates racial inequalities within the public sector (Smith, 1980; Zwerling and Silver, 1992). This evidence may serve to limit the applicability of Wilson’s class hypothesis.
Jenkins (1986) addresses race and the statistical discrimination model. First, black workers are more likely than white workers to be viewed as an undifferentiated category, which interacts negatively with stereotypical images of black workers. Second, managers claim that it is important to hire those workers who will create the fewest possible problems. However, black workers have a lower suitability rating because they are perceived to be more disruptive in the workplace, and less likely to passively submit to bureaucratic authority in a capitalist production hierarchy.

Jenkins also argues for a structural or institutional explanation. He claims that black workers often lack access to information chains through which positions are recruited (Jenkins, 1986: 234-236; see also Corcoran, Datcher and Duncan, 1980; Wilson, 1987). Additionally, discrimination is partly attributed to the need of a particular group to maintain control over an occupational specialization. Control is achieved through tight control over job information. As with women, this limits the opportunities of blacks primarily to occupations for which recruitment is a formal process.

Gender, Race and Government Employment

The discussion shows that the levels of gender and racial occupational segregation are significant, and that blacks and females are much less likely to occupy high-
quality white and blue-collar occupations, despite proper credentials and interests in such occupations (Reskin and Roos, 1990; England et al., 1988; Jacobs, 1989a; 1989b; Kaufman, 1986). However, research shows that the extent and consequences of racial and gender occupational segregation are reduced in the public sector. For example, Smith (1980) shows that black/white wage differences are significantly lower in the public sector. Additionally, Eisinger (1986) finds that the proportion of blacks in administrative and managerial positions is significantly higher in the public sector. Elsewhere, Zwerling and Silver (1992) show that termination rates for blacks are significantly lower in the public sector. Finally, DiPrete (1987) argues that public service offers women greater opportunities for advancement than private firms.

There are a variety of reasons why blacks and women fare better in the public sector. First, EEOC protects these groups from discrimination in hiring, and the government is constrained by congress, public pressure and private firms to enforce EEOC hiring guidelines (Taylor, 1979). Second, standardized entrance exams help women and minorities to compete more fairly public sector employment (DiPrete, 1987). Third, once hired by a government agency, Affirmative Action programs help blacks and females gain greater occupational mobility through
programs which require agencies to promote women and minorities from lower status occupations (Braun, 1984; DiPrete, 1987). Executive Orders 11246 and 11375 extend anti-discrimination laws to private and public firms/agencies with federal government contracts. These orders also require firms with government contracts to implement Affirmative Action programs and to publicly advertise all vacancies. Moreover, the Office of Federal Contract Compliance (OFCCP) monitors government contractors. Research demonstrates that the OFCCP is much more effective at bringing about compliance with federal guidelines than is the EEOC (Braun, 1984; Hartmann and Reskin, 1986).

While there are positive benefits of government employment for blacks and females, inequality in this sector still persists. Research (DiPrete, 1987; Smith, 1980; Baron and Newman, 1990; Bridges and Nelson, 1990) still shows public sector gender and racial gaps in earnings and promotions. DiPrete (1987) argues that white males are more likely to be on professional and administrative career ladders within government agencies. Bridges and Nelson (1990) demonstrate gender composition differences in the manner in which public sector jobs are assessed with comparable jobs in the private sector for pay increases. Smith (1980) shows that the black-white wage gap is less severe in the public sector, but the
aggregate means are still significantly different. Finally, Zwerling and Silver (1992) show that blacks are significantly more likely to be terminated from a government job than are whites. In conclusion, government employment offers greater opportunities for blacks and women, but, despite these benefits, there are still gender and racial differences in income, promotions, and due process in the public sector.

Recruitment and Occupational Composition

As stated in the introductory chapter, the general hypothesis that there is a negative relationship between informal recruitment and gender/racial composition of a position drives this dissertation. The two main hypotheses to be tested are that net of the effects of other establishment, job and industry characteristics which affect gender and racial job composition (see above), informal recruitment has a negative effect on the percent black and percent female in a given position.

Any analysis which addresses the relationship between employer recruitment practices and occupational segregation and composition must be sensitive to the issues of labor supply. For example, Stinchcombe (1990) cites three labor supply issues which influence employers to engage in statistical discrimination against females and minorities. One, minorities tend to have poorer credentials as a result of attending inferior schools (see
also Jacobs, 1989a). Two, minorities tend to have poorer work histories, and females the perception of poorer work histories, resulting primarily from their historical concentration in unstable jobs in peripheral industries. The third reason employers engage in statistical discrimination against females is that they are perceived as unreliable, and more likely to leave the labor force because of familial responsibilities.

One solution to this problem is to include measures in the analysis that will control for the quality of labor supply, and the demand for highly skilled, reliable and committed employees. I include measures of data complexity, professional, and executive/managerial occupational status to control for the supply of credentialed labor. Moreover, I include a measure of durable goods manufacturing plants, because these plants generally employ high-quality blue-collar workers with stable work histories (see also Stinchcombe, 1990). The measures of how long employers expect employees to stay with the establishments should capture the effects of employer concerns about labor force interruptions. In addition, some variant of these measures have been used by others to control for employer labor demand in individual earnings models (England et al., 1988), and industrial sector composition models (Singelmann and Mencken, 1992).
Again, the purpose of these measures is to insure that the relationships between recruitment and occupational composition reflect some dimension of the labor market other than the quality of labor supply. The hypotheses are formally stated as:

\[ H_{16} \]: There is an inverse relationship between the use of informal recruitment techniques to recruit for a position and the percentage of blacks working in the position.

\[ H_{17} \]: There is an inverse relationship between the use of informal recruitment techniques to recruit for a position and the percentage of females working in the position.

Analysis

I utilize all of the establishment, job and industry characteristics presented in Chapter 3 to predict the racial and gender composition of occupation-by-industry categories. The independent variables are defined in Chapter 3. I also use each the six recruitment scales in Chapter 3, in combination with the establishment, job and industry characteristics, in separate regression models to predict the percent female and percent black in occupation-by-industry categories. These six recruitment scales are defined in Chapter 3. The dependent variables in this analysis are percent black and percent female employed in occupation-by-industry categories. A description of how these measures are constructed is found in Chapter 4. The data used in this chapter are the same used in the previous two chapters, the employer file from
the Metropolitan Employer and Worker Survey. Recall from previous chapters that there are 969 cases from the employer sub-file that pertain to positions that are recruited for exclusively from the external labor market. Listwise deletion of missing cases reduces the total cases used in this analysis to 668. There are 78 cases missing on all of the recruiting measures.  

**Measurement Issues**

Chapter 4 presents a discussion of the measurement issues concerning percent female and percent black. An interesting measurement issue for this chapter is the degree to which gender and racial composition of occupations and industries in the greater Chicago area are representative of national trends. Abrahamson and Sigelman (1987) argue that gender and racial composition vary greatly depending upon which labor market is under investigation. For example, they expect that the racial and gender mix of an occupation will be more equitable in non-southern metropolitan labor markets, due to past and present cultural beliefs about the proper roles of women and minorities in society. Also, the racial mix of an occupation depends heavily upon the locale of the labor

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I remove all 78 cases so that all positions in the subsample have information on all recruiting techniques. I reanalyze each model with these cases included and verify that this procedure did not change the outcome of the models.
market. Areas where few blacks live are going to have skewed racial distributions.

Tomaskovic-Devey (1993a) argues that racial closure practices are more prevalent in labor markets where blacks are more numerous. Racial closure practices are more prevalent in the South and in the Midwest (especially large cities). Moreover, closure in white-collar occupations is greater in the Midwest, because blacks in large, midwestern cities have higher credentials than blacks in the South. Closure based on gender is uniform across large cities, but more intense in rural areas. Abrahamson and Sigelman (1987) develop occupational indices of dissimilarity for all major metropolitan areas. These indices represent which proportion of males would have to change occupations in order for every occupation in the labor market to be representative of the gender composition of the workforce. The index for the Chicago area in 1980 is .412, significantly below the mean for all major cities. Unfortunately, Abrahamson and Sigelman (1987) do not construct a measure for race. However, Schmitz and Gabriel (1992: 53) do construct an index of dissimilarity between white males and black males in 1980. The score for Chicago (36.54) is lower than scores for other midwestern (Cincinnati, 52.70; Cleveland, 43.95; Milwaukee, 52.68), and southern (Atlanta, 43.29; Houston, 46.56; Charlotte, 52.47) metropolitan areas. However, as
Tomaskovic-Devey (1993a) points out, the degree of segregation at the job level is greater for some occupations than others. Therefore, comparing dissimilarity indices across metropolitan areas does not reflect the true level of segregation.

