The Importance of Competitive Wage Rates: Uncovering the Impact of Relative Wage Rates on Employee Turnover

Abstract

In recent years, public management research has made great strides in uncovering the determinants of employee turnover in the public sector, with key findings related to the role of employee loyalty, organizational satisfaction, person-organization fit, and compensation. This paper contributes to this growing body of literature by assessing the influence of two previously untested drivers of employee turnover at the state level of government – public-private wage equity and state government wage and salary disbursements per capita. Contrary to conventional wisdom and prior research, results suggest that public-private wage equity does not significantly influence voluntary separation rates, while state government wage disbursements per capita and the average age of state government employees are found to be indirectly related to voluntary separation rates. As discussed in the paper, these results provide key insights for those seeking to further understand the impact of reduced expenditures on public sector wages and salaries and the potential impact of shifting age distributions in public sector employment.

Jared J. Llorens
Assistant Professor
Louisiana State University
Public Administration Institute
3200 Patrick F. Taylor Hall
Baton Rouge, Louisiana 70803
Phone: 225-578-0936
Fax: 225-578-9078
E-Mail: jared1@lsu.edu

Edmund C. Stazyk
Assistant Professor
American University
Department of Public Administration & Policy
4400 Massachusetts Avenue, NW
Washington, DC 20016
Phone: 202-885-6362
Fax: 202-885-2347
E-Mail: stazyk@american.edu

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Introduction

In recent years, public management scholarship has devoted a great deal of effort toward explaining the drivers and extent of turnover in the public sector. At its heart, turnover is a topic of great concern for public managers, since excessive turnover rates hold the potential to substantially limit organizational productivity. This concern for the potentially harmful effects of excessive turnover is further heightened when viewed in light of the relatively lengthy and complex hiring processes of most public sector organizations, as well as the unique qualifications required of many public sector occupations. While private sector organizations generally operate at a competitive advantage in terms of the ability to hire new candidates quickly and 'on the spot,' public organizations and their managers routinely face hiring cycles of three months or greater.

This paper contributes to the growing literature on public employee turnover by testing an explanatory model of turnover which includes two previously untested variables related to public sector compensation: public-private wage equity and state government wage and salary disbursements per capita. Prior research has found compensation to be a significant determinant of public employee turnover (Selden and Moynihan 2000; Lee and Whitford 2008), but has yet to explore the distinct role that relative wage rates play in the turnover process. Specifically, while overall compensation may impact turnover, we seek to assess the unique role of public sector wage rates, when compared to those offered in the private sector, on employee turnover. Conventional wisdom in the field of public sector compensation has held that when public sector wage rates fall below comparable private sector wage rates, turnover in favor of private sector employment is to be expected; however, to date, this assumption has yet to be fully tested. Additionally, prior research on public sector employment has often incorporated citizen political

ideology as a measure of state attitudes toward public sector employment and compensation (Lewis and Nice 1994; Kearney 2003). This paper seeks to re-operationalize this familiar measure by testing the unique impact of state government wage and salary disbursements per capita, arguably a more concise and direct measure of a particular state's emphasis or attitude toward public sector employment. In other words, one would expect that states with more favorable views toward public employment would compensate their state employees at rates higher, on a per capita basis, than those states with less favorable views towards public employment. We begin with a review of the relevant literature on turnover, and then describe the determinants of our explanatory model of state government voluntary separation. Last, we present the results of our analysis and discuss areas for improvement, along with implications for future research.

Public Employee Turnover: An Overview

Employee turnover is a topic of immense importance to public and private sector organizations. In part, this importance reflects the tremendous costs—financial and otherwise—often associated with turnover (Staw 1980; Balfour and Neff 1993). Financially, turnover may lead to increased personnel expenses—particularly in the areas of recruitment and training (Staw 1980; Balfour and Neff 1993). However, employee turnover can also bring about a loss of organizational knowledge, history, and memory (Staw 1980; Moynihan and Pandey 2008). Scholars and practitioners have long recognized such costs may reduce overall organizational performance and often impose substantial burdens on organizations and managers (Mobley, Griffeth, Hand, and Meglino 1979; Staw 1980; Balfour and Neff 1993; Selden and Moynihan 2000; Bertelli 2007; Moynihan and Pandey 2008). Given the potential implications of these costs for organizations, a great deal of research on the causes, or drivers, of public and private

sector turnover exists. Interestingly, there is substantial overlap between the theoretical context of turnover in the public and private sectors (Moynihan and Pandey 2008) with much of the literature pointing to employee satisfaction—or, more specifically, dissatisfaction—as the primary, overarching determinant of turnover (Moynihan and Pandey 2008; Bright 2008; Lee, Gerhart, and Trevor 2008).

