

**Pushed into the Public Sector?
Private Sector Discrimination and the Employment of Women
and Minorities in State Government**

Jared Llorens

Jeffrey B. Wenger

and

J. Edward Kellough

Department of Public Administration and Policy
204 Baldwin Hall
University of Georgia
Athens GA 30602

The authors would like to thank John Schmitt at the Center for Economics and Policy Research for providing uniform extracts of CPS data.

Abstract

The representation of women and minorities in state government bureaucracies is examined over the period from 1987 to 2002. Based on estimates constructed using the Bureau of Labor Statistics' Current Population Survey, our analysis shows that women are generally over-represented in state government employment relative to their general labor force representation within a state, and African Americans are over-represented in many states. Potential determinants of the representation of women and minorities are examined, and the results indicate that, among other factors, wage discrimination in the private sector, relative to that in the public sector, is positively associated with the representation of women, African American men, and Latinos in state government workforces.

**Pushed into the Public Sector?
Private Sector Discrimination and the Employment of Women
and Minorities in State Government**

The extent to which the public bureaucracy is representative of the society it serves, especially with respect to the employment of women and racial and ethnic minorities, has long been considered an important issue. As Steven Hays has observed, “public jobs are public resources, to which everyone has a potential claim” (Hays, 1998, p. 300). A representative government workforce signals that equality of opportunity is taken seriously within the public sector. Government has an obligation, it is argued, to serve as a model employer and provide an appropriate example for the private sector (Van Riper, 1958; Krislov, 1967; Goldfarb and Heywood, 1982; Miller 1996). Additionally, a more representative public bureaucracy may help to ensure that the interests of all people are considered in bureaucratic decision-making processes (e.g., see Saltzstein, 1979; Meier, 1993a).

To date, most research in the United States examining the representativeness of public bureaucracies has been focused at the national or local levels. Given the importance of bureaucratic representation and the prominent role of state-level bureaucracies in administering public programs, surprisingly few scholars have directed their attention to the representation of women and minorities in state government. The relative lack of state-level research is the result, in part, of difficulties associated with obtaining appropriate data. Statistics on the representation of minorities and women in state employment are collected by the U.S. Equal Employment Opportunity Commission (EEOC), but the agency does not disaggregate those data by states. As a result, researchers must contact each state individually to collect similar data or use EEOC data aggregated across the states at a single point in time. This situation has resulted in an absence of studies focusing on multiple states across time, which would permit more thorough analysis of the issues involved. Such work is possible, however, using data from the Bureau of Labor Statistics’ Current Population Survey (CPS), a resource that previously has been underutilized by scholars in public administration. The CPS consists of a monthly survey of 60,000 U.S. households and is used by the federal government to estimate characteristics of the non-institutional civilian population. Data from the CPS allow for estimation of disaggregated representation rates for women, African-Americans, and Latinos in individual state bureaucratic workforces.

In this article, we measure representation rates for women and minorities in individual state civil service systems from 1987 to 2002 using CPS data.¹ We then explore the determinants of minority and female representation by examining the impact of a number of potentially important variables. We are especially interested in testing the significance of what is possibly a critical, yet until now unexamined, determinant of public sector representation -- wage discrimination in the private sector. In testing this variable, our focus is on the issue of whether private-sector wage penalties (or premiums) for women and minorities, relative to those in the public sector, are associated with state bureaucratic representation rates. Thus, we seek to shed light on an issue raised earlier by Bergman (1971) regarding the extent to which women and minorities are “pushed” into certain employment sectors due to discriminatory wage practices in alternative sectors. In addressing this issue, we first overview the literature on bureaucratic representation. We then describe the data and methodology used to construct our measures of representation and present those results. Finally, we review our explanatory model and discuss the results of that analysis and implications for the field.

Bureaucratic Representation: An Overview

The issue of bureaucratic representation has frequently been associated with efforts to maintain bureaucratic legitimacy by ensuring that public bureaucracies are responsive to the citizens they serve. From President Jackson's Nineteenth Century effort to staff the federal government with more "common" men to contemporary efforts to ensure that today's fastest growing minority group, Latinos, are sufficiently represented, governments at all levels have sought to reach the goal of representativeness. The theory of representative bureaucracy, provides a rationale for these efforts by suggesting that public institutions that are more representative of the public they serve work to ensure that all interests are addressed as policy decisions are made, and a growing empirical literature supports that argument (e.g., Meier, 1993b; Selden, 1997; Selden, Brudney, and Kellough, 1998; Keiser, Wilkins, Meier, & Holland, 2002).

Since its emergence as an important theoretical concept in the discipline of public administration, scholars have researched the dynamics of representative bureaucracy with much work focusing on the presence and extent of either passive or active forms of representation. Passive representation, as is widely understood, refers simply to the presence of specified groups within the public workforce, while active representation refers to efforts by members of those groups within the bureaucracy to ensure that the interests of people who share their group identities are not ignored. The passive representation of minorities and women within the federal service is reviewed annually by the U.S. Office of Personnel Management (OPM) in its reports on the Federal Equal Opportunity Recruitment Program (e.g., U.S., OPM, 2005). Using agency and occupational measures of representation, these reports provide detailed information on the status of minority and female employment within the federal government. The most recent report supports findings from previous years indicating that women and African Americans have achieved proportional representation across the federal service, but that Latinos remain underrepresented despite more targeted efforts such as the recent 9-Point Hispanic Employment Initiative (U.S., OPM, 1999). Scholarly research at the federal level has sought to uncover determinants of agency variation in female and minority representation rates. Specifically, work by Kellough (1989 and 1990) and Cornwell & Kellough (1994) has shown that contextual factors such as agency size, mission, extent of unionization, and geographic location are important variables. This research has also pointed to issues of stratification within the federal service by highlighting the fact that in many cases women and minorities have been underrepresented within the upper ranks of federal employment.

