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New Ideas for Improving Public Administration

Dynamics of Sector Switching: Hazard Models Predicting Changes from Private Sector Jobs to Public and Nonprofit Sector Jobs

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Policy makers and public managers emphasize the importance of bringing private sector experience and skills into the public and nonprofit sectors. One result is an increased focus on privatization and contracting out, developments to which researchers have been attentive. However, the long-standing practice of hiring people with industrial experience into the public and nonprofit sectors has received remarkably little attention. This study, based on questionnaire responses from mid- and upper-level personnel in public and nonprofit sector organizations, attempts to understand the dynamics of sector switching from the private into either the public or nonprofit sector. Using event history analysis, the article looks at switching patterns. The probability of switching into the public sector is much higher for those who held a managerial occupation in their previous private sector job than for those who held professional and technical positions. Having more subordinates in a previous private sector job is associated with a lower likelihood of switching into a public sector job. By contrast, switching into the nonprofit sector is more often associated with a promotion.

The need to import private sector experience and skills into the public sector is widely recognized (Light 1999); the issue is choosing the most effective means of doing so. Some researchers focus on the strategy of privatization and contracting (Hefetz and Warner 2004; Vickers and Yarrow 1991). Others focus on public–private partnerships (Rosenau 2000). Only recently have scholars begun to give attention to government and nonprofit organizations' ability to attract workers from the private sector (Bozeman and Ponomariov 2009; De Graaf and Van der Wal 2008). Little is known about the dynamics of sector switching behavior or the characteristics of these "sector switchers."

Sector switching gains more significance when we consider the aging workforce. About half of the federal workforce is eligible to retire by 2010, including nearly 70 percent of senior managers (Partnership for Public Service 2005); the state and local public workforce is not far behind. The looming public sector workforce issues have not received great attention in public administration research, but have been a more common focus among labor economists (Bender 2003; Christofides and Pashardes 2002; Dustmann and Van Soest 1998; Lokshin and Jovanovic 2003; Ophem 1993).

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The purpose of this study is to shed light on the dynamics of sector switching from the private sector into either the public or the nonprofit sector. We seek to understand (1) switching patterns regarding different occupational categories, (2) the incentives associated with sector switching, and (3) the differences between switching into the public or the nonprofit sector. An innovation of this study, at least in the public administration research literature, is the application of hazard models and event history analysis to public sector workforce issues.

Job Mobility and Relevant Studies

Regardless of job type, demographic characteristics, and job tenure, workers switch jobs with some frequency. Researchers, especially economists, have given considerable attention to the effects of labor markets on job switches (Jovanovic 1979; Miller 1984; Viscusi 1980). The literature suggests that the characteristics of job offers can be ascertained either by job searching (Mortensen 1986) or by trying out jobs if uncertainty still prevails (Johnson 1978). Undoubtedly, job seeking entails many constraints, among which occupational and institutional constraints attract special attention.

Economists have long been interested in how different labor market structures affect job mobility (Averitt 1968; Doeringer and Piore 1971; Piore 1975; Rosenfeld 1992). Recognizing the segmentation within labor markets, scholars have proposed several theories to explain why members of different occupations experience particular patterns of mobility and career advancement;[1] among them, internal labor market (ILM) theory has been widely used. ILMs are groups of jobs with three basic structural features: "(1) a job ladder, with (2) entry only at the bottom, and (3) movement up this ladder, which is associated with a progressive development of knowledge and skill" (Althauser and Kalleberg 1981, 130).

Research shows that ILMs are structured along occupational lines (Smith 1983; Spilerman and Miller 1977; see also Althauser and Kalleberg 1981; Doeringer and Piore 1971). Occupations affect opportunities for career mobility, advancement, and other potential rewards, which further characterize diverse career trajectories. Because ILMs are systems of jobs, the mobility within a system is no longer conceptualized as a series of independent events. Related to ILM models is a refinement that is referred to as vacancy-chain theory (Contini and Revelli 1997; Rosenfeld 1992; White 1970). Two assumptions are central—that mobility is a function of available positions and that the emptying and filling of positions are closely related to one another (Rosenfeld 1992). One person moving out of the system leaves an opening to be filled, and as another person leaves his or her job to fill that position, the chain of vacancies continues until someone enters the system to take the job at the end of the chain (or the job is destroyed). Studies using ILM theory have not focused specifically on the costs of and barriers to switching between the private and public or nonprofit sector. Possibly, the switching barriers and the costs and benefits entailed in moving from the private to the public or nonprofit sector are particularly stark, inasmuch as the institutional settings themselves are quite different, as are the factors governing labor markets.