Employee job satisfaction is the most frequently used and single most reliable predictor of turnover (Moynihan and Pandey 2008). In this case, employees expressing high levels of job satisfaction seem to be less likely to leave their organizations. The benefits of using job satisfaction as a predictor of turnover trace, in part, to the concept's overlap with other important organizational factors typically associated with turnover, including job routineness, pay and promotion, goal and role clarity/conflict, procedural constraints, human resource management, organizational involvement, supervisory style, promotional opportunities, and employee burnout (see Moynihan and Pandey 2008, 208; Kim 2005; Rubin 2008; Bertelli 2007). Building on the apparent relationship between job satisfaction and turnover, other scholars have suggested an employee's level of job involvement (Bertelli 2007; Felps et al. 2009), intrinsic motivation (Bertelli 2007; Bright 2008), and overall organizational satisfaction (Lee and Whitford 2008; Bright 2008; Moynihan and Pandey 2008) may also provide insight into an employee's turnover decision. That said, job satisfaction alone may not adequately capture turnover or turnover intentions. For instance, research indicates other factors like organizational commitment and adequate pay may offset job satisfaction or may more directly influence turnover decisions—thereby limiting the concept's usefulness as a single predictor of turnover (e.g., Felps, Mitchell, Heckman, Lee, Holtom, and Harman 2009; Moynihan and Pandey 2008; Kim 2005; Mobley et al. 1979; Marsh and Mannari 1977; Mobley, Horner, and Hollingsworth 1978). Fortunately,

research suggests a variety of other drivers of turnover exist and that these drivers tend to fall into three distinct categories: 1) external (to the organization), environmental factors, 2) individual factors, and 3) organizational factors (e.g., Mobley et al. 1979; Selden and Moynihan 2000; Moynihan and Pandey 2008).

External, environmental factors tend to account for the role economic conditions play in shaping or driving turnover and turnover intentions (Mobley et al. 1979; Moynihan and Pandey 2008; McCabe, Feiock, Clingermayer, and Stream 2008). For instance, research has long recognized that the perceived availability and evaluation of alternative job opportunities by employees influences turnover (March and Simon 1958; Locke 1976; Price 1977; Forrest, Cummings, and Johnson 1977; Mobley et al. 1979; Cotton and Tuttle 1986; Park, Ofori-Dankwa, and Bishop 1994; Lee et al. 2008). Simply, workers employed in areas with strong, positive economic conditions and a large number of attractive job opportunities are more likely to leave their positions. These findings, on whole, provide strong evidence geographical economic variations play a powerful role in influencing turnover and turnover intentions.

In addition to environmental factors, scholars have found numerous individual factors also drive turnover decisions. Early research suggested age, tenure (or length of service with an organization), sex, race, family responsibilities, education, personality, and other personal considerations (like number of previous jobs held) often affect turnover (see e.g., Mobley et al. 1979; Selden and Moynihan 2000; Moynihan and Pandey 2008). More specifically, findings suggested those employees who were older, had longer tenure with an organization, were white males, were married, and were highly educated tended to be more likely to remain with their organizations. Later research has confirmed the relevance of many of these factors on turnover and turnover intentions (see e.g., Moynihan and Pandey 2008). However, some important

exceptions exist. For instance, recent research finds little evidence women and minorities leave organizations more frequently than white men (Moynihan and Pandey 2008; Meier, Mastracci, and Wilson 2006). Nevertheless, research clearly demonstrates individual factors may influence employee turnover and turnover intentions.

Finally, prior research also indicates organizational factors are often important predictors of voluntary turnover (Mobley et al 1979; Selden and Moynihan 2000; Moynihan and Pandey 2008). As Moynihan and Pandey (2008) point out, research in this area more accurately examines how the "interaction of individual employees and the characteristics of their organizations" drive turnover decisions (207). Consequently, organizational factors are regularly linked to issues of job satisfaction, motivation, and organizational commitment (Moynihan and Pandey 2008; Bertelli 2007). However, research in this area also tends to examine more fully the role pay and compensation, promotion, training, supervision, organizational and group culture, and human resource policies assume in shaping an employee's turnover decision (Rubin 2008; Bertelli 2007; Felps et al. 2009; Kim 2005; Mossholder, Settoon, and Henagan 2005; Moynihan and Pandey 2008).