Similar research findings have been reported for local, especially municipal, governments. Using 1975 and 1980 EEO-4 reports from a sample of municipalities, Saltzstein found that, although overall representation rates increased in the five year period between reports, females still remained disproportionately represented in lower level positions, representing 65 percent of the clerical ranks but only 7.9 percent of the non clerical ranks (1986). In a similar fashion, Mladenka analyzed 1984 EEO-4 data from a sample of cities with populations over 10,000 (1989 & 1991). In his analysis, he found that while African Americans held 20.1 percent of all municipal jobs, they held only 9.6 percent of administrative positions and 12.6 percent of professional positions.

Compared to analysis at the federal and local levels, little work has focused on assessing the representation of women and minorities in state bureaucracies. As noted previously, the Equal Employment Opportunity Commission (EEOC) measures the representation of women and minorities in state civil service positions every year, but only releases data aggregated across the states. In 2003, the EEOC reported that within the states, women held 50.7 percent of all bureaucratic positions while comprising 46.5 percent of the overall U.S. civilian labor force.

African Americans and Latinos represented 19.3 percent and 6.5 percent of all state civil service positions, respectively, while comprising 10.4 and 13.1 percent of the total U.S. civilian labor force (U.S., EEOC, 2003; see also, U.S.,OPM, 2003). These data suggest that African Americans are significantly over-represented while, as is the case in the federal sector, Latinos are underrepresented in state civil service systems. Also, similar to findings for the federal government, analyses at the state level have found that women and minorities are generally underrepresented at higher occupational grades and leadership posts (Sigelman, 1976; Sigelman & Karnig, 1976; Dometrius, 1984; N. M. Riccucci & J. R. Saidel, 1997). Other researchers have found that women and minorities tend to be concentrated in certain types of functional areas. For instance, Cayer and Sigelman (1980), using 1973 and 1975 EEO-4 data aggregated at the state and local level, documented the fact that women and minorities tend to be overrepresented in labor-intensive, unskilled functional areas. Specifically, minorities were dramatically overrepresented in the Housing, Utilities, Transportation, Sanitation and Sewage functional areas while women were equally overrepresented in the Hospitals, Sanitariums and Health functional areas (p. 447).

The limited research available at the state level has also examined determinants of female and minority bureaucratic representation. Using disaggregated 1995 EEO-4 data for forty-nine states, Greene, Brewer, and Selden (2003) found state liberalism, the unemployment rate, and gross state product to be positive predictors of the representation of women. In the case of African Americans, they found gross state product per capita to be a positive predictor of civil service representation, and interestingly, in the case of Latinos, they found that same variable was negatively associated with bureaucratic representation.

Measuring Representation

As noted earlier, our primary data source is the Current Population Survey for the years from 1987 to 2002. The CPS has been used by government for the past five decades to estimate important labor force characteristics, such as the unemployment rate, and is the primary source of information on the U.S. labor force (U.S., BLS 2006). The survey provides a monthly examination of individuals in approximately 60,000 households based upon a multi-staged stratified sample. This sampling procedure ensures that estimates of labor force attributes are accurate at both the state and national levels. Key individual characteristics documented in the survey include age, sex, race, educational attainment, occupation, industry, weekly hours of work, and income. Households remain in the dataset for a total of 8 months (four consecutive months one year and four the following year). In the final month each year, respondents are asked questions about their incomes. For our analysis, only these outgoing rotation group responses are used.

Individual-level employment data from the CPS are used to construct representation ratios for women, African-Americans, and Latinos in individual state civil service systems. Researchers have often measured minority or female representation as the ratio of the percentage of minorities or women in a given organization to the percentage of minorities or women in the relevant population as a whole (see Grabosky & Rosenbloom, 1975; Sigelman, 1976; Cayer & Sigelman, 1980; Dometrius, 1984; Kellough, 1990). For example, the proportion of African Americans in a particular agency could be divided by the African American proportion of the national population. In our case, we observe, for each state, the proportion of the state civil service workforce comprised of women or members of selected minority groups between the ages of 18 and 64 and divide that number by the proportion of the state civilian labor force consisting of individuals from the same groups. We use the minority or female proportion of the state civilian labor force in the denominator of our measure rather than minority or female

proportion of the total state population because we believe that labor force data provide a more reasonable standard for representation. Our ratio will equal 1 when the proportion of a state civil service system occupied by members of a particular group is equal to the proportion of that state's overall civilian labor force consisting of members of the same group. For African Americans, our measure is estimated as follows:

$$\text{Representation Ratio} = \frac{\text{Proportion of State Civil Service Positions Held by African Americans}}{\text{Proportion of the State Civilian Labor Force Held by African Americans}}$$

Over-representation occurs when this ratio is greater than 1 and under-representation occurs when the ratio is less than 1. We further limit our measure to include only those individuals who report earning more than \$1/hour and less than \$100/hour, and we exclude teachers from estimates of both public sector employees and the overall civilian labor force to allow for a more accurate measure of bureaucratic representation since public school teachers are not typically considered part of a state civil service bureaucracy.

Table 1 presents our estimates of state-level representation ratios for the years 1987, 1994, and 2002.² In general, we find that as of 2002, women were over-represented by our definition in every state. Indeed, our ratio for the representation of women in that year ranges from 1.03 for Alaska to 1.40 for Oklahoma and Texas. The state ratios for African-Americans are also interesting. By 2002, African Americans were overrepresented in forty-one states and underrepresented in nine. Our representation ratio ranged from 0.35 for Colorado to 1.91 for Arkansas. In general, the states with the lowest representation ratios for African Americans are also those with the smallest African-American populations. The process that produces that pattern is not known, but it may be that states with small minority populations may not have focused on the issue of minority representation in their civil service systems to the same extent as states with larger minority populations. For Latinos, representation is considerably below parity, as defined here, in most states. Even in states with the largest and most established Latino populations (e.g., California and Texas), representation ratios are low, standing at 0.66 and 0.77 respectively in 2002. In states with large recent influxes of Latino workers such as North Carolina and Georgia, the representation ratios are even lower (.38 and .43 respectively).

(Table 1 about here)

Determinants of Representation

Clearly, there is significant variation in the representation of minorities and women in state bureaucracies. We now turn to a consideration of factors that may be associated with that variation. Some of these variables have been found to be important predictors of bureaucratic representativeness in other studies, but other variables are more unique to the context of the states and have not been examined earlier. As previously noted, we are particularly interested in the impact of private sector discrimination.