Since the mid-1970s, the public sector in the United States (and many Western nations) has undertaken dramatic reforms, some of which have altered public employment's comparative advantages vis-à-vis the private and nonprofit sectors. Nevertheless, the public sector continues to differ from the private and nonprofit sectors (see, e.g., Nutt 1999; Rainey and Bozeman 2000).

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Pay, while sometimes overestimated as an occupational value (Dixit 2002; Wittmer 1991), almost always plays a significant role in job attractiveness and job choice (Jurgensen 1978; Rynes, Schwab, and Heneman 1983). Public sector workers in general have been shown to earn less than their private sector peers (Dustmann and Van Soest 1998; Ophem 1993; Savas 2000), at least after one controls for education, tenure, and skill level. Research further indicates that at the state and local levels, highly educated workers, who more often than not are managerial and professional, are paid less than their private sector counterparts, while those with at most a high school education earn a public sector premium (Poterba and Rueben 1994). However, the public sector usually provides relatively generous pensions, health plans, and fringe benefits.

Job security is, typically, another comparative advantage of public sector work. Traditionally, the civil service emphasized employment security as a means of protecting bureaucrats from reckless political manipulation.[2] Public employees cite job security as one of the most important reasons to work in the public sector (Lewis and Frank 2002). To some extent, the greater public sector job security is attributable to unionization rates (36.2 percent for all government workers and 7.4 percent for all industry workers in the United States; see Bureau of Labor Statistics 2007), but in every sector, unionization rates are miniscule in management and professional occupations. In part because union affiliation has little bearing in managerial and professional occupations, it seems reasonable to expect that distinctive characteristics of sectors may strongly affect job selection among managerial and professional employees, including not only their entry choices but also their sector switching choices.

In addition to both occupational and institutional constraints, social ecology plays an important part in affecting the switching patterns. Noticeable is the recent trend toward increasing percentages of women and minorities (excepting Latinos) in the workforces of every sector, and particularly the public sector (Llorens, Wenger, and Kellough 2008). This change not only expands the candidate pool for hiring sectors, but also may generate varied switching patterns because of differential preferences and working environments. Affirmative action, targeted at women and minority groups, has been especially influential in the public sector. The public sector, combining security and benefits with affirmative action, would have a distinctive appeal to potential job switchers.

In sum, job switching is the product of multiple and conflicting factors (for an overview, see Akerlof, Rose, and Yellen 1988). Opportunities and constraints presented by occupations, institutions, and social ecology interact in complicated ways. Switching patterns may well be expected to interact with the distinctive attributes of the public, private, and nonprofit sectors.

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Hypotheses

Occupational Structure

Studies indicate that job changing depends to a considerable extent on features of occupations (Kaufman and Spilerman 1982; Pendakur et al. 2000, 4). King, Burke, and Pemberton studied curricula vitae–based data in examining job mobility and concluded that "careers are bounded by prior career history, occupational identity and by institutional constraints imposed by 'gatekeepers' to job opportunities" (2005, 981).

While increased job mobility is a generalized phenomenon, particularly in the United States, the trends are especially pronounced among professionals (Cheng and Kalleberg 1996). Similarly high rates of mobility have been found in Japan, among professionals and managers and in both the public and private sectors (Beck and Beck 1994). Pendakur and his colleagues' (2000) study of the Canadian federal service found that those who were in executive, staff, and foreign-based occupations had an especially high rate of job change.

Indeed, there seems to be some consensus, in studies set in various industrialized nations, that managerial and professional occupations have higher job change rates than do other broad occupational categories.

Our first set of hypotheses considers four standard categories of occupations, and we develop hypotheses about their propensities to switch from the private sector to either the public or the nonprofit sector.[3] It is well recognized that when people switch across sector lines, occupational trends and preferences have to be reconciled with institutional constraints (Bozeman and Ponomariov 2009); however, only limited research results are available concerning institutional constraints on job switching. Despite the blurring lines demarcating the public sector from nonprofit organizations, scholarship on "publicness" theory (Bozeman 1987) suggests that, in general, the public sector is subject to relatively more political authority and less economic authority than the nonprofit sector. Typically, the public sector is characterized by well-elaborated job classifications and institutionalized occupational structures (Kettl 1996), which perhaps present barriers for those wishing to switch into the public sector. These barriers are possibly greater for managers and professionals. Alternatively, blue-collar or service-oriented workers, though confronted with limited mobility opportunity, usually earn a public sector premium (especially if one considers not only pay but benefits) compared to their counterparts in the private and nonprofit sectors.