Generally, findings suggest opportunities for advancement (Kim 2005; Selden and Moynihan 2008; Lee and Whitford 2008), supportive supervision and management (Bertelli 2007; Chang 2009) and human resource policies (Rubin 2008), and positive organizational and group cultures (Moynihan and Pandey 2008; Bertelli 2007; Felps et al. 2009; Mossholder et al. 2005) tend to decrease turnover. Results examining the role of training and turnover have been mixed (Moynihan and Pandey 2008). In some cases, training seems to promote retention (Moynihan and Pandey 2008; Curry, McCarragher, and Dellmann-Jenkins 2005); in others, the increased marketability associated with the training process may make employees more likely to

leave their organizations (Moynihan and Pandey 2008; Ito 2003). Finally, prior research has found average pay rates (Selden and Moynihan 2000) and employee satisfaction with pay (Lee and Whitford 2008; Bertelli 2007) are both significant predictors of voluntary turnover and turnover intent. Interestingly, the unique role competitive wage rates may play on voluntary employee turnover remains unexplored.[1] Consequently, this paper seeks to examine whether public sector wage rates, when compared to those offered in the private sector, impact employee turnover. Testing this unique aspect of public sector compensation will provide a more in-depth understanding of the relationship between compensation and employee turnover, a relationship that has only grown in importance in light of the current economic crisis gripping state and local governments across the United States.

Data and Methodology

Measuring Employee Turnover

As Selden and Moynihan (2000) note, employee turnover can conceptually be distinguished between voluntary and involuntary turnover where, voluntary turnover represents instances upon which employees leave an organization of their own volition and involuntary turnover represents instances where employees are "fired or laid off" (64). While involuntary turnover rates have become increasingly relevant in the current labor market, for this analysis we choose to specifically analyze the phenomenon of voluntary employee separation which is arguably influenced by factors distinctive from those impacting involuntary employee separations. In particular, we use voluntary separation rates for state government employment for 2007 that were provided by the National Association of State Personnel Executives

[1] For this analysis, competitive wage rates will refer to comparisons between state government wage rates and private sector wage rates in a given state. However, we acknowledge that to the extent that local government, federal government, and non-profit employment represent viable employment alternatives in a given state, wage rate comparisons for these sectors might also influence state government turnover.

(NASPE). In representing the state government personnel executives, NASPE regularly conducts a number of surveys on key indicators of state government personnel performance, of which state government employee turnover is a component. Table 1, below, lists voluntary separations rates for 2007.

Insert Table 1

Determinants of Employee Turnover

Public -Private Wage Equity

Prior research has found employee compensation to be a significant predictor of employee turnover in the case of state and federal government employment. However, to date, this predictor has yet to be operationalized in a manner that assesses public employee wage rates relative to those rates offered in the private sector. In many respects, it is this comparison that has functioned as the primary driver of discussions concerning public-private wage equity, with public managers at all levels of government commonly professing their inability to attract and/or retain high quality candidates due to noncompetitive wage rates (Berman, Bowman, West, and Van Wart 2006). Quite often, discussions centered on pay equity or pay comparability have taken on political tones with advocates of smaller government asserting that government employees are simply paid too much and supporters of public employment asserting that public employees are not sufficiently compensated to adequately perform their duties.

Given the sensitivity of the topic, a number of methodological approaches have been employed to estimate the extent of pay equity in the public and private sectors, and, as Miller (1996) notes, even one's choice of methodology can often be guided by ideological biases. One common, base-level, approach has been to simply compare the average salary rates of public and

private sector employees for a specific geographic region or level of government. While appealing on the basis of its conceptual conciseness, this approach has often been criticized for providing a misleading depiction of pay equity since it does not take into account the substantial variation in occupations that exist between the public and private sectors. In particular, this approach includes the entire segment of service industry employment in is evaluation of private sector pay rates, which has the effect of driving down average private sector pay rates due to the relatively low wage structure of the service industry. Since most public sector organizations have no occupational equivalent to those jobs within private sector, service industry employment, their average pay rates would appear to be relatively higher. However, when disaggregated by occupation one might find that, in fact, public sector employees experience pay rates actually lower than those offered in the private sector. For example, highly skilled occupations in medicine and the sciences are compensated at rates in the private sector labor market that simply cannot be matched by most public sector organizations.