Political Ideology

We expect the political ideology of a state's citizenry to be a significant predictor of bureaucratic representation. In explaining the determinants of occupational segregation by race and gender in state and local governments, itself an aspect of bureaucratic representation, Lewis and Nice posit that adherents to more liberal ideological perspectives tend to be more supportive of equal employment opportunity efforts, and as such, more liberal states and localities should experience lower levels of racial segregation (1994). Using 1981 and 1987 EEO-4 data for a sample of states and local governments, they found citizen conservatism to be positively related to occupational segregation for African Americans. Applied to the broader concept of bureaucratic representation, we expect those states with more liberal citizens to possess more positive views towards diversity, which should, in turn, lead to more diversity within state government. To measure ideology, we use a citizen ideology estimate that is based upon a combination of voter support for congressional incumbents, congressional challengers, incumbent ideology and challenger ideology (Berry, Ringquist, Fording, & Hanson, 1998). The measure ranges from 0 to 100, conservative to liberal, and we predict that citizen liberalism will be positively related to the representation of women and minorities in state civil service systems.

Gross State Product (GSP) & Per Capita Income

Stearns and Coleman (1990) assert that economic prosperity can serve to benefit women and minorities because their advancement is less likely to be viewed as coming at the expense of white males. Similarly, Saltzstein (1986) points out that it is much easier to provide increased public sector employment opportunities to any particular group when the "size of the pie" is expanded (p. 156). To test the impact of this variable on female and minority representation, we utilize Gross State Product as a measure of overall economic prosperity within the states. We predict that GSP will be positively related to the representation of women and minorities in state civil service employment.³

It has also been asserted that the individual wealth of a state's citizenry may be linked to minority representation. Mladenka (1989) hypothesized that wealthier, better educated populations tend to be more open and tolerant and, as a result, should tend to hire more minorities in all employment categories, including the public sector. Mladenka constructs an education, income, and housing index to test his hypothesis, and finds that variable to be significantly and positively related to African American and Latino public sector employment. We examine one element of his index. As a measure of the wealth of state populations, we use state per capita income to test whether or not states with populations that are better off financially tend to possess more representative bureaucracies. This measure is not highly correlated with the previous measure, GSP, and we predict that state per capita income will be positively related to state bureaucratic representation of women and minorities.⁴

Total Unemployment Rate

It is conventional wisdom that during economic downturns, women and minorities are disproportionately represented among those who are unemployed. Given the public sector's relative insulation from economic downturns, we might expect women and minorities to be even more attracted to public sector employment in those states with higher total unemployment rates. Alternatively, Stein (1986) finds evidence of local unemployment rates having a negative effect on minority representation in local government. We examine the impact of state-level

unemployment rates on the employment of minorities and women in state bureaucracies to determine whether it has a positive or negative effect.⁵

Unionization

The extent of public sector unionization has often been found to be an important determinant of public sector representation. However research is mixed regarding the predicted impact of unionization upon female and minority representation. Some have found unionization to negatively impact public sector representation (Saltzstein, 1986; Mladenka, 1991). Others have found unionization to positively impact bureaucratic employment of minorities and women (Kellough & Elliott, 1992). Still, others have found unionization to have little or no impact upon bureaucratic representativeness (Riccucci, 1986; Kellough, 1990; Cornwell & Kellough, 1994). Given these mixed findings, we include the extent of state employee unionization in our model but are unable to predict its impact on minority and female state civil service employment.⁶

Private Sector Discrimination

Although many studies have provided valuable insight into the representation of women and minorities in public bureaucracies and the determinants of that representation, the influence of the private sector labor market on the presence of minorities and women in the public sector has not been examined. Theory suggests that discrimination against a particular group of individuals (e.g., racial minorities) in one sector will lead them to seek employment in other sectors, assuming they are less discriminatory (Bergmann, 1971). As a result, the preferred and less discriminatory sector may even experience a “surplus” of those individuals who were subject to discrimination in the other area, which, in our case, could account for the overrepresentation of African Americans and women in state civil service systems. Offering a similar argument, Saltzstein (1986) suggests that in cases where minority women experience fairly limited employment options, they “may be more inclined to take advantage of municipal governments’ role as “employers of last resort” (p. 148-149). Mladenka (1991) further describes this phenomenon in stating that “one could logically expect to discover an inverse relationship between minority public employment levels, job growth in the private sector, and black success in private managerial positions” (p. 535). To test this proposition, we examine the impact of private sector race-, ethnic-, and sex-based wage discrimination on state public sector representation rates for women, African Americans, and Latinos.

We specifically predict that when private sector wage discrimination for women, African-American and Latinos is greater than public sector wage discrimination, individuals from those groups will demonstrate a preference for employment in the public sector rather than the private sector. In the case of women and minorities, evidence generally demonstrates that both groups experience wage discrimination, in both sectors, with the private sector generally exhibiting higher levels of discriminatory wage practices in most cases. The empirical and theoretical literature on the estimation of wage discrimination in US labor markets is very large and the number of different methodologies used to estimate these effects has been well documented (e.g., Cain, 1986; Blau & Kahn, 1997). In testing this particular variable, we choose one of the more parsimonious of these methods: OLS estimation of a log wage equation containing standard human capital and demographic controls highlighted in the literature.⁷

Drawing from CPS data, we include those individuals employed in either the private sector or state government for each year from 1987-2002. Using this sample population, we estimate separate wage regressions for each state in each year. As constructed, our models

predict wages as a function of standard human capital and demographic variables such as education, age and age-squared, and marital status.⁸ To estimate the difference in private and public sector wage discrimination, we also include a series of dummy variables that interact race, sex, and public-sector status. For instance, one dummy variable in this vector represents Latino women employed in the state public sector. In all models, the omitted category is white males employed in the private sector. This procedure allows for consistent comparisons of wage penalties across gender, race, and ethnicity. For example, we are able to compare estimates of the wage penalty of being Latino in either the public sector or the private sector to that of white males in the private sector. Overall, we run a total of 800 separate wage regressions -- one regression for each state in each year.⁹ Using these estimates, we calculate the difference in sector specific wage discrimination. A positive measure of private sector discrimination (the difference in wage discrimination rates between the private and public sectors for a particular group) is indicative of a more discriminatory private sector market relative to the public sector. For a detailed example of how we construct this variable, see Appendix A.