Comparatively, the nonprofit sector tends to present a more flexible and less formalized occupational structure, which arguably reduces the barriers for job candidates. In addition, the high concentration of labor-intensive services accommodates a wide variety of job positions (Independent Sector 2002), among which the prominence of professional employees attracts special attention. In 2001, slightly more than 20 percent of nonprofit employees were engaged in education or research (Independent sector 2002). Studies suggest that the nonprofit sector is different from other sectors because of its heavy clusters of professional occupations and high level of education of its employees (Johnson and Rudney 1987; Mirvis and Hackett 1983).

Little research provides any insight as to whether the opportunities embedded into occupational structures overwhelm the potential advantages and disadvantages presented by the respective sectors. Considering known comparative employment advantages among the sectors, we hypothesize that switching out of the private sector will be more attractive to certain job categories than others, contingent on the designated sector into which people switch.

> **H_1:** The likelihood of switching from the private sector into the public sector differs from that of switching into the nonprofit sector among occupational ranks. Managerial and professional occupations entail less likelihood of switching from the private sector into the public sector, compared with technical occupations and the "other" job type. However, professionals are more likely to switch into nonprofit organizations.

Switching Incentives

One of the most consistent findings on job mobility is that job changes tend to be strongly related to increased rewards, at least as compared to staying in the same job and awaiting promotion and salary rewards (Borjas 1978; Hannan, Schomann, and Blossfeld 1990; Sorensen 1974). Some explain public sector employees' incentives in terms of wage growth (Van der Gaag and Vijverberg 1988), while others (e.g., Downs 1967; Niskanen 1971) focus on efforts to enhance political power in the organization.

Public administration scholars argue that those who select into public sector pay more attention to job security (Lewis and Frank 2002), fringe benefits, and opportunities to have an impact on broad public affairs (Perry 1996), lessening the relative importance of pecuniary income and position as job selection factors. Regardless of whether one comes to the public sector for wages, better benefits, enhanced positions in hierarchies, or power, each of these incentives can be folded into the quest for a promotion. In government, position, power, and wage tend to be closely associated. Thus, we hypothesize,

> **H_2:** The likelihood of switching from the private sector into the public sector is higher for those who gain a promotion than for those who do not.

In the nonprofit sector, where so much depends on the attraction of the work itself, incentives are especially complex. Some observers suggest that nonprofit workers are intrinsically motivated by organizations' missions and by the significance of the job per se (Devaro and Brookshire 2007). They typically do not enjoy the security of tenure, as in the public sector, and have lower pay than would be expected for the same job in the private sector (Handy and Katz 1998). There is a concern that promotion as an incentive may crowd out the intrinsic interest people show in their jobs (Devaro and Brookshire 2007; Goulet and Frank 2002). However, recent studies indicate that promotion in the nonprofit sector is more a way of job matching rather than a strong incentive (Devaro and Brookshire 2007). According to Baker, Jensen, and Murphy, "Individuals differ in their skills and abilities, jobs differ in the demands they place on individuals, and promotions are a way to match individuals to jobs for which they're best suited" (1988, 11). Absent the public sector's security and the private sector's higher wages, promotion may be especially important to nonprofit employees, both in terms of expanded responsibility and as a signal of success. We hypothesize,

> **H_3:** The likelihood of switching from the private sector into the nonprofit sector is significantly higher for those who obtain a promotion than for those who do not.

Wage differentials between the private and public sectors have been pronounced, and pay gaps continue to widen (Kettl 1996; Lewis 1991). Research also points out that "there is no for-profit/nonprofit wage differential at the economy-wide level, but that a differential does occur within some particular industries, with for-profits perhaps having the advantage more often than nonprofits" (Devaro and Brookshire 2007, 325). Thus, those in the private sector develop a sunk cost in their current positions and wages, and the sunk costs increase as they progress in status and responsibility. It seems reasonable to assume that people in the private sector who already supervise a large number of employees would be less attracted to the public or nonprofit sector. We hypothesize,

H_4: The likelihood of switching from the private sector into the public or the nonprofit sector is lower for those with more employees supervised in the private sector than for those with fewer or no employees supervised.