To address this methodological shortcoming, academic research on public-private pay equity has sought to control for those factors that are commonly thought to influence public and private sector pay rates in order to provide more accurate assessments of public-private wage equity. Further, within this approach to assessing public-private wage equity, prior research has commonly employed two distinct, but related, methodologies for estimating the presence of equitable wage rates within the labor market (Darity and Mason 1998). The first method consists of estimating a wage equation with employee wage as the dependent variable and factors thought to influence wage rates as independent variables. Such factors generally include education, occupation, industry, and age. Additionally, dummy variables can be included into the wage equation to capture the impact of select characteristics on wages. In the case of research on

public-private wage equity, a dummy variable for sector of employment can be added to measure the impact of sector of employment on wages.[2]

The second common methodological approach for estimating wage equity is the Blinder-Oaxaca wage decomposition procedure (Blinder 1973; Oaxaca 1973; Darity and Mason 1998). This approach consists of estimating two separate wage equations, one for a base group and one for a comparison group. For example, when estimating male/female wage gaps, males could serve as the base group and females could serve as the comparison group. Next, a projected wage is estimated using the mean characteristics, or human capital endowments, of the comparison group and the coefficient values estimated in the wage equation for the base group. Any resulting differential in wages not attributable to differences in human capital endowments is said to be evidence of a wage differential based upon the characteristic that divides the base and comparison group.[3] The benefit of this approach is that it takes into account the differences in endowments between the two groups and allows a researcher to estimate the wage that the comparison group would expect to receive if the market valued its human capital endowments in the same manner as the base group.

For this analysis, we have chosen to utilize the Blinder-Oaxaca wage decomposition procedure to estimate disaggregated, public-private wage differentials on a state-by-state basis for year 2007. In particular, we use wage data from the U.S. Bureau of Labor Statistics' Current Population Survey (2007a). The CPS is based upon a monthly sample of the U.S. labor force, and, among a host of survey items on respondent wages and sector of employment, it also captures a number of key human capital characteristics such as education, age, and marital

[2] For recent examples of this approach, see Llorens (2008) and Llorens, Wenger, and Kellough (2008).
[3] Darity and Mason (1998) note that while this approach is more methodologically sophisticated than the prior approach, it should provide results that are comparable to those provided by the first approach.

status.[4] Using private sector employees as a base group and state government employees as a comparison group, the decomposition procedure, shown below, calls for the estimation of two separate log wage equations, where H represents the following human capital characteristics commonly thought to influence wage: age, age-squared, full-time employment status, gender, race, educational attainment, occupation, marital status, and location in a rural or urban working environment.[5]

Base Group – Private	$\ln(\text{wage}_i) = \alpha_{i\,(\text{base})} + \beta H_i + u_i$
Comparison Group – Public	$\ln(\text{wage}_i) = \alpha_{i\,(\text{comparison})} + \beta H_i + u_i$

Next, an overall wage differential is projected using estimates provided by the wage equations in Step 1. The first component of the overall wage differential is composed of the difference in the constants between the base and comparison wage regressions, $\alpha_{i\,(\text{base})} - \alpha_{i\,(\text{comparison})}$. The second component, as Blinder (1973) explains, is the "difference between how the high-wage [base] equation *would* value the characteristics of the low-wage [comparison] group and how the low-wage equation *actually values* them" (438). This portion of the wage differential is defined as $\sum_i \bar{X}_{i\,(\text{comparison})} (\beta H_{i\,\text{base}}) - \beta H_{i\,(\text{comparison})})$. These two portions are summed to obtain an overall wage differential between public and private sector employment which is expressed as a percentage difference. For ease of interpretation, we transform this differential into an earnings ratio. For example, if it is found that in a given state there is 3% wage differential for working in state government, when holding all other human capital characteristics constant, this can be expressed as an earnings ratio of 97% since state government employees would be found to earn approximately 97% of the wages of a comparable private sector employee. To provide for added

[4] For a more detailed description of the Current Population Survey, see the Bureau of Labor Statistics' description of the survey at http://www.census.gov/cps/.
[5] Age-squared is controlled for to account for the non-linear effect of age upon wage rates.

consistency, wage differentials for each state are estimated on a three year basis such that the estimates of wage differentials for 2007 are based upon data from years 2005-2007. Given prior research linking public employee pay rates to turnover, we predict that state government earnings ratios will be indirectly related to voluntary separation rates.