To illustrate how to interpret this estimate, consider the following example from the State of Georgia. For year 2000, we estimate a log wage equation that contains, along with the human capital, occupational, and industry codes listed earlier, a series of interactive dummy variables by race, gender, and sector of employment (private or state government). Based on the results of this log wage regression, we estimate that women employed in state government experience a 58 percent wage penalty when compared to white males employed in the private sector in Georgia. This estimate represents the sum of wage regression coefficients for white, African American, Latino, and Other women classified as state government employees. On the other hand, women employed in the private sector experience a much higher wage penalty, 89 percent, compared to white males in the private sector. This estimate represents the combined wage regression coefficients for those women (white, African American, Latino, and Other) employed in the private sector. Thus, we calculate the difference in wage discrimination between the two sectors at 31 percent and, for ease of discussion, we term this measure private sector discrimination. This implies that, controlling for common human capital characteristics (age, age-squared, education, marital status, full-time status, occupation, and industry), as well as race and ethnicity, women experience a 31 percent penalty working in the private sector relative to working in the state civil service. Stated more succinctly, in the instance of this state and year, women employed in the public sector fared much better, in terms of wage discrimination, than women employed in the private sector.

Our measure of the relative size of this discrimination penalty is then used as an independent variable in our explanatory model of bureaucratic representation. We predict that private sector discrimination for women and minorities will be positively associated with each group's corresponding representation rate in state civil service systems. Our predicted effect is consistent with prior research that has found evidence of less discriminatory wage differentials for women and minorities employed in the public sector (Smith, 1977; Venti, 1987; Heywood, 1989; Borjas, 2003).

Model Estimation

Using the variables described above, we construct a state-level panel data set with 800 observations from years 1987 to 2002. We then estimate a fixed-effects model where our dependent variable is the representation ratio. We include each of the independent variables outlined above, but we are especially interested, as indicated earlier, in the impact of gender-, race- or ethnicity-specific private sector wage discrimination. Estimating a fixed effects panel-data models allow us to control for the influence of all time-invariant unobserved state

characteristics. Year dummy variables are also included to control for time-specific effects that impact all states equally.¹⁰ To correct for heteroskedasticity, all results reported here are based on robust estimation of standard errors using the Huber/White sandwich estimator, clustered by state.¹¹ Additionally, diagnostic tests revealed no significant problems with multicollinearity.

Results and Discussion

Again, our primary independent variable of interest is private sector discrimination, measured as the wage penalty of being female, African American, or Latino in the private sector (relative to the public sector). The columns in Table 2 show estimates of the average rate of private sector discrimination from 1987 to 2002 for women, African Americans, and Latinos. Using the State of New York as an example, from 1987-2002 women experienced a discrimination penalty of 8.5 percent. This indicates that, on average, women working in state government fared much better, 8.5 percent, than women working in the private sector. Again, it should be noted that the discrimination measure is calculated as the difference in female wage discrimination between the public (state government only) and private sectors—controlling for age, age-squared, education, marital status, urban/rural, industry and occupation. As this table highlights, women, African Americans, and Latinos generally face higher discriminatory wage penalties in the private sector than in public sector. In the case of women, their wage penalty in the private sector was higher than in the public sector in 39 states. In fact, the average private sector discrimination rate for women across our panel is 16.4 percent.

(Table 2 about here)

Table 3 shows the results of our explanatory model of bureaucratic representation. There is broad support for our prediction that female and minority public sector workers are driven, at least to some extent, by private sector discrimination into the public sector. The first column in Table 3 shows the results of our fixed effects estimations of the determinants of the female representation ratio. As predicted, an increase in our measure of private sector discrimination results in an increase in the representation of women working in state bureaucratic employment. The effect size is reasonably small, but precisely estimated and is significant at the one percent level in a one tailed test of significance.¹² A one percent increase in private sector discrimination for women leads to a 1.7 percentage point increase in their state employment representation ratio. To see this effect, consider a state that had a representation ratio equal to 1. If that state's private-sector labor market discrimination rate for women increased by one percent relative to the public sector market, then the model predicts that the state representation ratio for women would increase to 1.017.

(Table 3 about here)

Columns 2 and 3 present the results for the determinants of African-American and Latino representation rates, respectively.¹³ Overall, we find no statistically significant effect of private sector discrimination on African-American representation ratios. Conversely, we find a large and statistically significant effect of private sector discrimination on Latino representation. A one percent increase in the wage penalty for Latinos is predicted to increase Latino representation in the public sector by 7.9 percentage points.

The results for African-Americans are interesting given African Americans' significant over-representation in state civil service workforces. We investigated the lack of effect by

estimating separate regressions for male and female African-Americans.¹⁴ Columns 4 and 5 present the results for the determinants of representation for female and male African-Americans, respectively. We find no statistically significant impact of private sector discrimination on the representation of African-American women, but the story for African-American men is considerably different. We find a very large and statistically significant effect of private sector discrimination on African-American male representation ratios. These results may raise many questions. In general the estimated impact of private sector discrimination is quite large. Secondly, the R-squared measures for these models are considerably lower than those of the female or Latino models. It may be that the factors that determine the representation of African-Americans in the public sector are inadequately captured in our model.

Turning briefly to consideration of other variables in our models, we find limited support for the impact of state liberalism on female and minority bureaucratic representation. In fact, liberalism appears to be an important factor only for women. Its impact is indistinguishable from zero in each of the other models. With regard to the predicted effect of state economic prosperity, that bureaucratic representation is positively related to state GSP, there are mixed results. For females, GSP is found to have no significant effect on bureaucratic representation. However, in the case of Latinos and African-Americans, both combined and by gender, GSP has a positive and statistically significant effect on each of their respective representation ratios. Specifically, in the case of African Americans, the effect sizes are exceptionally large, further emphasizing the importance of economic prosperity in their public sector employment rates.