**Racial Composition Results**

Table 5.1 contains zero-order correlations between the recruitment variables and the job composition measures. Focusing on the relationship between percent black and the recruitment measures, the analysis shows a significant, negative correlation between percent black and informal recruitment through business associates and colleagues. Moreover, there is a positive relationship between percent black and reliance upon walk-ins to recruit. Another interesting relationship is the positive, significant correlation between formal-only recruiting and percent black. Each of these findings is consistent with the general theme that blacks are likely to find jobs recruited for through formal channels, while whites are likely to find jobs through informal channels. One unexpected negative correlation is that between recruitment through advertisements and percent black. One reason for the negative relationship is that blacks are less likely than whites to use advertisements when searching for a job. Also, as the analysis in this chapter will show, blacks are more likely to be employed.
Table 5.1. Zero-Order Correlations between Recruitment and Percent Female and Percent Black (n=668).

<table>
<thead>
<tr>
<th></th>
<th>Percent Black</th>
<th>Percent Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertisements</td>
<td>-.112*</td>
<td>.084*</td>
</tr>
<tr>
<td>Signs</td>
<td>.038</td>
<td>.016</td>
</tr>
<tr>
<td>Walk-Ins</td>
<td>.163*</td>
<td>.077*</td>
</tr>
<tr>
<td>Employment Agencies</td>
<td>-.047</td>
<td>-.077*</td>
</tr>
<tr>
<td>Employees</td>
<td>-.045</td>
<td>.050</td>
</tr>
<tr>
<td>Colleagues and Business Assoc.</td>
<td>-.175*</td>
<td>-.082*</td>
</tr>
</tbody>
</table>

*p<.05
in the public sector. Jobs in this sector are rarely recruited through advertisements.

Table 5.2 presents the regression results for racial composition. Each of the ordinal recruitment measures is treated as an independent variable, therefore there are six models in this analysis. The relationship between recruitment and racial job composition is the primary focus of this table. The effect of each recruitment scale is analyzed separately in order to assess the impact of that particular recruitment technique on the racial composition of the jobs in the sample. First, I need to explain what the results do not show. While the correlations in Table 5.1 show a positive relationship between percent black and formal recruitment techniques, the regression analysis shows no clear positive relationship between any recruitment technique and the racial composition of jobs. Once labor demand controls are added to the model, there is no clear positive relationship between percent black and any of the formal recruitment techniques. Only the use of signs has a positive effect on percent black, but it is not significant.

The main hypothesis of this analysis is that there is a negative relationship between informal recruitment and the proportion of blacks that occupy the job in question. The results in Table 5.2 partially support this
hypothesis. There is a significant negative relationship between the frequency of colleague and associate use to recruit for a job across establishments in the greater Chicago SMSA, and the proportion of blacks that occupy that occupation-by-industry category throughout the labor market. Employee recruitment has no effect on percent black. As I point out in Chapter 3, employee recruitment is not associated with any of the other work structure correlates in the analysis. One explanation is that employers do not use employees to recruit in any systematic manner. Another explanation is that recruitment through employees is associated with good and bad quality jobs. Therefore, forcing linear relationships with OLS analysis does not allow employee recruitment to show a clear relationship with the dependent variable.

This analysis does show clear support for the argument that informal recruitment through colleagues and business associates for certain jobs disadvantages blacks. The previous analysis in Chapter 3 shows that this type of recruitment is strongly associated with white-collar, professional, and executive/managerial positions. The negative effects of these measures on percent black in Table 5.2 show that blacks are not likely to be employed in these positions. Informal recruitment is an important reason why.
<table>
<thead>
<tr>
<th>Recruitment</th>
<th>Dependent Variable: Percent Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertisements</td>
<td>-.006</td>
</tr>
<tr>
<td>Signs</td>
<td>-----</td>
</tr>
<tr>
<td>Walk-ins</td>
<td>-----</td>
</tr>
<tr>
<td>Employment Agencies</td>
<td>-----</td>
</tr>
<tr>
<td>Employees</td>
<td>-----</td>
</tr>
<tr>
<td>Colleagues/Associates</td>
<td>-----</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Job Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Ladder Entry Point</td>
<td>.006</td>
</tr>
<tr>
<td>Time Needed to Learn Job</td>
<td>-.008*</td>
</tr>
<tr>
<td>Transportability of</td>
<td></td>
</tr>
<tr>
<td>Skills Learned</td>
<td>-.004</td>
</tr>
<tr>
<td>Permanence of Employee</td>
<td>-.001</td>
</tr>
<tr>
<td>Union job</td>
<td>.001</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organizational Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of Establishment</td>
<td>.006</td>
</tr>
<tr>
<td>% of Sales From Govt.</td>
<td>.001*</td>
</tr>
<tr>
<td>Government Agency</td>
<td>.112***</td>
</tr>
<tr>
<td>Manuf. Durable Good Est.</td>
<td>-.036***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupational Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Data Complexity</td>
<td></td>
</tr>
<tr>
<td>White-Collar</td>
<td>-.074***</td>
</tr>
<tr>
<td>Executive/Managerial</td>
<td>-.043*</td>
</tr>
<tr>
<td>Professional</td>
<td>-.044*</td>
</tr>
</tbody>
</table>

| Adj. R-Square                   | .229***|

*p<.05; **p<.01; ***p<.001
Informal recruitment also mediates the negative effects of other variables on percent black employed in OCC/IND categories. Executive/managerial occupations employ a lower percentage of blacks than do non-executive/managerial positions. Executive/managerial occupational status also has an indirect negative effect on the percent black employed in these positions through colleague recruitment. The indirect effects of executive/managerial occupational status through colleague recruitment account for fifteen percent of the total direct and indirect effects of executive/managerial status on percent black. Professional occupational status also has a negative indirect effect through colleague recruitment, as does white-collar occupational status. However, the effects are strongest for executive/managerial positions.

A competing explanation of the racial composition findings suggests that blacks in this labor market lack the adequate human capital to occupy professional and managerial jobs, and the link between recruitment and percent black is spurious. In order to address some of these issues, I compare the mean level of education for blacks and whites from the employee file. The MEWS employee file is representative of the greater Chicago SMSA (Villemez and Bridges, 1988). If the supply-side argument that blacks lack the human capital to occupy high
quality white-collar jobs is true, then I expect racial differences in education, work experience and labor force interruptions among workers in the labor force. My analysis shows that there is less than one year of education difference between blacks and whites, and less than one year of work experience difference, as well. Blacks, on average, have 1.18 labor force interruptions compared to 1.01 for whites.\(^3^0\) One might argue that while the means are similar, the qualitative differences between the education levels of the two groups are outstanding. However, controlling for the data complexity, and utilizing other job content and occupational status measures should account for the demand of workers with superior credentials (see England et al., 1988).

One other supply-side possibility is that blacks who are qualified for executive/managerial or professional positions may choose government employment because of the perception that black professionals can advance further in the public sector (Smith, 1980). If black professionals choose public sector employment, positions which tend to be recruited formally by relying on self-initiated applications (see Chapter 3), then blacks would exclude themselves from those particular private sector

\(^3^0\)For whites, the mean education, work experience (in years) and labor force interruptions are: 13.84; 16.59; 1.01. For blacks the mean education, work experience, and labor force interruptions are: 13.12; 16.56; 1.18.
professional/managerial positions which tend to be recruited informally. This choice argument assumes that the relationship between percent black and professional/executive/managerial status is captured by the relationship between percent black and government employment status.

I address this idea by removing government job status from the model with colleague recruitment as the recruitment variable (I do not show these results). I anticipate that the negative effects of professional and executive/managerial job status on percent black will diminish once government job status is removed from the model. The analysis meets my expectations. Once government job status is excluded from the model, professional and executive/managerial job status fail to have a significant negative effect on percent black. This suggests that professional and managerial occupations in the public sector have a higher percentage of blacks than comparable occupations in the private sector (Eisinger, 1986; Smith, 1980).

Another finding that I did not anticipate in the amended model is a positive relationship between union status and percent black, once government job status is removed. One interpretation of this finding is that black union members are concentrated in government jobs and white-collar unions. These results also imply that blacks
choose public sector employment because of the perceived positive benefits in this sector. It is hard to argue that blacks are recruited into the public sector, as Smith (1980) maintains, because the results in Chapter 3 show that government agencies rely upon self-initiated applicants. These are interesting findings and propositions. However, other analyses are needed to test the hypothesis that blacks choose public sector work.