State Government Wage & Salary Expenditures Per Capita

As stated earlier, existing research on state government employment has commonly tested the impact of a state's political ideology on key metrics such as bureaucratic representation and wage equity (Llorens, Wenger, and Kellough 2008; Llorens 2008; Brewer and Selden 2003; Lewis and Nice 1994). The general intent of this measure has been to assess the impact of state attitudes toward state government employment, and it rests on the assumption that more liberal states tend to view state government employment in a more favorable light while more conservative states tend to view state government employment in a more negative light. In an effort to more precisely measure attitudes towards stage government employment and its potential impact on employee turnover, we employ an alternative measure, state government wage and salary disbursements per capita, under the assumption that those states with higher expenditure rates per capita will possess more favorable views of state government employment. As such, we predict that this measure will be indirectly related to voluntary separation rates.[6]

Unemployment & Per Capita Income

It is commonly accepted that the economic environment surrounding a particular labor market significantly affects the flow of labor from sector to sector. For public sector employers,

[6] This measure was derived from state-level data on wage and salary disbursements provided by the U.S. Bureau of Economic Analysis' Regional Economic Accounts (2007) and state population estimates provided by the U.S. Census Bureau (2007).

this has generally meant that in relatively prosperous economic times, employees are more likely to depart voluntarily since there is an increased likelihood of more beneficial employment opportunities in the private sector. On the other hand, in lean economic times, one generally expects public sector employees to be less likely to separate due to the decreased likelihood of alternative employment opportunities. We include two variables to capture the impact of the overall economic environment of state government turnover, state unemployment and per capita income.

With regards to unemployment, Selden and Moynihan (2000) unexpectedly found unemployment to be positively related to state government quit rates; however, in the absence of additional empirical evidence supporting these findings, we predict that unemployment will be inversely related to voluntary state government separation rates. On the other hand, state per capita income has been used as a measure of overall state fiscal health under the assumption that states with higher per capita incomes will be better able to offer competitive wage rates for state government employees (Kearney 2003; Llorens 2008). Given our prior prediction on the impact of relative wage rates on employee turnover, we predict that per capita income will be inversely related to voluntary separation rates, but we also acknowledge that that the opposite effect may be anticipated to the extent that per capita income also reflects the health of the competing private sector labor market.[7]

Unionization

Prior research has found that state government unionization significantly influences state government employment along a host of key metrics (e.g., Kearney 2003; Belman et al. 1997; Riccucci 1986; Kearney and Morgan 1980). Given the core mission of public employee unions

[7] Data for state unemployment rates were obtained from the U.S. Bureau of Labor Statistics (2007b).

to protect and support public sector employment, theory suggests that the extent of their presence would be inversely related to public employee turnover (Cotton and Tuttle 1986; Blau and Kahn 1981). However, the results of prior research on the impact of public unions vary by level of government. While Selden and Moynihan (2000) find support for this predicted effect in state government employment, Kellough and Osana (1995) find the opposite effect when analyzing federal government employment. Based upon our focus on state government employment, we predict that the extent of state government unionization will be inversely related to voluntary separation rates.[8]

State Employee Age

Much has been written about the evolving nature of tenure expectations among younger workers, with conventional wisdom holding that younger employees belonging to Generations X and Y are less likely to remain with a single employer for an extended period of time, contrasting with the tendency of older generations to remain committed to a single employer. This dynamic would suggest those workforces with younger employee bases would experience higher turnover while those with older employees would experience less turnover. This proposed relationship between age and turnover is substantiated by Moynihan and Pandey (2007) who found employee age to be negatively associated with long-term turnover intent in a survey of public, private, and non-profit organizations. Additionally, in a survey of Texas state government employees, Moynihan and Landuyt (2008) find employee age, apart from experience, to have a negative impact on turnover intent. As such, we predict that the average age state government employees will be negatively associated with voluntary separation rates.[9]

[8] Data for this measure were derived from the U.S. Bureau of Labor Statistics Current Population Survey (2007a).
[9] Data for this measure were obtained from the National Association of State Personnel Executives (2007).

State Population

Last, we include a measure of state population to control for the potential effect that the size of a state might have on employee turnover. While existing research does not provide direct evidence for a predicted effect of this variable upon employee turnover, we put forth that it does provide a relatively accurate measure of the size of the overall labor market since one would expect that states with higher populations would maintain larger and more robust employment opportunities. Descriptive statistics for both the dependent variable and independent variables are provided in Table 2 below.

Insert Table 2

Model Estimation

Using the variables described above, we construct a state-level, cross-sectional dataset for 2007 and report the results of an ordinary least squares regression analysis. As can be seen in Table 1, a total of ten states did not provide voluntary separation data to NASPE for 2007 and one additional state, Vermont, did not provide full information on the average age of its state employee base. We acknowledge that this is not an optimal observation number for OLS regression analysis, but it is unavoidable given the limitations on obtaining alternate measures of employee turnover. All results are based on a robust estimation of standard errors. Table 3, below presents the results of our analysis.