Surprisingly, we find no support for our prediction that state per capita income is positively related to bureaucratic representation, and we find support for our prediction that total unemployment rate positively impacts bureaucratic representation only in the case of women. Although we did not predict the impact of unionization, we find that it has a negative and statistically significant impact upon Latino representation and a positive and statistically significant impact upon African-American female representation.

Conclusion

Efforts to staff public sector bureaucracies representative of the general population have been and will continue to remain a key concern in the field of public administration. As a result, it is critical that research in this area continues to both measure the representativeness of the public sector as well as explain the driving forces of representation. This article adds to the literature on state bureaucratic representation in two key respects. First, it provides the first disaggregated measure of state-level representation over a significant historical period, 1987 to 2002. Having data over such a large historical time period allows for a more accurate analysis of representation rates for women, African-Americans, and Latinos. Second, it adds to the literature by providing a test of the significance of private sector wage practices, relative to the public sector, upon the public sector representation rates of women and minorities.

In general we find that women are moderately overrepresented in state civil service employment. Representation rates for African-Americans vary much more than women, with underrepresentation in some states, nearly proportional representation in others, and substantial overrepresentation in still other states. Results for Latinos show that, on average, they are underrepresented in the state civil service systems, but, in some states, they do approach proportional representation, and in a few cases they are overrepresented. With respect to the impact of private sector wage practices upon public sector representation rates of women and minorities, we find that private sector discrimination, relative to public sector discrimination, positively impacts bureaucratic representation rates for women and Latinos, but not for African-

Americans. However, when separated by race, we find that private sector discrimination faced by African-American males is positively related to their representation in the state public sector.

Overall, the results of this research lend support to those who espouse that the public sector can and should serve as a model employer with regard to wages and representation, but they also point out that, in the case of Latinos, much more work needs to be done to ensure that they are better represented within state government. Additionally, evidence showing that the public sector actually discriminates against women and minorities less than the private sector should cause the field of public administration to look more closely at compensation reforms which aim to make the public sector more like the private sector. Last, we hope to address in future research the extent to which traditional characteristics of civil service employment (increased job security, civil service protection, due process rights, etc.) make public employment attractive and exhibit a “pull” into the civil service experienced disproportionately by women and minorities.

Notes

¹ Specifically, we use the Current Population Survey’s Outgoing Rotation Group files (CPS-ORG).

² In order to achieve more reliable estimates of the representation ratios we use 5 year moving averages. That is, we pool five preceding years of state data in order to estimate the representation ratio for a given year. The estimate for 1987, therefore, is the average of the ratios for the years 1983, 1984, 1985, 1986, and 1987. Estimates for 1994 and 2002 are constructed similarly.

³ Data for this measure were obtained from the U.S. Bureau of Economic Analysis.

⁴ Data for this measure were obtained from the U.S. Bureau of Economic Analysis.

⁵ Data for this measure were obtained from the U.S. Bureau of Labor Statistics.

⁶ Data for this measure were constructed

⁷ It is unclear, *ex ante*, that more advanced decomposition methods such as Oaxaca (1973) and Juhn, Murphy and Pierce (1993) would provide better measures of wage discrimination faced by workers in either the public or private sector.

⁸ Age-squared is included to control for the non-linear effect of age upon wages.

⁹ This particular model is based upon a similar model utilized by J.S. Heywood in 1989 using 1983 CPS data. Coefficients for females, African-Americans, and Latinos indicate the impact of these demographic characteristics on wages.

¹⁰ For a discussion of the benefits of using a fixed effects model for this particular analysis, see Cornwell and Kellough (1994).

¹¹ We tested for heteroskedasticity in each of our models, and found it present in all models except that for women as a whole.

¹² Throughout this section we use one-tailed tests of significance for the private sector discrimination variable. Since we can find no theoretically sound reason why increases in private sector wage penalties should reduce the public sector representation of women, African-Americans and Latinos. Furthermore, our results for women and African-American men would be unchanged in a two-tailed test. Results for Latinos would be significant at the .10 percent level in a two tailed test.

¹³ In certain states, there are years for which there are no observations for African American and/or Latino state government employees. Including these states in our explanatory models creates unbalanced panels for Models 2 through 5. As a result, these states are omitted in order to estimate balanced models.

¹⁴ We conducted a Chow test to determine the appropriateness of running separate models for African American men and women. Test results support running these two models separately.