Demographic Characteristics

Predominantly male occupations typically offer higher rewards and greater promotion opportunities than predominantly female occupations (Wolf and Rosenfeld 1978). According to Pendakur and colleagues, "Women are heavily clustered around traditional clerical jobs . . . and white men aligned with executive, operational and technical occupations" (2000, 6). Women are also found in much higher proportions in both government (Lewis and Frank 2002) and in nonprofit organizations (Johnson and Rudney 1987). Examining the racial composition in nonprofit organizations, black women constitute nearly three-fourths of black workers in nonprofit services, in contrast to less than half of black workers in the labor force as a whole (Johnson and Rudney 1987).

The limited career opportunities for women and minorities may not be compensated by policy actions such as affirmative action. The high concentration of both groups may reflect the relative advantages associated with the public and nonprofit sectors. We hypothesize,

H_5: Female and minority status has a positive effect on the likelihood of switching from the private sector into either the public or the nonprofit sector.

Age is highly collinear with work experience and the number of job separations and, for this reason, is difficult to examine in relation to sector switching. However, there is a possibility that being younger implies a higher likelihood of job mobility, while being older results in either reduced opportunities or, because of stability, a diminished interest in pursuing new opportunities. Halaby's (1982) analysis of managers in a California utilities firm shows that those who came to the firm at an older age had lower rates of job shift. The "fast track" is closely associated with younger people. This benefit may motivate people to switch into the public sector early and then stay on a public sector career ladder. It is unknown whether the nonprofit sector demonstrates the same pattern. Because occupational structures are more formal and well regulated in the public sector relative to the nonprofit sector, we speculate that the benefits of switching into the public sector fast track may be more attractive than switching into the nonprofit sector. In contrast, the flexible structure associated with the nonprofit sector may be more attractive to older people. Older employees may have less need for certain types of benefits (e.g., family leave) and may be more concerned about the work content than about clear-cut career ladders and obvious advancement paths. We hypothesize,

H_6: The likelihood of switching from the private sector into the public sector is higher for those who switched jobs immediately after their first job, as opposed to those who switched from second or third jobs.

H_7: The likelihood of sector switching for older people is the same as that of younger people in the public sector; however, the likelihood is higher for older than for younger people in nonprofit organizations.

Data and Methods

Data

We employ data from the third phase of the National Administrative Studies Project (NASP-III). The NASP-III survey was administered to 1,849 public managers and 1,307 nonprofit managers in Georgia and Illinois. The study closed in January 2006 with 1,220 respondents (791 from the public sector, 429 from the nonprofit sector). The overall response rate was 39 percent (43 percent for the public sector sample and 33 percent for the nonprofit sector sample). In the interest of space, we do not provide additional information about that by now familiar data set, but extensive information is available elsewhere (see Bozeman and Ponomariov 2009).

Variables

Study variables are constructed from the NASP-III questionnaire items presented in the appendix. One particular aspect of the data is noteworthy. In addition to the demographic, attitudinal, and motivational questions in the questionnaire, we also asked respondents to provide information about their recent jobs (four jobs, including the current one) and their career history. The questions about past jobs included start and end dates, number of employees supervised, type of job (managerial, professional, technical, or other), and type of organization (public, private, or nonprofit). For more information about the specification of these employment variables, see Bozeman and Ponomariov (2009).

Of course, gathering data on individuals' full employment history would be ideal; however, doing so in a questionnaire format would be infeasible. There is good reason to believe that our focus on a maximum of four jobs is sufficient. In a study that in some respects parallels ours, Pendakur and colleagues (2000) examined the job histories of employees in the Canadian federal service. Their study indicated that nearly 65 percent of this population had a least one job change during their career, but very few (less than 7 percent) had four or more.

Hazard Models and Event History Analysis

An especially thorny methodological difficulty must be confronted by a study such as this. Given that employees in the private sector are able to switch into either the public or the nonprofit sector at any time, we have to account for both timing and switching destinations simultaneously. Fortunately, event history analysis is well suited to this problem. It validly models both the occurrence and the duration of events (Box-Steffensmeier and Jones 2004). Beyond one-way transition models, event history analysis is able to account for the different kinds of events that could occur. The competing risks models are deployed in this study, as each observation was given two alternative "risks": to switch into the public sector or into the nonprofit sector. They also have an advantage of allowing for different covariates for different events. The timing data are incorporated into the model, which pays attention to truncated job histories.