Insert Table 3

Results & Discussion

Overall, the results of our analysis provide a number of valuable insights for research on public employee turnover. With regard to the impact of public-private wage equity on voluntary separation rates, we find no statistically significant relationship. This result runs counter to existing research on the effect of average wage rates and pay satisfaction on employee turnover, but can possibly be explained by a number of competing hypotheses. First, prior research has found that public-private wage equity differs substantially on the basis of gender and ethnicity, and that lower relative wage rates for women and minorities in the private sector have the effect of 'pushing' these groups into the public sector (Bergmann 1971; Llorens 2008; Llorens, Wenger, and Kellough 2008). While public-private pay equity may not be a significant predictor of employee turnover in the aggregate, if disaggregated by ethnicity and gender, results may differ substantially. This alternative explanation is partially supported by Moynihan and Landuyt (2008) who find that all things being equal "women are significantly less likely to state intent to quit than their male counterparts" (132). To the extent possible, future research should seek to further explore how turnover and its determinants vary by ethnicity and gender.

Second, although public-private pay equity is not found to be a statistically significant determinant of voluntary separation rates, state government wage and salary disbursements per capita is found to significantly impact turnover rates in the direction predicted. While this measure is not benchmarked against the private sector labor market, it is affected by average salary rates such that the higher the average salary in a given state, the higher the disbursements per capita one would expect. This result supports previous research findings, and, as estimated, we can expect a $100 increase in wage and salary disbursements per capita to result in an approximately .52% decrease in voluntary separation rates.

Neither unemployment and state per capita income, nor our control for state size are found to have a statistically significant effect upon voluntary separation rates. However, unionization and state employee age are found to significantly impact voluntary separation rates and both in the manner predicted. In the case of unionization, a 1% increase in state government unionization is predicted to decrease voluntary separation rates by less than a tenth of a percent. Likewise, for every one year increase in the average age of a state's workforce, our model predicts a 1.2% decrease in voluntary separation rates. While the results for both variables comport with existing research, the predicted impact for average employee age is perhaps the most important for scholars and public managers alike. In light of the growing retirement bubble in the public sector, one can reasonably predict that average age rates will mostly likely drop substantially in the coming years with the entry of younger workers into state workforces, and, holding all else equal, one would expect yearly turnover rates to substantially rise as well. Addressing this potential challenge will be key to ensuring that public organizations remain productive and capable of meeting their mission requirements.

Table 1. Voluntary Separation, 2007				
STATE	**2007**		**STATE**	**2007**
Alabama	6.90		**Montana**	.
Alaska	.		**Nebraska**	8.01
Arizona	15.50		**Nevada**	7.97
Arkansas	.		**New Hampshire**	6.32
California	7.47		**New Jersey**	2.60
Colorado	9.08		**New Mexico**	10.19
Connecticut	2.40		**New York**	.
Delaware	3.67		**North Carolina**	9.06
Florida	.		**North Dakota**	6.60
Georgia	2.50		**Ohio**	2.00
Hawaii	.		**Oklahoma**	9.30
Idaho	9.30		**Oregon**	5.90
Illinois	1.90		**Pennsylvania**	2.10
Indiana	13.00		**Rhode Island**	.
Iowa	2.51		**South Carolina**	8.20
Kansas	9.00		**South Dakota**	.
Kentucky	.		**Tennessee**	6.64
Louisiana	10.90		**Texas**	.
Maine	6.66		**Utah**	7.73
Maryland	7.13		**Vermont**	5.16
Massachusetts	.		**Virginia**	9.15
Michigan	2.00		**Washington**	4.10
Minnesota	6.10		**West Virginia**	6.86
Mississippi	10.53		**Wisconsin**	4.30
Missouri	8.40		**Wyoming**	9.30

Table 2. Descriptive Statistics					
Dependent Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Voluntary Separation (%)	40	6.966	3.306275	1.9	15.5
Independent Variable					
Public / Private Wage Differential (Earnings Ratio %)	50	94.682	4.860994	81.7	104.4
State Government Wage & Salary Disbursements Per Capita ($)	50	855.98	321.6475	446	2261
Total Unemployment Rate (%)	50	4.352	0.945071	2.6	7.1
Per Capita Income ($)	50	37,332	5,710	28,541	54,981
State Government Unionization (%)	50	33.92564	21.33317	3.703704	73.72593
State Employee Average Age	40	45.396	1.268795	43.4	50
State Population	50	6,020,657	6,696,736	522,830	3.66E+07