Hypothesis H states that there is a negative relationship between the use of informal recruitment techniques to recruit for a position and the percentage of blacks employed in that position. My analysis shows support for this hypothesis. Net of other job, industry, occupational and organizational characteristics which influence the racial composition of jobs, informal recruitment for jobs through colleagues and business associates has a negative effect on the percent black employed in these positions. Following the discussion of gender composition results, I expand on these findings by analyzing the relationships among percent black, recruitment and starting salaries of jobs. Note also that employee recruitment and the other formal recruitment variables have no effect on percent black. I will comment on these findings after I present the gender composition results.
Net of the effects of the recruitment variables, several variables have consistent effects on percent black across all of the recruitment models. Establishment size has a positive effect on percent black. This finding is consistent with Kaufman's (1986) argument that minorities are more likely to be employed in large establishments because large establishments have high visibility and are more likely to come under pressure from government agencies and citizen's groups to hire minorities. Tomaskovic-Devey (1993a) argues that large companies cannot satisfy all of their labor needs with white workers. Therefore, larger companies have to employ blacks. Also, larger establishments use formal recruitment techniques, which benefit minorities (Smith, 1980; DiPrete, 1987; Zwerling and Silver, 1992).

Table 5.2 also shows that blacks are much more likely to be employed in government agencies. Again, this is consistent with past findings (Smith, 1980; Taylor, 1979; Burstein, 1979; Zwerling and Silver, 1992), and there are several competing and complimentary explanations. First, federal agencies are more likely to hire disproportionately from occupations in which blacks (and females) tend to be concentrated (Smith, 1980). Demographically, blacks are more likely to be hired into
these positions. Second, government agencies at all levels are more egalitarian in their employment practices than are private sector firms (Baron and Newman, 1990; Smith, 1980). For example, the federal government hires new employees based on their performance on the Federal Standard Entrance Exam (DiPrete, 1987). Also, through Affirmative Action programs, minorities, females, veterans and other groups can have points added to their final scores, thus increasing their chances of being hired (Fasman, 1976).

The percentage of revenue from government contracts is positively associated with percent black across all recruitment models. Executive Order 11246 might explain some of this relationship (Reskin and Hartmann, 1986). Establishments with government contracts are required to comply with discrimination laws, and implement Affirmative Action programs (Braun, 1984; Hartmann and Reskin, 1986). As Burstein (1979) points out, Title VII of the Civil Rights Act gives the EEOC little power to prosecute offenders. However, the OFCCP has the power to cancel government contracts of firms that do not comply. Therefore, establishments with a greater percentage of revenue from government contracts may hire a greater

---

For example, Smith (1980) argues that the Postal Service is more likely to hire from clerical occupations, increasing the likelihood that females and minorities are hired.
percentage of blacks to avoid reprimand, or worse, from the OFCCP.

Professional, executive/managerial, and white-collar jobs all have consistent negative effects on percent black across all recruitment models. These findings are consistent with Reskin and Roos' (1990) description of the concentration of blacks in the occupational structure (non-craft blue-collar occupations, personal service occupations). According to Kaufman (1986: 313), race typing is to blame for the negative relationship between white-collar job status and percent black. Jobs with high-skill requirements, formal authority, technical expertise and jobs with white clients are not typed as appropriate for blacks.

The final variable with consistent effects is durable goods manufacturing industry sector. Blacks are less likely to be employed in this sector than in other industry sectors. Additionally, Kaufman (1986) contends that many jobs in manufacturing plants are highly technical, and impart informal authority in individuals who occupy these jobs. Blacks are not likely to be employed in such jobs because of racial typing, or the perception that these jobs are not "appropriate" for blacks. Kaufman (1986) notes, moreover, that such establishments can indulge their tastes for racial discrimination, because such establishments can utilize...
reserve capital to compensate for the loss of marginal revenue from hiring more expensive (white) labor. Social closure theory argues that employers reserve the best jobs for whites, and given that blue-collar durable goods manufacturing jobs are better than non-durable goods manufacturing jobs (Tolbert et al., 1980), and that racial closure is greater for blue-collar jobs, then the racial differences in this sector are expected. Blacks are not hired for jobs in this sector because they are reserved for whites.

**Gender Composition Results**

Similar to percent black, there is a significant, negative correlation between percent female and the use of colleagues and business associates to recruit for jobs. Additionally, there is a positive relationship between percent female and the use of advertisements to recruit for a job. Again, these findings are consistent with the stated hypotheses and the general theme throughout the dissertation. One interesting and unexpected finding is the negative relationship between the use of employment agencies to recruit and percent female employed in a given category. This finding directly contradicts Campbell and Rosenfeld's (1985) hypothesis concerning the relationship between gender composition and recruiting. However, there may be other possible explanations that I will discuss later.
Table 5.3 presents the results for gender composition of OCC/IND. These models are designed to test the hypothesis that informal recruitment has a negative effect on the percent female employed in an OCC/IND category. I analyze the effects of each of the recruitment variables separately on percent female, net of the effects of other variables.

There are four measures of formal recruitment, and only the use of advertisements in newspapers and other media has a significant effect on percent female. The greater the percentage of employees for an OCC/IND category that are found through advertisements, the more likely those employees are females. There are two measures of informal recruitment. While recruitment through employees fails to show a significant relationship, the model with colleagues as the recruitment predictor does support the main hypothesis. Net of all the other job, establishment and industry characteristics that influence the gender composition of an OCC/IND category, the use of colleagues and associates to recruit for a vacancy has a negative effect on the percentage of females employed in that OCC/IND category.

These findings are consistent with the argument that recruitment affects the visibility of job information in labor markets. The differences between formal and informal recruitment are differences in degrees of public
Table 5.3. The Effects of Recruitment Techniques on the Percent Female in OCC/IND Categories (Unstandardized Coefficients, N=668).

<table>
<thead>
<tr>
<th>Recruitment</th>
<th>Dependent Variable: Percent Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertisements</td>
<td>.017*</td>
</tr>
<tr>
<td>Signs</td>
<td>-----</td>
</tr>
<tr>
<td>Walk-ins</td>
<td>-----</td>
</tr>
<tr>
<td>Employment Agencies</td>
<td>-----</td>
</tr>
<tr>
<td>Employees</td>
<td>-----</td>
</tr>
<tr>
<td>Colleagues/Associates</td>
<td>-----</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Job Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Ladder Entry Point</td>
<td>-.095***</td>
</tr>
<tr>
<td>Time Needed to Learn Job</td>
<td>-.016</td>
</tr>
<tr>
<td>Transportability of Skills</td>
<td>-.007</td>
</tr>
<tr>
<td>Learned</td>
<td>-.007</td>
</tr>
<tr>
<td>Permanence of Employee</td>
<td>.011</td>
</tr>
<tr>
<td>Union job</td>
<td>-.081***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organizational Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of Establishment</td>
<td>.003</td>
</tr>
<tr>
<td>% of Sales From Govt.</td>
<td>.001</td>
</tr>
<tr>
<td>Government Agency</td>
<td>.064*</td>
</tr>
<tr>
<td>Manuf. Durable Good Est.</td>
<td>-.184***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupational Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Data Complexity</td>
<td></td>
</tr>
<tr>
<td>Scores</td>
<td>-.138***</td>
</tr>
<tr>
<td>White-Collar</td>
<td>.326***</td>
</tr>
<tr>
<td>Executive/Managerial</td>
<td>-.345***</td>
</tr>
<tr>
<td>Professional</td>
<td>-.067*</td>
</tr>
</tbody>
</table>

| Adj. R-Square                | .326***                        |

*p<.05; **p<.01; ***p<.001
access to job information (see Haulman et al., 1987). I argue that females are more likely to find jobs that have higher visibility; that is, females are more likely to find jobs that are recruited for through formal methods (see also Campbell and Rosenfeld, 1985; Boylan, 1992).

Informal recruitment through colleagues and business associates has a negative effect on the percent female employed in a job. However, recruitment through current employees has no effect. One possible reason for the lack of findings for current employee recruitment is the lack of a linear relationship between employee recruitment and the types of jobs being recruited. Chapter 3 shows that colleagues are used to recruit for higher quality jobs (executive/managerial, professional). Current employees can be used to recruit for good and bad jobs. To test this hypothesis, I re-analyze the gender composition model with all of the recruitment variables in the analysis at the same time (I do not show these results). The results show that once colleagues and current employees are included in the model together, recruitment through colleagues has a negative effect, while recruitment through current employees has a significant, positive

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32 The recruitment variables are not highly correlated. Therefore, including them in one model does not introduce collinearity.

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effect (recruitment through advertisements also has a positive effect).

I argue that employee recruitment is associated with both good jobs and bad jobs. Employers may use colleagues at other firms and current employees to recruit for good jobs (executive/managerial jobs). However, employers are not likely to use colleagues to recruit for bad jobs (clerical, unskilled jobs). The positive effect of employee recruitment is net of the effect of colleague recruitment. What this means is that once the effects of informal recruitment for "good" jobs has been accounted for (i.e. through colleagues) the effects of informal recruitment through employees represents the effects of informal recruitment for "bad" jobs. This secondary analysis shows that females also have access to jobs which are recruited for through informal channels, except that these channels do not lead to the same types of jobs that men are likely to be employed in. An interesting question to pursue is whether or not informal recruitment through employees is positively associated with percent female because females are likely to tell other females about the job, or because females are likely to use other females when searching for work.