We employ Cox regression to identify the most important determinants of sector switching behavior. In applying Cox regression, the relationship between the *risk* of a sector switch event and its individual and structural determinants is approximated in a linear fashion by the following multivariate model:

$$\mathrm{h}\ (t/x,\ k) = h_0(t)\ \exp(B_1X_1 + B_2X_2 + \cdots + BpXp),$$

where $h(t)$ is the hazard rate of sector switching in time t; $h_0(t)$ represents the baseline hazard function when covariates are set to zero; X is the effect of weighted combinations of selected covariates; and K denotes the type of event (one is switching into the public sector, the other is switching into the nonprofit sector).

Imputation

Our study looks only at those who switch from the private sector into either the public or the nonprofit sector and then stay there. We do not examine those who switch back and forth multiple times among different sectors.[4] Botticini and Eckstein (2006) suggest that occupations are path dependent. The human capital as well as asset specificity embedded in a specific occupation encourages people to stay on the same track and provides disincentives for them to switch occupations (Riordan and Williamson 1985). Based on this, we create an index specifying the possibility of holding one particular occupation and then impute with the missing variables on individual occupations. Nineteen observations are missing regarding the time occurrence of sector switching. Because switch timing is effectively randomly distributed, we use the mean time of the entire sample to impute these 19 observations. Theoretically, the imputation does not change the behavioral pattern significantly, and any change that is observed suppresses variance (and thus is conservative).

Estimation and Interpretation

In a conventional sense, the sample size is 299, among whom 218 people switched from the private sector into the public sector, and 81 people switched from the private sector into the nonprofit sector. More important in terms of the methods used, there are 11,437 years "at risk" in both models. Tests suggest that proportional hazards assumptions hold in both models.[5] Cox regression, unlike those parametric models specifying particular forms for duration dependency, leaves duration dependency unspecified and obtains estimates of the covariates of interest (Box-Steffensmeier and Jones 2004). In the following discussion, we rely on the hazard ratio for interpretation.

Table 1 presents all of the estimates for both models. For people switching out of the private sector, it makes a difference which sector they switch into. The hypothesized switching patterns (hypothesis 1) in both sectors are not supported, indicating the complexity of the interplay between occupational structure and institutional constraints. Using the professional group as a reference, we find that managerial, technical, and "other" occupational categories all have higher hazard rates for the switch from the private into the public sector. Professionals are least likely to leave the private sector for the public sector. The odds of managerial occupations switching into the public sector are 97 percent higher, while the odds of technical occupations switching into the public sector are 56 percent higher than that of professionals. One interesting finding is that the "other" category is most likely to switch into the public sector, and the odds for that are 122 percent higher than for professionals.

A different sequence is exhibited for the switch from the private sector into the nonprofit sector. While managerial (49 percent) and technical occupations (82 percent) have higher odds of switching into the nonprofit sector, the odds for the "other" category (nearly 70 percent are sales or clerical positions) are not significantly different from that of professionals. In addition, the odds for the technical occupation category are higher than that for the managerial category. It seems that the nonprofit sector is especially alluring for private sector technical workers, compared to professionals. The comparison between models shows the differences. People in the "other" category are most likely to go to the public sector, but not the nonprofit sector. Technical workers are most likely to switch from the private sector into the nonprofit sector, and more likely (than other categories) to switch into the public sector. Although managerial status means higher odds of switching into both sectors, the relative importance varies across sectors. The odds for a public sector switch are about 97 percent higher, in contrast to the odds of 49 percent higher for professionals' switch to the nonprofit sector.

The second hypothesis, that job promotion corresponds to a higher propensity to switch into the public sector, is not supported. However, the case for the nonprofit sector is different. The odds of switching into the nonprofit sector are 68 percent higher for those being promoted than for those who are not; therefore, hypothesis 4 receives some support.