Table 3. Explanatory Model of Voluntary Separation					
		Robust			
	Coef.	**Std. Err.**	**t**	**P>t**	**Beta**
Public / Private Wage Differential (Earnings Ratio %)	0.0185784	0.1273031	0.15	0.885	0.0285122
State Government Wage & Salary Disbursements Per Capita ($ Hundreds)	-0.5244442	0.2633352	-1.99	0.055	-0.3415361
Total Unemployment Rate (%)	-0.6873081	0.6100449	-1.13	0.269	-0.1944397
Per Capita Income ($)	4.67E-06	0.0000753	0.06	0.951	0.008163
State Government Unionization (%)	-0.0848678	0.0270586	-3.14	0.004	-0.4967269
State Employee Average Age	-1.195044	0.3459589	-3.45	0.002	-0.4590381
State Population	-6.80E-08	9.59E-08	-0.71	0.483	-0.1231688
Observations = 39					
F Value = 6.37					
Prob > F = 0.0001					
R-squared = 0.5841					
Adusted R-squared = 0.4901					

References

Balfour, Danny L., and Donna M. Neff. 1993. Predicting and managing turnover in human service agencies: A case study of an organization in crisis. *Public Personnel Management* 22: 473-486.

Belman, Dale, John S. Heywood, and John Lund. 1997. Public sector earnings and the extent of unionization. *Industrial and Labor Relations Review* 50: 610-628.

Bergmann, Barbara R. 1971. The effect on white incomes of discrimination in employment. *The Journal of Political Economy* 79: 294-313.

Berman, Evan M., James S. Bowman, Jonathan P. West, and Montgomery Van Wart. 2006. *Human Resource Management in Public Service: Paradoxes, Processes, and Problems, Second Edition*. Thousand Oaks, CA: Sage Publications.

Bertelli, Anthony M. 2007. Determinants of bureaucratic turnover intention: Evidence for the Department of the Treasury. *Journal of Public Administration Research and Theory* 17: 235-258.

Blau, Francine D. and Lawrence M. Kahn. 1981. Race and sex differences in quits by young workers. *Industrial and Labor Relations Review* 34: 563-577.

Blinder, Alan S. (1973). Wage discrimination: Reduced form and structural estimates. *Journal of Human Resources* 8: 436-455.

Brewer, Gene, and S. C. Selden. "Bureaucratic Representation in U.S. State Governments: Determinants of Minority and Female Employment Success." Paper presented at the American Political Science Association, Philadelphia, Pennsylvania, August 28-31 2003.

Bright, Leonard A. 2008. Does public service motivation really make a difference on the job satisfaction and turnover intentions of public employees? *American Review of Public Administration* 38: 149-166.

Chang, Chu-Hsiang. 2009. The relationship between perceptions of organizational politics and employee attitudes, strain, and behavior: A meta-analytic examination. *Academy of Management Journal* 52: 779-801.

Cotton, John L., and Jeffery M. Tuttle. 1986. Employee turnover: A meta-analysis and review with implications for research. *Academy of Management Review* 11: 55-70.

Curry, Dale, Timothy McCarragher, and Mary Dellmann-Jenkins. 2005. Training, transfer, and turnover: Exploring the relationship among transfer of learning factors and cautionary assessment. *Child and Youth Service Review* 27: 931-948.

Darity, William A. Jr. and Patrick L. Mason. (1998). Evidence on discrimination in employment: Codes of color, codes of gender. *Journal of Economic Perspectives* 12: 63-90.

Felps, Will, Terence R. Mitchell, David R. Heckman, Thomas W. Lee, Brooks C. Holtom, and Wendy S. Harman. 2009. Turnover contagion: How coworkers' job embeddedness and job searching behaviors influence quitting. *Academy of Management Journal* 52: 545-561.

Forrest, Christopher R., L. L. Cummings, and Alton C. Johnson. 1977. Organizational participation: A critique and model. *Academy of Management Review* 2: 586-601.

Ito, Jack K. 2003. Career branding and mobility in the civil service: An empirical study. *Public Personnel Management* 32: 1-21.

Kearney, Richard C. 2003. The determinants of state employee compensation. *Review of Public Personnel Administration* 23: 305-322.

Kearney, Richard C., and David R. Morgan. 1980. Unions and state employee compensation. *Review of Public Personnel Administration* 23: 305-322.

Kellough, Edward J. and Will Osuna. 1995. Cross-agency comparisons of quit rates in the federal service: Another look at the evidence. *Review of Public Personnel Administration* 15: 58-68.

Kim, Soonhee. 2005. Factors affecting state government information technology employee turnover intentions. *American Review of Public Administration* 35: 137-156.

Lee, Soo-Young, and Andrew B. Whitford. 2008. Exit, voice, loyalty and pay: Evidence from the public workforce. *Journal of Public Administration Research and Theory* 18: 647-671.