Neither signs or employment agencies have an effect on percent female, or on percent black. One reason for the lack of effects is that these techniques are not used
very often. Table 5.4 presents one-way frequency distributions for the six recruitment measures. The table shows that employment agencies and signs are not used to recruit for over 80% of cases in this sample. Recruitment through walk-ins has no effect on percent black or percent female either. Walk-ins are closely related to size of establishment. Therefore, the effects of walk-ins may be captured by the effects of establishment size. Net of the effects of establishment size, recruitment for vacancies through walk-ins has no effect on percent female, or percent black.

There are a number of work structure correlates that have consistent effects on percent female across all of the recruitment models. I report these direct effects and then discuss the indirect effects of these variables through recruitment. The union status of the job has a significant negative effect across all six models. Union jobs employ 10% fewer females than comparable non-union jobs. Roos and Reskin (1984) argue that sponsorship, preference for veterans, and perceived lack of interest all operate against females getting blue-collar union jobs.

Durable goods manufacturing sector status has a negative effect on the percent female employed in OCC/IND categories in this industry sector. On average, these jobs employ 17% fewer females than comparable jobs in
Table 5.4. Frequency Distributions for Recruitment Variables (n=668).

<table>
<thead>
<tr>
<th>Advertisements</th>
<th>Signs</th>
<th>Walk-ins</th>
<th>Emp. Agencies</th>
<th>Employees</th>
<th>Colleagues</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 341</td>
<td>1. 596</td>
<td>1. 335</td>
<td>1. 547</td>
<td>1. 281</td>
<td>1. 426</td>
</tr>
<tr>
<td>2. 64</td>
<td>2. 6</td>
<td>2. 42</td>
<td>2. 20</td>
<td>2. 59</td>
<td>2. 61</td>
</tr>
<tr>
<td>3. 57</td>
<td>3. 26</td>
<td>3. 89</td>
<td>3. 49</td>
<td>3. 139</td>
<td>3. 108</td>
</tr>
<tr>
<td>4. 102</td>
<td>4. 19</td>
<td>4. 111</td>
<td>4. 36</td>
<td>4. 119</td>
<td>4. 62</td>
</tr>
<tr>
<td>5. 104</td>
<td>5. 21</td>
<td>5. 91</td>
<td>5. 16</td>
<td>5. 70</td>
<td>5. 11</td>
</tr>
<tr>
<td>n= 668</td>
<td>n= 668</td>
<td>n= 668</td>
<td>n= 668</td>
<td>n= 668</td>
<td>n= 668</td>
</tr>
</tbody>
</table>

Values: 1= None  2= A Few  3= Some  4= Most  5= All
other industry sectors. Jobs in this sector are primarily high-quality blue-collar jobs, and technically-oriented white-collar jobs. These jobs also have core-sector characteristics and employ mainly white males (Reskin and Roos, 1990; Stinchcombe, 1990; Kalleberg and Sørenson, 1979). Reskin and Roos (1990) argue that while establishments in this sector are also going to have an administrative branch, the percentage of total jobs that administrative support represents is probably small. Since females tend to be concentrated in administrative support jobs, they are not likely to be employed in this sector.

Occupational status has positive and negative effects on the percentage of females employed market-wide in given OCC/IND categories. White-collar occupational status has a positive effect on percent female across all models. Executive/managerial occupational status, on the other hand, has a strong negative effect on the percent female employed in these positions throughout the greater Chicago area. Given that the estimate for white-collar status is net of the effects of higher status white-collar occupations (executive/managerial, professional), the estimate represents the effects of lower status white-collar occupations on percent female. The analysis shows that on average, lower status white-collar occupations employ 33% more females than other occupations; while
executive/managerial occupations employ, on average, 35% fewer females than non-executive/managerial occupations.

There are a number of establishment, industry and job characteristics that have an indirect effect on percent female through the recruiting measures. Durable goods manufacturing sector status has a positive effect on advertisement and a negative effect on percent female. While jobs in this sector are recruited for through advertisements, they are not typically filled by females. What this means is that females get into durable goods manufacturing jobs through advertisements, even though the percentage of females employed in this sector is low. Another explanation is that employers use advertisements to find employees, but hire primarily men; this explanation is consistent with Tomaskovic-Devey’s (1993a) social closure argument.

The length of time it takes an employee to learn a job has an indirect negative effect on percent female through advertisements. These jobs have low external market viability, and generally have greater due process, and mobility opportunities (Bridges and Villemez, 1991). This finding supports the hypothesis that "better" jobs are not recruited for through advertising. Given the positive relationship between advertisement and percent female, these findings also suggest that females who find positions with low external market viability are being
recruited through other channels. Furthermore, advertising these positions might increase the employment opportunities for females.

White-collar occupational status has a positive effect on the percent female employed in the OCC/IND category, a positive effect on employment agency use, and a positive, but not significant, effect on advertisement recruiting (p=.07). This shows that lower status, white-collar occupations (i.e. non-professional, non-executive-managerial) are consistently recruited for through employment agencies and less consistently through advertisements. Moreover, white-collar status has a positive direct effect on percent female across all recruitment models, and a weak positive effect through advertisements. White-collar occupations are successfully recruited for through colleagues and associates, which has a negative effect on percent female. This suggests that white-collar occupations that are recruited for informally through colleagues and business associates are less likely to be filled by women. This indirect effect, coupled with the weak positive indirect effect of white-collar status through advertisements, provides some support for Campbell and Rosenfeld’s (1985) claim that females are recruited for predominantly female white-collar jobs through formal channels.
White-collar, executive/managerial and professional occupational status each has an indirect negative effect on percent female through colleagues. All three have positive, significant effects on recruitment through colleagues, which has a negative effect on percent female. These direct and indirect relationships among informal recruitment, white-collar occupations and percent female show that jobs for which vacancies are recruited for informally through colleagues and business associates are less likely to employ females. These relationships also lend support to the institutional hypothesis that informal recruitment denies women access to vacancies in certain labor markets.

The findings for informal recruitment and gender composition are also consistent with other hypotheses about recruitment and gender segregation. For example, Corcoran, Datcher and Duncan (1980) argue that male occupations are more likely to be recruited for through informal methods, while less desirable, predominantly female occupations (i.e. less training, lower skill demands, repetitive tasks) are likely to be filled through formal methods, such as advertisements. Stinchcombe (1990) argues that jobs in the core sector are dominated by men, and recruited for through certification systems--such as informal networks--which seek to reduce the inherent risks in hiring new employees. Formal methods of
recruitment are less effective at reducing risks. Unfortunately, women often lack access to the certification systems (informal recruitment network) through which many vacancies are filled.

Roos and Reskin (1984) argue that institutional barriers in white-collar or occupational internal labor markets are more subtle than in blue-collar labor markets. In occupational internal labor markets, Roos and Reskin (1984) argue that females lack information about the very existence of jobs, because few methods of job recruitment are fully public in these markets (see also Haulman et al., 1987). Moreover, they contend that occupational gender segregation persists in white-collar labor markets because information networks are used to recruit employees, and these networks are gender segregated (Kanter, 1977; Corcoran, Datcher and Duncan, 1980). According to Roos and Reskin (1984; see also Moore, 1990), since males hold most of the professional and managerial jobs, they have work-related associations which allow them to build networks which facilitate the learning of other opportunities. Females in white-collar jobs, on the other hand, are concentrated in clerical and service categories. This excludes women from the job information networks through which much job information travels. The effects of past segregation practices have created gender segregated networks, which preserve occupational
segregation because much recruiting in occupational internal labor markets is done through these segregated networks (Roos and Reskin, 1984; 1992).

Recruitment and Salary Results

Much of the discussion so far has centered on occupational composition, and has assumed that informal recruitment leads to labor market inequalities, such as pay differentials. In order to show that informal recruitment has labor market consequences in line with the occupational segregation literature, I re-analyze these models with the natural log of the average starting salary for positions included in the model (see Chapter 4). I report these analyses in Tables 5.5—5.7.\(^{33}\) I treat starting salary as an independent variable because of mean substitution. Also, this seems feasible given the arguments presented in Chapter 3 which maintain that the characteristics of the job in question influence the recruitment technique used to recruit for the job. In addition, job queue theory and social closure theory presented in the literature review section of this chapter suggest that the quality of the job determines the demand for female and minority labor (see Reskin and Roos, 1990).

The results in Table 5.5 show that starting salary is a positive predictor of the use of colleagues and business

\(^{33}\) Recall that means had to be substituted for over 15% of the cases for the salary measure.
Table 5.5. The Effects of Work Structure Correlates and Salary on Recruitment Practices
(Unstandardized Coefficients, n=812).