References

- Bergmann, B. R. (1971). The Effect on White Incomes of Discrimination in Employment. *The Journal of Political Economy*, 79(2), 294-313.
- Berry, W. D., Ringquist, E. J., Fording, R. C., & Hanson, R. L. (1998). Measuring citizen and government ideology in the American states, 1960-93. *American Journal of Political Science*, 42(1), 327-348.
- Blau, Francine, D and Lawrence M. Kahn (1997). Swimming Upstream: Trends in the Gender Wage Differential in the 1980s. *Journal of Labor Economics*, 15(1), 1-42.
- Borjas, G. J. (2003). Wage Structures and the Sorting of Workers in the Public Sector. In J. D. Donahue & J. S. Nye (Eds.), *For the People: Can We Fix Public Service?* Cambridge, Mass. Washington, D.C.: Visions of Governance in the 21st Century; Brookings Institution Press.
- Cain, G. G. (Ed.). (1986). *The Economic Analysis of Labor Market Discrimination: A Survey* (Vol. I). New York: Elsevier Science.
- Cayer, N. J., & Sigelman, L. (1980). Minorities and Women in State and Local-Government - 1973-1975. *Public Administration Review*, 40(5), 443-450.
- Cornwell, C., & Kellough, J. E. (1994). Women and Minorities in Federal-Government Agencies: Examining New Evidence from Panel-Data. *Public Administration Review*, 54(3), 265-270.
- Cox, W., & Brunelli, S. (1994). America's Protected Class III, the Unfair Pay Advantage of Public Employees. *The State Factor*(April), 1-34.
- Dometrius, N. C. (1984). Minorities and Women among State Agency Leaders. *Social Science Quarterly*, 65(1), 127-137.
- Goldfarb, R. S., & Heywood, J. S. (1982). An Economic-Evaluation of the Service Contract Act. *Industrial & Labor Relations Review*, 36(1), 56-72.
- Grabosky, P. N., & Rosenbloom, D. H. (1975). Racial and Ethnic Integration in Federal Service. *Social Science Quarterly*, 56(1), 71-84.
- Greene, V., Selden, S. C., & Brewer, G. (2001). Measuring Power and Presence: Bureaucratic Representation in the American states. *Journal of Public Administration Research and Theory*, 11(3), 379-402.
- Hays, Steven W. (1998). Staffing the Bureaucracy: Employee Recruitment and Selection. In Stephen E. Condrey (Ed.), *Handbook of Human Resource Management in Government*. Jossey-Bass, pp. 298-321.
- Heywood, J. S. (1989). Wage Discrimination by Race and Gender in the Public and Private Sectors. *Economics Letters*, 29(1), 99-102.
- Hutchins, M., & Sigelman, L. (1981). Black-Employment in State and Local Governments: A Comparative-Analysis. *Social Science Quarterly*, 62(1), 79-87.
- Juhn, Chinhui, Kevin M. Murphy and Brooks Pierce (1993). Wage Inequality and the Rise in Returns to Skill. *Journal of Political Economy*, 101(3), 410-442.
- Keiser, L. R., Wilkins, V. M., Meier, K. J., & Holland, C. A. (2002). Lipstick and Logarithms: Gender, Institutional Context, and Representative Bureaucracy. *American Political Science Review*, 96(3).
- Kellough, J.E. (1989). *Federal Equal Employment Opportunity Policy and Numerical Goals and Timetables: An Impact Assessment*. New York: Praeger.
- Kellough, J. E. (1990). Integration in the Public Workplace: Determinants of Minority and Female Employment in Federal-Agencies. *Public Administration Review*, 50(5), 557-566.

- Kellough, J. E., & Elliott, E. (1992). Demographic and Organizational Influences on Racial Ethnic and Gender Integration in Federal-Agencies. *Social Science Quarterly*, 73(1), 1-11.
- Krislov, S. (1967). *The Negro in Federal Employment: The Quest for Equal Opportunity*. New York, New York: Praeger.
- Lewis, G. B., & Nice, D. (1994). Race, Sex, and Occupational Segregation in State and Local Governments. *American Review of Public Administration*, 24(4).
- Meier, K. J. (1993a). Latinos and Representative Bureaucracy: Testing the Thompson and Henderson Hypotheses. *Journal of Public Administration Research and Theory*, 3(4), 393-414.
- Meier, K. J. (1993b). Representative Bureaucracy: A Theoretical and Empirical Exposition. *Research in Public Administration*, 2, 1-35.
- Miller, M. A. (1996). The Public Private Pay Debate: What Do the Data Show? *Monthly Labor Review*(May).
- Kenneth R. Mladenka. (1989). Blacks and Hispanics in Urban Politics. *The American Political Science Review*, Vol. 83, No. 1 (March), pp. 165-191.
- Mladenka, K. R. (1991). Public-Employee Unions, Reformism, and Black-Employment in 1,200 American Cities. *Urban Affairs Review*, 26(4), 532-548.
- Mosher, F. C. (1982). *Democracy and the Public Service, 2nd Ed.* (2nd ed.). New York: Oxford University Press.
- Naff, K. (2001). *To Look Like America*. Boulder, CO: Westview Press.
- Oaxaca, Ronald (1973). Male-Female Wage Differentials in Urban Labor Markets. *International Economic Review*, 14(3), 693-709.
- Reh fuss, J. A. (1986). A Representative Bureaucracy: Women and Minority Executives in California Career Service. *Public Administration Review*, 46(5), 454-460.
- Riccucci, N. M. (1986). Female and Minority Employment in City Government - the Role of Unions. *Policy Studies Journal*, 15(1), 3-15.
- Riccucci, N. M., & Saidel, J. R. (1997). The Representativeness of State-Level Bureaucratic Leaders: A Missing Piece of the Representative Bureaucracy Puzzle. *Public Administration Review*, 57(5), 423-430.
- Saltzstein, G. H. (1979). Representative Bureaucracy and Bureaucratic Responsibility: Problems and Prospects. *Administration & Society*, 10(4), 465-475.
- Saltzstein, G. H. (1986). Female Mayors and Women in Municipal Jobs. *American Journal of Political Science*, 30(1), 140-164.
- Grace Hall Saltzstein. (1986). Female Mayors and Women in Municipal Jobs. *American Journal of Political Science*, Vol. 30, No. 1 (February), pp. 140-164
- Selden, S. C. (1997). *The Promise of Representative Bureaucracy: Diversity and Responsiveness in a Government Agency*. Armonk, N.Y.: M.E. Sharpe.
- Selden, S. C., Brudney, J. L., & Kellough, J. E. (1998). Bureaucracy as a Representative Institution: Toward a Reconciliation of Bureaucratic Government and Democratic Theory. *American Journal of Political Science*, 42(3), 717-744.
- Sigelman, L. (1976). Curious Case of Women in State and Local-Government. *Social Science Quarterly*, 56(4), 591-604.
- Sigelman, L., & Karnig, A. K. (1976). Black Representation in American-States: Comparison of Bureaucracies and Legislatures. *American Politics Quarterly*, 4(2), 237-246.
- Smith, S. P. (1977). Government Wage Differentials. *Journal of Urban Economics*, 4(3), 248-271.
- Stearns, L.B. and C.W. Coleman (1990). Industrial and Local Labor Market Structures and Black Male Employment in the Manufacturing Sector. *Social Science Quarterly*, 71(2), 285-298.