Lee, Tae Heon, Barry Gerhart, Ingo Weller, and Charlie O. Trevor. 2008. Understanding voluntary turnover: Path-specific job satisfaction effects and the importance of unsolicited job offers. *Academy of Management Journal* 51: 651-671.

Lewis, G. B., & Nice, D. 1994. Race, sex, and occupational segregation in state and local governments. *American Review of Public Administration* 24: 393-407.

Llorens, Jared J. (2008). Uncovering the determinants of competitive state government wages. *Review of Public Personnel Administration* 28: 308-326.

Llorens, J., Wenger, J., & Kellough, J.E. (2008). Choosing Public Sector Employment: The Impact of Wages on the Representation of Women and Minorities in State Bureaucracies. *Journal of Public Administration Research and Theory* 18: 397-413.

Locke, Edwin A. 1976. The nature and consequences of job satisfaction. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology*. Chicago, IL: Rand-McNaly.

March, James G., and Herbert A. Simon. 1958. *Organizations*. New York, NY: Wiley.

Marsh, Robert M., and Hiroshi Mannari. 1977. Organizational commitment and turnover: A predictive study. *Administrative Science Quarterly* 22: 57-75.

McCabe, Barbara Coyle, Richard C. Feiock, James C. Clingermayer, and Christopher Stream. 2008. Turnover among city managers: The role of political and economic change. *Public Administration Review* 68: 380-386.

Meier, Kenneth J., Sharon H. Mastracci, and Kristin Wilson. 2006. Gender and emotional labor in public organizations: An empirical examination of the link to performance. *Public Administration Review* 66: 899-909.

Miller, M. A. 1996. The public private pay debate: What do the data show? *Monthly Labor Review* 119: 18-29.

Mobley, William H., Roger W. Griffeth, Herbert H. Hand, and Bruce M. Meglino. 1979. Review and conceptual analysis of the employee turnover process. *Psychological Bulletin* 86: 493-522.

Mobley, William H., Stanley O. Homer, and A. T. Hollingsworth. 1978. An evaluation of precursors of hospital employee turnover. *Journal of Applied Psychology* 63: 408-414.

Mossholder, Kevin W., Randall P. Settoon, and Stephanie C. Henagan. 2005. A relational perspective on turnover: Examining structural, attitudinal, and behavioral predictors. *Academy of Management Journal* 48: 607-618.

Moynihan, Donald P. and Noel Landuyt. 2008. Explaining turnover intention in state government: Examining the roles of gender, life cycle, and loyalty. *Review of Public Personnel Administration* 28: 120-143.

Moynihan, Donald P., and Sanjay K. Pandey. 2008. The ties that bind: Social networks, person-organization value fit, and turnover intention. *Journal of Public Administration Research and Theory* 18: 205-227.

National Association of State Personnel Executives. 2007. Research and Surveys. Lexington, KY: National Association of State Personnel Executives.

Oaxaca, Ronald. (1973). Male-Female wage differentials in urban labor markets. *International Economic Review* 14: 693-709.

Park, Hong A., Joseph Ofori-Dankwa, and Deborah Ramirez Biship. 1994. Organizational and environmental determinants of functional and dysfunctional turnover: Practical research implications. *Human Relations* 47: 353-367.

Price, James L. 1977. *The study of turnover*. Ames, IA: Iowa University Press.

Riccucci, Norma M. 1986. Female and minority employment in city government—The role of unions. *Policy Studies Journal* 15: 3-15.

Rubin, Ellen V. 2008. The role of procedural justice in public personnel management: Empirical results from the Department of Defense. *Journal of Public Administration Research and Theory* 19: 125-143.

Selden, Sally C., and Donald P. Moynihan. 2000. A model of voluntary turnover in state government. *Review of Public Personnel Administration* 20: 63-74.

Staw, Barry M. 1980. The consequences of turnover. *Journal of Occupational Behavior* 1: 253-273.

U.S. Bureau of Economic Analysis. 2007. Regional Economic Accounts. Retrieved July 31, 2009, from http://bea.gov/regional/index.htm

U.S. Bureau of Labor Statistics. 2007a. Current Population Survey. Retrieved July 31, 2009, from http://www.bls.gov/cps/

U.S. Bureau of Labor Statistics. 2007b. Alternative Measures of Labor Underutilization for States. Retrieved July 31, 2009, from http://www.bls.gov/lau/stalt07.htm

U.S. Census Bureau. 2007. Population Estimates. Retrieved July 31, 2009, from http://www.census.gov/popest/states/NST-ann-est2007.html