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Formal</th>
<th>Informal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Advertisements</td>
<td>Signs</td>
</tr>
<tr>
<td><strong>Job Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Ladder Entry Point</td>
<td>.280**</td>
<td>.260***</td>
</tr>
<tr>
<td>Time Needed to Learn Job</td>
<td>-.113*</td>
<td>-.125***</td>
</tr>
<tr>
<td>Transportability of Skills Learned</td>
<td>-.037</td>
<td>-.013</td>
</tr>
<tr>
<td>Permanence of Employee</td>
<td>-.032</td>
<td>-.066</td>
</tr>
<tr>
<td>Union job</td>
<td>-.741***</td>
<td>.136***</td>
</tr>
<tr>
<td><strong>Organizational Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size of Establishment</td>
<td>.057*</td>
<td>-.012</td>
</tr>
<tr>
<td>% of Sales From Govt.</td>
<td>.003</td>
<td>-.003</td>
</tr>
<tr>
<td>Government Agency</td>
<td>-.159***</td>
<td>-.161***</td>
</tr>
<tr>
<td>Manufacturing Durable Good Est.</td>
<td>.449***</td>
<td>.233***</td>
</tr>
<tr>
<td><strong>Occupational Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOT Data Complexity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scores</td>
<td>-.075</td>
<td>-.013</td>
</tr>
<tr>
<td>White-Collar</td>
<td>.226*</td>
<td>-.056</td>
</tr>
<tr>
<td>Executive/Managerial</td>
<td>-.138</td>
<td>.044</td>
</tr>
<tr>
<td>Professional</td>
<td>-.120</td>
<td>-.029</td>
</tr>
<tr>
<td>Salary (ln)</td>
<td>.079</td>
<td>-.378***</td>
</tr>
<tr>
<td><strong>Adj. R-Square</strong></td>
<td>.104***</td>
<td>.126***</td>
</tr>
</tbody>
</table>

*p<.05; **p<.01; ***p<.001
associates to recruit for vacancies. Starting salary is also a positive predictor of employment agency use, and a negative predictor of recruitment through current employees, signs and reliance upon walk-ins. These findings demonstrate that jobs recruited for through employment agencies and colleagues/business associates have higher starting salaries, while jobs recruited through current employees, signs and walk-ins have lower starting salaries.

I include salary in the model with recruitment techniques to predict percent black (Table 5.6) and percent female (Table 5.7). The analysis shows negative relationships between salary and percent female and percent black. Jobs which employ a higher percentage of females and blacks have, on average, lower starting salaries. Increasing the starting salary of a job by 1% reduces the percent black employed in an OCC/IND category by 5.5%, and percent female by 28%. In addition, informal recruitment through colleagues and business associates continues to have a negative effect on the percent female employed in OCC/IND categories, but no longer has a significant effect on percent black.

This suggests that the negative effects of informal recruiting on compensation are more pronounced for females than for blacks. However, caution must be exercised when examining these findings for two reasons: 1) mean
Table 5.6 The Effects of Recruitment Techniques and Salary on the Percent Black in OCC/IND Categories (Unstandardized Coefficients, n=668).

<table>
<thead>
<tr>
<th>Dependent Variable: Percent Black</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recruitment</strong></td>
</tr>
<tr>
<td>Advertisements</td>
</tr>
<tr>
<td>Signs</td>
</tr>
<tr>
<td>Walk-ins</td>
</tr>
<tr>
<td>Employment Agencies</td>
</tr>
<tr>
<td>Employees</td>
</tr>
<tr>
<td>Colleagues/Associates</td>
</tr>
<tr>
<td><strong>Job Characteristics</strong></td>
</tr>
<tr>
<td>Job Ladder Entry Point</td>
</tr>
<tr>
<td>Time Needed to Learn Job</td>
</tr>
<tr>
<td>Transportability of Skills Learned</td>
</tr>
<tr>
<td>Permanence of Employee</td>
</tr>
<tr>
<td>Union job</td>
</tr>
<tr>
<td><strong>Organizational Characteristics</strong></td>
</tr>
<tr>
<td>Size of Establishment</td>
</tr>
<tr>
<td>% of Sales From Govt.</td>
</tr>
<tr>
<td>Government Agency</td>
</tr>
<tr>
<td>Manuf. Durable Good Est.</td>
</tr>
<tr>
<td><strong>Occupational Characteristics</strong></td>
</tr>
<tr>
<td>DOT Data Complexity</td>
</tr>
<tr>
<td>White-Collar</td>
</tr>
<tr>
<td>Executive/Managerial</td>
</tr>
<tr>
<td>Professional</td>
</tr>
<tr>
<td>Salary (ln)</td>
</tr>
<tr>
<td><strong>Adj. R-Square</strong></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

*p<.05; **p<.01; ***p<.001
Table 5.7. The Effects of Recruitment Techniques and Salary on the Percent Female in OCC/IND Categories (Unstandardized Coefficients, n=668).

<table>
<thead>
<tr>
<th>Dependent Variable: Percent Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruitment</td>
</tr>
<tr>
<td>Advertisements</td>
</tr>
<tr>
<td>Signs</td>
</tr>
<tr>
<td>Walk-ins</td>
</tr>
<tr>
<td>Employment Agencies</td>
</tr>
<tr>
<td>Employees</td>
</tr>
<tr>
<td>Colleagues/Associates</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Job Characteristics</td>
</tr>
<tr>
<td>Job Ladder Entry Point</td>
</tr>
<tr>
<td>Time Needed to Learn Job</td>
</tr>
<tr>
<td>Transportability of Skills Learned</td>
</tr>
<tr>
<td>Permanence of Employee</td>
</tr>
<tr>
<td>Union job</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Organizational Characteristics</td>
</tr>
<tr>
<td>Size of Establishment</td>
</tr>
<tr>
<td>% of Sales From Govt.</td>
</tr>
<tr>
<td>Government Agency</td>
</tr>
<tr>
<td>Manuf. Durable Good Est.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Occupational Characteristics</td>
</tr>
<tr>
<td>DOT Data Complexity</td>
</tr>
<tr>
<td>White-Collar</td>
</tr>
<tr>
<td>Executive/Managerial</td>
</tr>
<tr>
<td>Professional</td>
</tr>
<tr>
<td>Salary (ln)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Adj. R-Square</td>
</tr>
</tbody>
</table>

*p<.05; **p<.01; ***p<.001
substitution for the salary measure; 2) percent female represents both black and white females. Distinctions are hard to draw between percent female and percent black because the separate effects on black and white females cannot be removed from percent female.

Having noted these limitations, there are interesting differences between percent female and percent black. First, the size of establishment has no effect on gender OCC/IND composition (Table 5.3), but a positive effect on percent black. Kaufman (1986) suggests that large firms and establishments are under government and public pressure to employ more minorities and females. The relationship between size and racial composition fits Kaufman’s hypothesis. However, the argument does not hold for females in the greater Chicago SMSA. Second, the same finding holds for the percentage of revenue from government agencies. Firms with government contracts are required by EO 11375 to implement Affirmative Action programs, and to guarantee anti-discrimination in the workplace (Hartmann and Reskin, 1986; Braun, 1984). Revenue from government contracts has a positive effect on the racial composition of OCC/IND categories in the establishment, but no effect on the gender composition of the OCC/IND categories in the establishment. This shows that attempts at formalizing employment relations may produce greater benefits for blacks than for females, at
least in the Chicago SMSA. Moreover, given the positive
effects for percent black, and the lack of effects for
percent female, these findings suggest that government
programs are more beneficial for black males than for
black and white females.

Another interesting finding is the relative indirect
effects of executive/managerial occupational status
through colleague recruitment. For percent female, the
indirect effects of executive/managerial status through
colleague recruitment account for just 5% of the total
effects of this measure on percent female. However, for
percent black, the indirect effects account for 15% of the
total effects. This suggests that informal recruitment
for these positions may be more detrimental for blacks
than for females. Job ladder status also has a negative
effect on percent female, while no effect on percent
black. Some of the effect may be captured by government
employment. The positive benefits of government
employment, and the higher percentage of blacks employed
in the public sector are noted above. Federal and state
governments also have elaborate internal job structures
(DiPrete and Soule, 1988). Therefore, government job
status may usurp some of the effects of job ladder status
on percent black. Analyzing this model by government and
non-government jobs may show other results.
Discussion

If females are more likely to search for jobs through formal means, then this might partially explain the positive effects of advertisements on percent female. In addition, females may be more likely to use close, personal friends to look for a job, while males may be more likely to call upon colleagues and associates at other firms when looking for work (Moore, 1990). The same questions apply to the racial differences. I address these issues by analyzing the racial and gender differences in how searchers look for jobs. I use the employee file from the MEWS to address this issue. By cross-classifying the manner in which people search for jobs by the race and gender of the job searchers in the employee file, I assess the racial and gender differences.