- Stein, L. (1986). Representative Local Government: Minorities in the Municipal Work Force. *Journal of Politics*, 48 (3), 694-713.
- U.S. Bureau of Labor Statistics (BLS). (June 9th, 2006). Current Population Survey. Found at <http://www.bls.census.gov/cps/cpsmain.htm>. Accessed on October 20th 2006 at 11:31am.
- U.S. Equal Employment Opportunity Commission (EEOC). (2003). *2003 Job Patterns for Minorities and Women in State and Local Government*. Washington, DC: U.S. Government Printing Office.
- U.S. Office of Personnel Management (OPM). (1999). OPM Director Announces Hispanic Employment Initiative is Making Headway in the Federal Workforce. Found at <http://www.opm.gov/pressrel/1999/lulacpre.htm>. Accessed on October 19th 2006 at 9:53pm.
- U.S. Office of Personnel Management (OPM) (2003). *Annual Report to Congress: Federal Equal Opportunity Recruitment Program FY 2003*.
- U.S. Office of Personnel Management (OPM) (2005). *Annual Report to Congress: Federal Equal Opportunity Recruitment Program FY 2005*.
- Van Riper, P. P. (1958). *History of the United States Civil Service*. Evanston, Illinois: Row, Peterson and Company.
- Venti, S. (1987). Wages in the Federal and Private Sectors. In D. A. Wise (Ed.), *Public Sector Payrolls*. Chicago: University of Chicago Press.

Table 1. State Representation Ratios (1987, 1994, & 2002)

	Female			African American			Latino		
	1987	1994	2002	1987	1994	2002	1987	1994	2002
<i>Northeast</i>									
Connecticut	1.15	1.16	1.17	1.32	1.94	1.49	1.18	0.97	1.14
Maine	0.99	1.02	1.14	0.00	0.90	0.61	0.00	2.12	2.53
Massachusetts	1.08	1.09	1.04	1.79	1.81	1.78	0.78	1.12	0.69
New Hampshire	0.95	1.01	1.18	0.00	4.51	1.11	0.00	0.82	0.66
New Jersey	1.11	1.14	1.14	1.91	2.19	1.81	0.61	0.58	0.83
New York	1.04	1.02	1.04	1.09	1.12	1.15	0.43	0.51	0.41
Pennsylvania	1.01	0.99	1.04	1.35	1.74	1.42	0.88	0.74	0.35
Rhode Island	1.14	0.92	1.07	1.33	1.13	1.24	0.69	0.22	0.26
Vermont	0.98	1.15	1.09	0.00	0.00	1.52	0.00	1.22	0.00
<i>Midwest</i>									
Illinois	1.03	1.07	1.26	1.46	1.57	1.55	0.18	0.35	0.42
Indiana	1.08	1.22	1.25	1.59	2.25	1.90	0.58	0.54	0.26
Iowa	1.07	1.08	1.27	1.58	2.66	1.29	1.32	1.77	0.30
Kansas	1.22	1.06	1.27	1.43	1.44	1.16	1.43	0.72	0.53
Michigan	1.29	1.17	1.26	1.59	1.58	1.21	0.95	0.98	0.82
Minnesota	1.04	1.10	1.12	0.86	0.39	1.51	0.69	1.12	0.53
Missouri	1.29	1.28	1.21	1.25	1.28	1.03	0.45	0.26	0.74
Nebraska	1.09	1.19	1.17	0.75	0.86	0.75	1.02	1.14	0.99
North Dakota	1.12	1.09	1.11	0.00	0.38	0.77	0.66	1.04	0.45
Ohio	1.25	1.18	1.15	2.15	1.81	1.52	1.40	1.26	1.06
South Dakota	1.04	1.04	1.08	0.46	2.39	1.01	0.57	1.06	0.28
Wisconsin	1.13	1.16	1.20	0.43	0.70	1.73	0.90	0.84	0.40
<i>South</i>									
Alabama	1.23	1.42	1.30	1.38	1.46	1.47	0.41	1.16	0.46
Arkansas	1.32	1.10	1.30	1.13	1.38	1.91	0.52	0.39	0.28
Delaware	1.23	1.13	1.20	1.43	1.47	1.41	0.68	0.78	0.32
Florida	1.10	1.15	1.27	1.34	1.60	1.58	0.36	0.40	0.49
Georgia	1.22	1.19	1.23	1.05	1.41	1.31	1.12	0.12	0.43
Kentucky	1.29	1.19	1.19	1.08	0.96	1.33	0.71	0.63	0.22
Louisiana	1.32	1.31	1.27	1.23	0.98	1.15	0.18	0.72	0.00
Maryland	1.16	0.99	1.07	1.37	1.34	1.56	0.86	0.27	0.48
Mississippi	1.24	1.19	1.20	1.32	1.33	1.08	0.00	0.70	0.54
North Carolina	1.10	1.11	1.22	1.12	1.08	1.19	1.23	0.29	0.38
Oklahoma	1.24	1.23	1.40	1.75	1.14	1.40	0.51	0.55	0.83
South Carolina	1.19	1.19	1.28	1.24	1.15	1.40	1.31	0.56	0.39
Tennessee	1.17	1.21	1.20	1.46	1.44	1.40	1.61	0.00	0.27
Texas	1.23	1.26	1.40	1.33	1.41	1.63	0.75	0.69	0.77
Virginia	1.11	1.15	1.11	1.32	1.35	1.11	0.51	0.39	0.15
West Virginia	1.18	1.23	1.06	1.33	1.00	1.21	0.00	1.09	1.76
<i>West</i>									
Alaska	1.12	1.03	1.03	0.82	1.35	0.75	0.79	1.15	0.87
Arizona	1.13	1.06	1.17	1.06	1.36	1.79	0.62	1.04	0.92
California	1.15	1.15	1.20	1.60	1.36	1.80	0.56	0.66	0.66
Colorado	1.11	1.08	1.18	0.62	1.16	1.65	0.97	1.12	0.96
Hawaii	1.17	1.30	1.27	0.50	0.80	0.93	0.22	0.92	0.73
Idaho	1.16	1.17	1.14	1.30	4.25	0.81	0.41	0.49	0.37
Montana	1.14	1.07	1.12	0.00	0.47	0.75	0.68	0.99	0.48
Nevada	0.99	1.09	1.31	0.62	0.79	1.27	0.45	0.51	0.35
New Mexico	1.05	1.12	1.20	1.07	1.06	0.43	0.99	1.02	1.04
Oregon	1.16	1.21	1.34	2.86	1.04	0.77	1.21	0.64	0.96
Utah	1.11	1.20	1.25	0.96	0.89	1.31	1.18	1.00	0.39
Washington	1.18	1.29	1.30	1.05	1.15	1.35	1.65	0.53	0.92
Wyoming	1.18	1.22	1.22	2.20	0.67	0.35	0.88	0.82	0.69