Table 1 Cox Models on Switching in the Public and Nonprofit Sectors

	Switching into Public Sector		Switching into Nonprofit Sector	
Variables	Hazard Ratio	SE	Hazard Ratio	SE
Technical	1.56	.35**	1.82	.31***
Other type	2.22	.43***	1.34	.31
Managerial	1.97	.30***	1.49	.13***
First job move	2.52	.47***	1.18	.67
Upward move	.89	.12	1.68	.42**
Male	1.17	.18	.81	.22
Education	1.07	.07	1.13	.13
Minority	.84	.09	.75	.19
Employees supervised	.99	.00**	.99	.00
Georgia	.93	.13	.67	.18
Younger generation	.78	.12	.64	.99
Elder generation	1.4	.34	2.47	.11**
Wald Chi^2	**81.80*** **		**84.47 *** **	

*** $p \leq .000$ ** $p \leq .05$.
Observations: 299. Time at risk: 11,437.80 years.

Those who had a large number of subordinates are less likely to switch from the private sector into the public sector. The effects are quite modest. The odds for those with more employees supervised are only 1 percent lower than those with fewer employees. Having more employees supervised (in a previous private sector job) does not affect the odds of switching into the nonprofit sector. In both models, gender, race, and education have no effect on the odds of sector switching. Though it was argued that "educational level is probably the most important feature differentiating them [nonprofit workers] from the labor force as a whole" (Johnson and Rudney 1987, 30), it is not reflected here. Educational attainment is not one of the important factors shaping public sector switching, nor does it contribute significantly to the propensity to switch into the nonprofit sector. The models show no differences between Georgia and Illinois.

Workers whose first job was in the private sector show much higher hazard rates of switching into the public sector, thus confirming hypothesis 6. The odds are 152 percent higher than those who experienced job changes before. Does this reflect the strategy of a fast-track move into the public sector? We cannot be sure. It may simply reflect the fact that the first private sector job entailed limited responsibility and reward, and thus less attractiveness. However, the first job move is not a factor with respect to the nonprofit sector.

There are no obvious cohort effects regarding the odds of switching into the public sector. Lewis and Frank (2002) examined U.S. federal service data in 1989 and 1998, claiming that younger people (born after 1960) were less likely both to want and to have government jobs. Focusing on the same generation, we found no significant differences between our younger group (born after 1960) and the elder generations as far as their odds of switching into the public sector. The cohort effect appears in the switch to the nonprofit sector. Compared to those born between 1940 and 1960, those born before 1940 exhibit a higher likelihood of switching into nonprofit organizations.

Discussion

Ours is a limited effort to uncover the underlying mechanisms associated with sector switching. Despite limitations, the findings seem to have some implications for public management and policy. We find that different occupational structures offer different incentives to switch into the public or the nonprofit sector. People in the "other" occupational category (diverse but dominated by sales and retail jobs) are most willing to switch into the public sector,[6] followed by those in managerial occupations. By contrast, technical talents, followed by managerial personnel, are most likely to switch into the nonprofit sector.

Professional employees are least likely to switch out of the private sector into either the public or the nonprofit sector. According to Freidson (1984), professionals place greater emphasis on autonomy. Nevertheless, to some extent, the nonprofit sector has been characterized by high concentration in professional occupations (Johnson and Rudney 1987) and enjoys a different, and generally better, image than the public sector. It is not clear why professionals are not particularly attracted to the nonprofit sector. Perhaps network ties and social capital are not as portable for professionals? Research suggests the opposite (Hitt et al. 2001). Job promotion does not significantly affect individuals' propensities to switch into the public sector, while it plays a significant role in switching into the nonprofit sector. The public sector seems to have some positive incentives that are able to draw people away from the private sector. These may include possible social impact, fringe benefits and security, intrinsic motivation, or some combination of these. For the nonprofit sector, however, promotion as a way of job matching may screen out the most suitable candidates for positions and reinforce the intrinsic motivation they have for their jobs. As Baker, Jensen, and Murphy (1988) suggest, promotion cannot achieve both functions of serving as an incentive and doing job matching simultaneously; our results show that the nonprofit sector treats promotion as supplementary to intrinsic reward rather than the reverse.

Those whose first job was in the private sector are more likely to switch into the public sector, but they are not more likely to switch into the nonprofit sector. This may facilitate public recruitment to counter the aging of the sector's workforce. However, caution is warranted in that we focus only on those who made switches and stayed there (until the time survey was implemented).[7] Though young people are not attracted to switch to the nonprofit sector, older workers show a higher likelihood of switching into the nonprofit sector. Individual characteristics such as gender and race show no sector differences in terms of switching from the private sector.[8]

Though the state of Georgia has been actively pursuing civil service reform, which arguably reduces the attractiveness of public employment, the differences in human resource management between states are not reflected in the switching patterns. Among many possibilities, one speculation is that the differences are largely outweighed by the differences among sectors. The public sector, even after numerous reforms aimed at making it more businesslike, still retains a good deal of distinctiveness compared to the nonprofit and private sectors. It is also possible that observers have miscalculated motives or, possibly, knowledge bases of entering government employees.