The analysis shows no racial differences in the use of newspaper advertisements to find a job. Blacks are more likely than whites to check with friends and relatives, and to use public and private employment agencies. This last point is important because the frequencies in Table 5.4 show that very few jobs are recruited for through employment agencies. The analysis also shows that blacks and whites use work contacts and business associates to search for jobs with equal frequency. This is important, because this suggests that the negative effects of informal recruitment on percent
black cannot be attributed to racial differences in job searching strategies.

The analysis for gender presents different results. Males are slightly more likely to use business associates and work contacts than females to find a job. In fact, males are 9% more likely use these techniques. However, there are no gender differences in searching for jobs through newspaper advertisements, employment agencies, or friends and relatives. Males are also more likely to search for a job through advertisements in trade publications. Also, about 50% of males and females use newspaper advertisements, and about 30% of males and females use business associates and work contacts. These results also suggest that the effects of advertisements and recruitment on percent female cannot be attributed to gender differences in search strategies. In fact, these results suggest that males search through advertisements more than females.

There are a number of choice and constraint theories which provide alternative explanations of gender segregation. Supply-side theories of occupational segregation attribute the wage-gap and occupational segregation to the life-long educational, career and occupational choices/aspirations of men and women. My analysis shows that executive-managerial jobs are positively associated with informal recruiting through
colleagues and business associates, and negatively associated with percent female. Five percent of the total direct and indirect effects of executive-managerial status on percent female are through recruitment. And the effect of managerial-executive status on percent female is powerful. On average, the mean percent female employed in executive/managerial positions is 35 percent less than the mean percent female employed in non-executive/managerial positions.

Females have traditionally been under-represented in comparable executive/managerial positions (Reskin and Hartmann, 1986: 21). Supply-side choice models contend that females lack proper educational credentials to perform these jobs (Jacobs, 1989a). But Jacobs (1989a) shows that the educational differences between males and females are historically insignificant. The choice model stresses that gender differences in college majors restrict the occupational choices of females. Females are less likely to choose majors which lead into predominantly male jobs, such as engineering or the physical sciences. However, Jacobs (1989a) shows that a majority of college majors are gender neutral, and argues that aside from the physical sciences, many managerial and professional occupations recruit students from a broad range of gender-neutral college majors.
Choice models also stress that females do not aspire to professional and managerial positions. According to this model, females choose and pursue career options that are compatible with their home and family responsibilities. However, Jacobs (1989a) shows that the aspirations of females has changed dramatically since the 1960s. The biggest increases in females aspiring to executive/managerial positions came in the late 1960s and early 1970s, when the percentage doubled. By 1980, Jacobs (1989a: 80) shows that more females aspire to executive/managerial positions than to any other occupational category. Others concur that aspirations cannot explain the levels of gender segregation in these occupational categories (see England et al., 1988).

Jacobs (1989a) shows that supply-side theories cannot adequately explain occupational segregation. Additionally, the structural efficiency model, a demand-side theory of cited in the recruitment literature, cannot explain the negative effects of informal recruitment on percent black and percent female. This perspective relies on the unconnectedness of females and minorities to informal recruiting networks to explain occupational segregation. Work related networks are segregated by gender and race. Therefore, when jobs are recruited for informally, females and minorities will not learn of these vacancies because they are unconnected to the particular
recruiting network through which the job information flows.

Research on segregated network structures has provided inconsistent and inconclusive results. Recent theories on network structures (Moore, 1990; Campbell, 1988; Fisher and Oliker, 1983; Brass, 1985) suggest that males tend to have more non-kin and work-centered network ties, which are useful in building careers. Females, on the other hand, are more likely to have kin-centered networks, which constrain opportunities for social mobility. Structural explanations of these differences emphasize that men have greater structural opportunities because they typically have jobs (high status jobs) which are more conducive to constructing far-reaching networks. Moore (1990: 727) argues that high status jobs may foster work-related network development because of the recognized importance of such ties for social mobility. Women, on the other hand, even when they have full-time jobs, are still more likely to provide all household and childcare services (Moore, 1990: 727), which constrains non-kin network formation (Miller and Garrison, 1982; Fischer and Oliker, 1983).

Campbell and Rosenfeld (1985) find that females are less likely to utilize personal contacts in searching for jobs. Women typically have networks comprised of other women, who do not have high status jobs or contacts
because effective contacts (those that ultimately lead to jobs) are likely to be men. Additionally, females tend to be concentrated in low and mid-level white-collar occupations which encourages the use of formal employment agencies. Campbell and Rosenfeld (1985) also report that blacks tend to use personal friends (or strong ties) in finding jobs. Using personal contacts has a positive effect on finding employment among blacks, but it rarely leads to upward mobility or greater earnings. Hence, the argument is consistent with the strong-tie hypothesis. Blacks who have lower quality jobs are likely to offer job information about other lower quality jobs.

Other research has further clouded this issue. Moore (1990) finds that men and women of similar work and family characteristics also have similar non-kin, gender-integrated, network structures (Moore, 1990: 734). However, Moore (1990) also argues that female networks lack sufficient access to powerful contacts within organizations (see also Kanter, 1977; Campbell and Rosenfeld, 1985; Campbell, 1988). Brass (1985) finds that males and females tend to be in gender segregated networks within organizations. However, Brass (1985: 336) also finds that the true power clique in any organization is limited in size, and that males and females have near equal access to the power clique. Finally, neither Moore (1990), nor Brass (1985) find support for the idea that
gender differences in network structure ultimately leads to labor market inequality.

The supply-side job searching models and the structural efficiency models cannot explain why informal recruitment through colleagues and business associates has a negative effect on percent female and percent black. In Chapter 6 I provide my interpretation and explanation for these results.

Summary

The hypotheses in this chapter predict that informal recruitment has a negative effect on the percentage of females and blacks employed in a job. My analysis shows that informal recruitment through business associates and colleagues has a market-wide negative effect on the percentage of blacks and females employed in occupation-by-industry categories. Moreover, these negative effects are net of other effects which account for the supply and demand of labor. However, informal recruitment through current employees has no direct effect on the racial or gender composition of jobs, and has a positive net effect on percent female once the effects of other recruitment techniques are controlled. This shows that informal recruitment is associated with both good and bad jobs, and that employers are more likely to use informal recruitment through current employees to recruit for lower quality jobs.
In addition to the negative effects of informal recruitment on the racial and gender composition of jobs, I also show that informal recruitment through colleagues and business associates is positively associated with the starting salary of a job. Starting salary, in turn, has a negative effect on the racial and gender composition of jobs. The analysis of how individuals search for jobs shows that gender and racial differences in search patterns cannot explain the negative effects of informal recruitment through business associates and colleagues on the percent female and black employed in a job.
CHAPTER 6. CONCLUSION

In Chapter 1, I present a conceptual model that links job matching processes to occupational segregation. Path (a) of the conceptual model posits a relationship between the characteristics of jobs, and the work structures in which they are embedded (organizations, industries, occupations) and different methods of matching workers to those jobs. The analysis in Chapter 3 establishes an empirical link between certain characteristics of organizations, jobs, occupations and industries and different recruitment techniques. Of particular interests, executive/managerial and professional jobs are associated with informal recruitment through colleagues and business associates, while other white-collar occupations are associated with formal recruitment through advertisements.

In Chapter 4 I analyze path (b) of the conceptual model. This path represents an argument derived from job matching theories about internal labor markets and applied to external labor markets. Specifically, if internal job matching processes can segment internal labor markets, as Sørenson (1983) argues, then employer recruiting practices segment external labor markets much in the same manner. In the process of testing this idea, I demonstrate that certain recruitment techniques cluster with certain job characteristics, and argue that these combinations
represent labor market segments. Recruitment through colleagues and business associates clusters with jobs high in data complexity, professional, and executive/managerial jobs. Other white-collar occupations (clerical and administrative support) cluster with sign recruitment and current employees. I also show that there are a higher percentage of blacks and females employed in the segments which are characterized by formal recruitment, and a lower percentage employed in the segments characterized by informal recruitment. While executive/managerial jobs cluster with both colleagues and employment agencies, the percentage of females employed in executive/managerial clusters characterized by employment agency recruitment is higher than the percentage female employed in the executive/managerial clusters characterized by colleague recruitment.

The results of Chapter 5 confirm the results of the cluster analysis in Chapter 4. Net of many work structure correlates which affect the supply and demand for labor, and the racial/gender composition of jobs, informal recruitment through business associates and colleagues has a market-wide negative effect on the percent black and percent female employed in given OCC/IND categories.