Table 2. Average Private Sector Wage Discrimination, 1987-2002*

State	Female [all races]	African American	Latino
Alabama	0.181	0.057	--
Alaska	0.265	0.181	0.172
Arizona	0.060	-0.093	0.159
Arkansas	0.200	0.126	--
California	0.119	0.127	0.187
Colorado	0.055	-0.033	0.131
Connecticut	0.789	0.099	0.378
Delaware	0.165	0.080	0.298
Florida	-0.031	-0.017	-0.040
Georgia	0.257	0.045	-0.037
Hawaii	-0.384	-0.124	-0.118
Idaho	0.191	-0.174	0.159
Illinois	0.182	0.103	0.242
Indiana	-0.179	-0.033	-0.139
Iowa	0.205	0.316	-0.042
Kansas	0.245	-0.067	-0.015
Kentucky	0.265	-0.130	--
Louisiana	0.122	0.021	--
Maine	0.318	--	--
Maryland	-0.030	0.109	-0.303
Massachusetts	-0.038	0.107	-0.110
Michigan	0.222	0.105	0.072
Minnesota	0.695	0.427	-0.376
Mississippi	-0.402	-0.073	--
Missouri	-0.323	0.000	--
Montana	0.577	--	0.191
Nebraska	-0.153	-0.280	0.081
Nevada	0.200	0.147	0.085
New Hampshire	0.242	--	--
New Jersey	0.286	0.090	0.156
New Mexico	0.190	0.070	0.079
New York	0.085	0.110	0.163
North Carolina	0.377	0.099	0.371
North Dakota	0.119	--	0.195
Ohio	0.044	0.061	0.121
Oklahoma	0.044	-0.007	-0.268
Oregon	-0.116	-0.146	-0.021
Pennsylvania	0.509	0.101	0.244
Rhode Island	0.378	0.166	0.121
South Carolina	0.098	0.007	0.082
South Dakota	0.071	-0.075	--
Tennessee	-0.068	-0.046	--
Texas	0.132	0.069	0.145
Utah	0.129	0.306	-0.211
Vermont	0.522	--	--
Virginia	0.094	0.138	-0.046
Washington	0.556	0.199	0.481
West Virginia	-0.186	-0.327	--
Wisconsin	0.573	0.136	-0.103
Wyoming	0.327	0.254	-0.108

* In certain states, there are years for which there are no observations for African American and/or Latino state government employees. As a result, these states are omitted in order to estimate balanced models.

Table 3. Models of Bureaucratic Representation

	1	2	3	4	5
	Female Representation Ratio	African-American Representation Ratio	Latino Representation Ratio	African-American Female Representation Ratio	African-American Male Representation Ratio
Private Sector Discrimination	0.017 (3.30) ++	0.146 (1.39)	0.079 (1.93) +	0.127 (1.23)	0.535 (2.09) +
Citizen ideology	0.002 (5.88) ++	-0.001 (0.22)	-0.002 (1.02)	0.003 (1.02)	-0.002 (0.62)
Gross state product (in trillions)	0.007 (0.19)	0.883 (3.49) ++	0.703 (5.09) ++	1.695 (4.81) ++	0.504 (1.94) +
Per capita income (thousands)	0.001 (0.50)	0.001 (0.05)	-0.012 (0.96)	-0.018 (0.96)	-0.002 (0.13)
Total unemployment rate	0.004 (1.89)	0.012 (0.75)	-0.018 (1.48)	0.021 (1.08)	-0.016 (0.83)
Union membership/coverage	0.071 (1.05)	0.626 (1.08)	-0.845 (1.94)	2.047 (2.72)*	0.181 (0.28)
Constant	0.963 (18.97)**	0.937 (2.53)**	1.443 (4.51)**	0.808 (1.90)	1.175 (2.63)**
Observations	800	720	608	703	709
Number of States	50	45	38	45	45
R-squared	0.75	0.46	0.59	0.59	0.47

Robust t statistics in parentheses

+ p < .05, one-tailed test

++ p < .01, one-tailed test

* p < .05, two-tailed test

** p < .01, two-tailed test

Appendix A Constructing the Measure of Private Sector Discrimination

Step 1

To construct a measure of private sector discrimination, relative to public sector discrimination, we first begin by estimating a log wage equation for each state in each year using the model specified below:

$$\ln(\text{wage}_{i,t}) = \alpha_{i,t} + \beta D_{i,t} + \gamma H_{i,t} + \varepsilon_{i,t}$$

Where:

- D = vector of interactive dummy variables
- H = vector of human capital controls (age, age squared, full-time status, education, occupation, industry, marital status)
- i = state
- t = year

The vector of dummy variables, “D”, includes all interactions of race, sex, and public sector employment status with white males employed in the private sector serving as our omitted category. Doing so allows for consistent comparisons across gender, race, and ethnicity.

Step 2

Using coefficient estimates from each of our dummy variables, represented as “D” above, we then calculate wage penalty differences for women, African Americans, and Latinos. To do so, we sum all coefficients for women in the private sector and subtract them from the sum of all coefficients for women in the public sector.

For example, the *Private Sector Discrimination* measure for women is calculated as follows:

$$[\beta_WPF + \beta_APF + \beta_LPF + \beta_OPF] - [\beta_WPvF + \beta_APvF + \beta_LPvF + \beta_OPvF]$$

Where:

- β_WPF = Coefficient for White public sector females
- β_APF = Coefficient for African-American public sector females
- β_LPF = Coefficient for Latino public sector females
- β_OPF = Coefficient for Other public sector females
- β_WPvF = Coefficient for White private sector females
- β_APvF = Coefficient for African-American private sector females
- β_LPvF = Coefficient for Latino private sector females
- β_OPvF = Coefficient for Other private sector females

As constructed, a positive value for *Private Sector Discrimination* would indicate more discriminatory private sector wage rates relative to public sector wage rates.