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In sum, this study suggests that an understanding of sector switching is one of the missing ingredients in theories of job mobility and recruitment and that this knowledge may prove important in developing human resource strategies. The findings presented here only scratch the surface of this complicated phenomenon. There are many other factors worth investigating, but perhaps an especially fruitful approach for event history–based studies would be to make greater use of history. It should be possible, especially with a more extensive sample, to examine, at least indirectly, the influence of structural changes in personnel systems (e.g., civil service reform, changes in affirmative action legislation) by relating cohort changes to discrete historical changes.

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Notes
1. The diversity of theoretical paradigms is presented as primary-secondary labor markets (Piore 1975), core and peripheral firms (Averitt 1968), and internal-external labor markets (Doeringer and Piore 1971).
2. For states adopting at-will civil service reforms, such as Georgia, Florida, and Texas, the traditional civil service systems have been abandoned, and employees serve on an at-will basis. The advantage of job security associated with public employment has been lost, which poses a big challenge for human resource practices in these states.
3. The four standard categories of occupations refer to the following: managerial, professional, technical, and other. The questionnaire elicits information by asking respondents to check one of four as their main responsibility.
4. We are not ruling out the possibility of an individual switching back and forth multiple times across multiple sectors; however, the interest of this study is to examine the patterns of people switching out of private sector into either the public or the nonprofit sector, given the looming labor shortage in both sectors. In addition, by examining the data set, fewer than 30 people in the sample had switched among multiple sectors multiple times. They did not show any universal patterns regarding their switching behaviors and motivations.
5. One of the assumptions of Cox regression is that the hazard function for any given group is proportionally related to the comparison group. We tested for proportional hazards both graphically and through the examination of partial residuals of the model correlated with each covariant.
6. The value of attracting into the public sector employees from the "other" category is not altogether clear. We feel this deserves further study.
7. As mentioned in the literature on event history analysis, the major advantage of event history data is to "provide the most complete data possible on changes in qualitative variables that may occur at any point in time" (Blossfeld and Rohwer 2002). Nevertheless, some limitations must be acknowledged. The data are retrospective in the sense that managers were asked to report their job histories. It is possible that this led to some problems of recall (but perhaps not a strong likelihood, as a major factor in recall is the salience of the event). Research on the accuracy of retrospective data also suggests that individuals' employment history can be collected to a reasonable degree of accuracy (Dex 1991). While there was some difficulty associated with asking about job histories, there was no evidence of fatigue bias. Response tests showed no significant differences between respondents and those who did not provide job history data.
8. A more important limitation is that retrospective studies must be based on survivors. Those who drop out in the middle are omitted. We find that, in this sample, gender and race do not affect the hazard rates of switching into both public and nonprofit sectors; however, it is unknown whether gender and race were selection factors regarding occupational ladders.

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Appendix: Construction of Variables

Variables	Description
Public sector	Dummy. 1 implies having a job in public (government); 0 otherwise.
Nonprofit sector	Dummy. 1 implies having a job in nonprofit organization; 0 otherwise.
Private sector	Dummy. 1 implies having a job in private company; 0 otherwise.
Managerial	Dummy. 1 implies the main job responsibility being managerial; 0 otherwise.
Professional	Dummy. 1 implies the main job responsibility being professional (e.g. legal, accounting); 0 otherwise.
Technical	Dummy. 1 implies the main job responsibility being technical; 0 otherwise.
Other type	Dummy. 1 implies the main job responsibility being other; 0 otherwise.
Upward move	Dummy. 1 implies that this job was a promotion/upward-move from within or different organizations; 0 otherwise.
Lateral move	Dummy. 1 implies that this job was a lateral move from within or different organizations; 0 otherwise.
First job move	Dummy. 1 implies that this job was your first job; 0 otherwise.
Male	Dummy. 1 implies male, 0 female.
Education	What is your highest level of formal education?
Minority	What is your racial identification?
Employees supervised	Numbers of supervised, if any?
State	Dummy. 1 refers to Georgia; 0 Illinois
Younger generation	Dummy. 1 implies being born after 1960; 0 otherwise.
Elder generation	Dummy. 1 implies being born before 1940; 0 otherwise.