Employers use informal recruitment techniques to consistently recruit for high-quality white-collar jobs. Some argue that these recruitment techniques serve to deny
individuals access to information about these vacancies (see Boylan, 1992; Roos and Reskin, 1992; 1984; Stinchcombe, 1990; Collinson et al., 1990). My analysis shows that net of other structural characteristics which affect the quality of labor demanded by employers (job content, skills required, commitment to the firm, etc.,), informal recruitment through colleagues and associates has a negative effect on the percent female and black employed in these categories. My analysis also shows preliminary evidence which suggests that not only are the positions that are recruited for informally less likely to employ blacks and females, they are also more likely to have higher starting salaries.

Linking the analysis along all three paths of the conceptual model shows clear support for the general hypothesis that employer recruitment practices create and sustain occupational segregation. Characteristics of desirable jobs (professional, executive/managerial occupations, salary) positively affect the use of informal recruitment through colleagues and business associates. This type of recruitment, in turn, has a negative effect on the percentage female and black employed in a job.

I argue that recruitment affects segregation because these are the types of jobs (executive/managerial, high paying) in which blacks and women are under-represented (Reskin and Roos, 1990; Tomaskovic-Devey, 1993a).
However, I do not wish to be misinterpreted as claiming that recruitment is the most important variable in the segregation process. The relative effects of the recruitment techniques on percent female and black are not outstanding. However, they are significant, and given the sample size and number of parameters in the model, they are also robust estimates.

While the analysis establishes an empirical link between informal recruitment and occupational segregation, the key theoretical question yet to be answered is how does the process of informal recruitment deny females and blacks information in labor markets? There are several competing explanations discussed already. The supply-side models argue that the relationships between recruitment and job composition are spurious because females and minorities lack the human capital to compete for the jobs that are recruited for through colleagues and business associates. Moreover, these negative effects will disappear once the human capital credentials of females and minorities increase. I borrow from Jacobs (1989a) to show that human capital explanations are inadequate for gender differences, and do my own comparison of whites and blacks in the Chicago labor force during this period to show that racial differences in education, experience and labor force interruptions are minimal.
Another supply-side issue concerns how workers search for jobs. If females and minorities search for jobs differently than white males, then this may explain some of the racial and gender differences when it comes to recruiting. However, my analysis shows no difference between whites and blacks when it comes to using work-associates to search for a job, and minimal differences between men and women. I conclude that the negative effects of informal recruiting through colleagues and associates on percent black and female cannot be attributed to racial and gender differences in the manner in which individuals search for jobs.

I discussed in the last chapter the limitations of the structural efficiency argument. This theory maintains that females and minorities are structurally unconnected to the recruiting networks through which certain jobs are recruited. The segregation that results is an unintended or irrational consequence of otherwise rational action. This argument, however, is internally inconsistent, and relies too much upon the concept of social homophily to explain the segregated nature of work networks. Work is an arena which draws individuals from many backgrounds together, to interact on a daily basis. As the complexity of integrating and maintaining an advanced capitalist economy increases, the social integration of different groups throughout society increases (see Fararo, 1989).
The division of labor integrates individuals at the top of the hierarchy with those at the bottom. Therefore, work-related networks should be more integrated than any other type of network structure. The review of studies on work-related network structures in Chapter 5 shows that work-related networks are indeed much more integrated than the structural efficiency argument predicts.

Another theoretical perspective that attempts to explain the negative relationship between recruiting and percent female and black is the institutional approach. This theory argues that informal recruitment techniques become institutionalized in certain labor markets because the segregating effects of these practices reinforce culturally held beliefs about masculinity and femininity. My problem with this approach is that it is incomplete. The theory relies almost exclusively upon the prevailing gender-role ideology to explain informal recruitment. First, this is unsound because not everyone accepts the prevailing conceptions of masculinity and femininity. Second, the gender-role ideology does not have all-powerful influences. Jacobs (1989a) shows this in his analysis of the weak effects of gender-role ideology on gender-role socialization and occupational aspirations. Third, institutional theory does not explain the effects of informal recruiting on percent black. Fourth, the institutional theory does not adequately explain the
"institutionalization" of informal recruitment practices. That is, it does not explain why these practices persist through time and space.

I maintain that social closure theory offers a more realistic interpretation of these results. The institutional theory cannot adequately explain the institutionalization of informal recruitment practices. According to the social closure theory, recruitment practices become institutionalized because employers use them to recruit and hire white males. Social closure theory maintains that practices which deny individuals access to good jobs are attempts by white males to exclude females and minorities from the best jobs. Moreover, closure practices are understood as attempts to protect economic status and image status, or image of self as a member of the superordinate group.

When minorities and females attempt to enter male-dominated occupations, they challenge the social status of white males. Female and minority status are defined by prevailing cultural beliefs as inferior. Therefore, white males will attempt to exclude them to protect their status. Additionally, employers participate because they know that females and minorities are aiming at the top of the power hierarchy. Therefore, employers will reserve good jobs at lower levels for white males, because doing so not only protects white male privilege at lower levels,
but it also better insulates themselves from inferior groups.

I argue that employers use informal recruitment practices to bring about closure because of attempts at closure by usurpation on behalf of females and minorities. Before 1960, there were no laws against discrimination in hiring. Therefore, informal recruitment was not necessary to exclude females and minorities from jobs. Besides, before 1960 most minorities and females did not possess the human capital to occupy the best positions in the occupational structure. However, between 1970 and 1980, the human capital gap between males and females narrowed to a non-significant difference, and the gender difference in occupational aspirations disappeared as well (see Jacobs, 1989a). Also, during the 1960s and 1970s federal laws were passed to outlaw employment discrimination based on race and gender.

Employment anti-discrimination laws are best understood as attempts at closure by usurpation on behalf of females and minorities. Closure by usurpation is an attempt by disadvantaged or excluded groups to gain access to the protected resources (i.e. good jobs) of the superordinate group. Employers can no longer overtly discriminate against women and minorities. In addition, the human capital gains of minorities and females create competition for the coveted jobs. Therefore, in order to
bring about closure, employers use informal recruitment to find white males for certain jobs, and to minimize the competition for these jobs.

However, I do not wish to overstate the importance of recruiting, relative to other social closure processes. As I report above, the relative effects of informal recruitment are not large. However, they are significant and robust, and I maintain that the subtle effects are what we should expect. The process of occupational segregation is like a puzzle, and each of the labor supply and labor demand perspectives contributes many pieces to that puzzle. However, the puzzle is incomplete, and focusing on recruitment adds a few more pieces to that puzzle. In addition, the effects of recruitment or other hiring practices on occupational segregation have to be subtle. The laws which ban discrimination in hiring, and which attempt to regulate the job matching process require employers to find subtle ways of achieving closure.

In addition to bringing about social closure, I argue that employers also use informal recruitment techniques to locate the "appropriate" candidates for certain jobs, and to minimize competition for these jobs from inappropriate candidates. The definition of appropriate candidates comes from job queue theory. I maintain that employers want certain types of individuals for certain jobs. For example, employers are not likely to hire black or white
females to supervise white males. However, given the human capital gains of females and minorities, advertising such a position would no doubt draw applications from females. Therefore, employers use informal recruiting to locate a white male for the job.

One theoretical problem with this argument is that employers in my sample use informal and formal recruiting techniques to locate employees. However, it would not be wise of employers to find all of their employees for good jobs through informal recruitment, because then this practice would be a larger target for those attempting closure by usurpation. The significance of the effects allows employers to use recruiting to achieve closure, and at the same time, the paucity of the relative effects allows employers to insulate their recruiting practices from external investigation and allegations.

The relative effects of informal recruiting through colleagues and business associates are small, but important. Of all the variables in the model, recruitment practices are the only variables which can be manipulated. All of the other significant effects are structural. However, employers can change their recruiting practices for a given position. This has important policy implications that I discuss at the conclusion of this chapter. The findings for recruitment are also important because the analysis addresses recruiting in the external
labor market, which is assumed to be more competitive than job matching in internal labor markets. The consistent effects across companies in the greater Chicago SMSA support theoretical propositions of structure in external labor markets, and support the idea that recruitment is a means of achieving social closure.

I do not believe that social closure theory in itself can fully explain the negative effects of informal recruitment through colleagues on percent female and percent black. Employers disseminate job information through networks of colleagues and business associates. In order for social closure theory to apply, everyone along the network has to engage in social closure. However, not everyone along the network may want to deny opportunities to females and minorities. Tomaskovic-Devey (1993a) points out that racial closure is contingent upon the region of the country. It is possible that not all white males in a given geographic area attempt to restrict good jobs for white males. Therefore, an amended theory is needed to explain why individuals who are not prone to social closure may still pass along job information to white males.

One possible theory is a combination of general theories of occupational segregation and social exchange theory. Individuals embedded in job information networks who are not prone to practices of closure may unwillingly
support a system of closure based on a fear of retaliation or norm violation. If I relay job information to a black female, for a job for which an employer wants to hire a white male, then I face possible sanctions from the employer. And given that most of these inter-organizational relationships are business exchanges first and foremost (see Granovetter, 1974), I may not want to risk sanctions. Therefore, some individuals in the network actively engage in closure to keep a system of white male patriarchy in place. Others, however, may engage in closure unwillingly, in order to avoid the repercussions of violating the normative expectations which govern these relationships. This last point can also be used to explain why females and minorities who have access to recruiting networks still relay certain job information to white males. It may have nothing to do with cultural beliefs and the gender-role ideology, as the institutional theorists maintain, but be a result of the normative expectations that govern these relationships. Minorities and females in the "white male world" may be unwilling to relay job information to other females and minorities (unless explicitly instructed to do so) to avoid jeopardizing their unique position.

Strengths and Limitations

This study has several strengths and limitations. One area of strength is the sample. The MEWS is a unique
data set. It is a representative sample of how employers recruit for vacancies in the external labor market. Most of the other studies that focus on recruitment use job search data collected from employees. One problem with employee data is that employees may find a job differently than a company recruits for the job. For example, a company may recruit for an accountant through an employment agency. However, the accountant who is hired may have learned of the job from a friend who visited the employment agency. Therefore, when the employee is interviewed on how s/he found the job, they may respond that they learned of the vacancy through an employment agency, or through a friend. Either answer is correct in that context. However, if a researcher attempts to model how companies recruit for accountants, and the employee responds that they learned of the job through a friend, then the researcher is at risk of making a measurement error, by attributing informal recruitment to a job that is recruited formally. One strength of this study is that it avoids this situation.

A second major strength of this study is how representative the sample is, in comparison to other studies. Most studies that examine firm recruitment practices utilize case studies of a few companies. My sample contains recruiting data on over 600 companies in one major metropolitan area. This gives us a better idea
of the recruiting strategies used throughout a major labor market. Another major strength of the study is how exhaustive the models are. Each model controls for a wide variety of labor supply and labor demand issues. Few studies can match the degree of employer-level controls that this study uses. The strength of this is that it purifies the statistical relationship between recruitment and job composition.

The study also has major limitations. The major limitation is the lack of job level composition data. I measure composition at the occupation-by-industry level. However, it is best to measure job composition at the job or task level. However, it is not practical to do this for over 600 jobs in a given labor market. Another problem is whether or not these findings have any application outside of Chicago. This is a unique labor market, with a relatively strong public sector. The public sector provides job opportunities for females and minorities that the private sector does not. Recruitment practices in a labor market not characterized by a strong public sector may be more unequal. If blacks and females cannot find good jobs in the public sector, it forces them to compete with white males for private sector jobs, which may increase pressures for closure and affect the relative effects of recruitment techniques on the racial and gender composition of jobs.
Another limitation of the study concerns the recruitment measures. First, there are no measures of head-hunter firms. Marsden and Campbell (1990) label these organizations as formal recruiting structures because they act as a formal intermediary between employers and potential employees. However, I question to what extent these structures should be considered formal recruitment methods. My personal experience reveals that agents in these firms use personal market networks to locate potential new employees for hiring firms. Moreover, my understanding of head-hunter organizations is that they attempt to hire agents with a wide range of contacts in a particular field, so that the firm may take advantage of agent's networks when providing a service. Unfortunately, the MEWS survey does not contain a question pertaining to head-hunter firms. I argue in earlier chapters that some of the effects of head-hunter firms may be attributable to the question concerning employment agencies. I propose that a survey of headhunting firms and their recruitment practices would be useful to further understand the structure of labor markets.

Another important recruiting measure limitation is the failure of the MEWS to distinguish between public and private employment agencies. There is considerable variation in the types of jobs posted at these agencies. This may explain the lack of strong effects for employment
agencies in the analysis. In addition, it may explain why the study fails to show support for Campbell and Rosenfeld's hypothesis that recruitment through employment agencies has a positive effect on the percent female employed in a job.

While this dissertation focuses on issues of recruitment, there are other equally important components of the job match that must be considered, especially applicant screening. It is of great interest to scholars of inequality how employers screen applicants, and which characteristics they use to eliminate applicants (Bills, 1992). Unfortunately, gathering cross-sectional, representative data on screening practices is not practical. As Bills (1992) admits, it is not likely that social scientists are going to be allowed to tape or participate in the interviewing or screening process. However, these are still important dimensions that need to be acknowledged in any study that investigates employer hiring practices.

Screening applicants is one area where Bourdieu's theory of cultural capital has exciting possibilities. Bourdieu (1984) maintains that employers subconsciously screen applicants based on the cultural background that they reveal during the interview process. Applicants who reveal a social background inconsistent with the cultural capital associated with the job will not be hired. The
relationship between recruitment and social class is addressed by Bourdieu. He maintains that class also imparts social connections which are useful in acquiring jobs and advancing one's career.

I think that the connection between class and recruitment is most salient at the entry level. New labor force participants may use family connections to acquire entry level positions. Those from the working and lower classes probably lack such connections, and consequently learn of entry level positions through formal channels. I believe that this is an area where further research is needed. Additionally, placement offices at universities may be possible data sources.

A final issue concerns the size of establishments in my sample. The average establishment size is 601 employees. Establishments with 25 or less employees are exempt from EEOC hiring guidelines. Such establishments constitute less than 15% of my sample. Therefore, I expect that the effects of recruitment and other hiring procedures on occupational segregation and other forms of labor market inequality are greater in labor markets characterized by smaller establishments (25 or less employees).

Policy Implications

Having noted these limitations, the policy implications of my analysis are clear. Extending the
requirement to publish all vacancies to all firms and full enforcement of these orders by EEOC would reduce gender and racial segregation, and create greater employment opportunities for females and blacks. One possible way of encouraging firms to recruit formally might be to extend tax breaks to defer recruiting and screening costs, since these are the often cited reasons why firms recruit informally (Marsden and Campbell, 1990). This would increase the visibility of opportunities in the labor market, and decrease occupational segregation. This, in turn, would help to reduce wage gaps, and subsequent social problems.

Research Agenda

I have several studies planned for the future. First, the structural efficiency argument needs to be better clarified. I will do this by examining the relationship among gender of market contact and gender composition of job acquired. The basic question is whether or not males and females use same gender social contacts when searching for jobs, and if so, do these contacts lead to gender-specific jobs? I will address this question using the employee search file from the MEWS.

A second study concerns how "inappropriate" individuals are recruited into certain jobs. In particular, I am interested in whether or not black
females are recruited into white male jobs through informal contacts, or through formal channels, or both. Firms are under pressure to hire minorities for certain positions. DiMaggio and Powell (1990) argue that professionals recruit members informally in order to socialize them and to make sure that the recruited individual will conform to the norms of the occupation. When hiring someone outside of the normative boundaries of an occupation, organizations may recruit informally to highly screen the applicants. I will test this idea using the MEWS employee search data.

Another topic in need of investigation is the interaction effect of establishment size on the recruitment/percent black relationship. Larger organizations are more formal in their hiring procedures. In addition, they are more likely to come under pressure form EEOC and political groups to hire and promote minorities. Both of these factors improve the employment relationship for blacks (Tomaskovic-Devey, 1993a). Therefore, the relationship between recruitment and percent black needs to be estimated for different establishment sizes.
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VITA

Frederick Carson Mencken, III was born in Charleston, South Carolina on April 25, 1964. He is married to Kimberly D. Dinjar-Mencken. He is the son of Mrs. Fran E. Fisher of Charleston, and Frederick C. Mencken, Jr. of Prosperity, South Carolina. He is also the step-son of Mr. Michael E. Fisher of Charleston. He attended Charleston County public schools, and graduated from Middleton High School in June, 1982. He graduated summa cum laude from the College of Charleston in May, 1987, with a B.S. degree in sociology.

Mencken began his graduate training at Louisiana State University in August, 1987. He has worked on several United States Department of Agriculture projects with Joachim Singelmann and Andy Deseran. He received a M.A. degree in sociology in December, 1989. He has several professional publications in the areas of work and organizations and labor markets. His dissertation addresses the effects of employer recruitment practices on the racial and gender composition of jobs. He is currently employed as a research associate with Wayne J. Villemez and Jack Beggs. He has accepted an offer to join the faculty of the Department of Sociology and Anthropology at West Virginia University in August, 1994.
DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: Frederick C. Mencken

Major Field: Sociology

Title of Dissertation: Employer Recruitment and Job Matching Theories: The Effects of Informal Recruiting Practices on Racial and Gender Job Composition

Approved:

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

Date of Examination:

March 14, 1993