

# Explaining the 40 Year Old Wage Differential: Race and Gender in the United States

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A basic fact of the U.S labor market is persistent race and gender wage differentials. (Altonji and Blank, 1999) However, pay disparities found in public sector jobs are lower than those found in the private sector.<sup>1</sup>One explanation is that public firms discriminate against traditionally under-represented groups but experience less overall pressure to maximize profits and minimize costs relative to private firms. In other words, public firms are less willing to pay for the opportunity to discriminate. As a result, a persistent race and gender wage differential can exist in both the public and private labor market but be smaller for public sector workers.

At the same time, since the Civil Rights Act of 1964, the absolute size of race and gender differentials has shrunk significantly while the education level for the average worker has risen substantially. This empirical regularity has led many to counter that the differentials observed in today's labor market are no longer the result of widespread discriminatory practices by public and private firms but instead simply reflect a combination of productive characteristics and workplace preferences each group brings to the labor market.

According to the Bureau of Labor Statistics, in 2014, state and local government was the largest

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<sup>1</sup>See Lewis (1996).

employer among all major industry sectors. In this paper we ask, what are the current facts about gender and race in labor market outcomes for public workers compared to those 40 years prior? Specifically, is there evidence of labor market discrimination or are there group characteristics other than race and gender that are related to the differences in wages earned by public workers? If so, do these group characteristics explain race and gender wage differentials or are they better explained by differences in the labor markets treatment of these given characteristics?

We find small earnings differentials by race and large differentials by gender in the 2014 public sector labor market. In 1975, we find large differentials by race and gender. When describing the causes of these patterns poverty levels and marriage status by group are the most related in 2014 and in 1975 education is related as well. We find that almost all earnings by public sector workers were raised above the average U.S. worker because of productive group characteristics. However, all female workers had lower than average rates of return on their estimated group characteristics which for non-Hispanic black, Hispanic white, and Mexican females was not offset by an equal or greater amount of productive group characteristics.

Our work contributes to a large literature on racial, ethnic, and gender discrimination in the U.S. public sector labor market.<sup>2</sup> Our empirical approach most closely follows that of Farley (1990) and Darity et al. (1996) who address intergroup disparity in earnings. However, unlike these two papers we focus on the intergroup earnings disparity of U.S. public sector workers. In particular, public workers in 2014 and 1975.

The rest of the paper proceeds as follows. The next section describes our dataset and identifies simple trends about race and gender in labor market outcomes and personal characteristics for public sector workers. The third section reports results from decomposing group and average worker differentials into the percent explained by group characteristics and the percent explained by the labor markets treatment of those characteristics. The last section concludes.

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<sup>2</sup>See Gregory and Boreland (1999), Blau and Kahn (2004), and Lang and Lehman (2012).

# 1 Race and Gender in the Public Sector Labor Market

This section describes our data set, variables, and presents simple trends about race and gender in labor market outcomes and personal characteristics for public sector workers. Our purpose is to identify the current facts about gender and race in labor market outcomes for public workers in 2014 compared to those in 1975. In particular, we are interested in identifying whether labor market outcomes for public workers are related to personal characteristics other than race and gender.

Our dataset is the Current Population Survey (CPS), 2015 and 1976 Annual Social and Economic (ASEC) Supplement. The ACEC Supplement is a survey conducted annually and distributed by the Bureau of the Census for the Bureau of Labor Statistics. The CPS collects information at the individual/family/household level in the current year as reported for the previous year on the employment situation of the U.S. labor force. In a similar way the ACES Supplement collects information on the labor force's demographic status.

For comparison purposes, we restrict the 2014 and 1975 CPS workforce sample further to adults between the age of 25 and 54 that work more than 34 hours per week and were employed at least 50 weeks. Our key labor market outcome, the average hourly real wage is constructed as the annual earnings of each individual divided by the product of the number of weeks worked and usual number of hours worked per week.<sup>3</sup> We are then left with a sample of the 2014 U.S. labor market consisting of 45,003 individuals making an average hourly wage of \$24.05.

Column 3 of Table 1 shows the average hourly wage for our sample broken down into groups by sector, race, and gender in rank order. Panel A breaks the 2014 workforce into groups by sector and gender. Panel B breaks the 2014 public sector workforce into groups by race and gender. Panel C breaks the 1975 public sector workforce into groups by race and gender.

Column 3 of Panel A in Table 1 indicates that while men in the private sector make the same as men in the public sector, women in the public sector and private sector earn about four-fifths

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<sup>3</sup>The real wage is in 2010 dollars and is calculated using an annual average CPI-U from Table 24 of the CPI Detailed Report.

of that earned by males with public sector jobs. Panel B shows that except for Asian women, women in public sector jobs earn even less than minority men. For example, non-Hispanic black men earn nine-tenths of that earned by non-Hispanic white men. Whereas, non-Hispanic white women and Mexican women earn respectively between four-fifths and seven-tenths of that earned by non-Hispanic white men.

The relative economic disparity in 2014 between race and gender in the public sector labor market is not a new phenomenon. Similar patterns exist in the 1975 sample. For example, non-Hispanic black men earn eight-tenths of that earned by non-Hispanic white men. Whereas, non-Hispanic white women and Mexican women earn between seven-tenths and half of that earned by non-Hispanic white men respectively.

The wage trends in column 3, Panel B and C in Table 1 reveal that all groups relative to non-Hispanic white men have experienced an increase in their earnings. In particular, Mexican women and Hispanic white men showed the largest relative increases. Non-Hispanic black men showed essentially no change.

In describing the causes of these labor market differences, columns 4 to 7 in Table 1 show a set of personal characteristics that workers bring with them to the workplace. Following Farley (1990) we consider the average number of post secondary years completed (Education), the proportion of workers reporting their occupation was managerial or professional (Manager), the proportion of workers whose reported annual earnings were below the one hundred percent poverty threshold for one person in the same year (Poverty), and the proportion of workers who identified themselves as currently married (Married).

Education differences in 2014 among public workers are small with gender mattering much more than race. The differences in education 1974 are much larger and while race seems to matter here gender again seems to matter more. A similar trend is found for the proportion of workers that identify their occupation as managerial or professional. Only the poverty and marriage measure seem to be related to the patterns of labor market differences observed in our sample. Groups that have a larger proportion of workers below the federal poverty threshold and less workers identified

currently as married tend to have lower wages irrespective of sector, race, or gender.

## 2 Decomposing Race and Gender Wage Differentials

In the previous section we described trends in the average wage and individual characteristics of public sector workers in the United States by race and gender. That exercise, while useful for identifying and describing raw wage disparities for public sector workers, doesn't tell us how much of the differences in wages are explained by differences in ability from one group to the next. One popular way of indirectly answering that question is with the Blinder-Oaxaca decomposition. (Oaxaca, 1973; Blinder, 1974) In this section we present results from our use of this technique which is operationalized by first estimating structural wage equations for all U.S. workers and then public sector workers by race, gender, and year.

The Blinder-Oaxaca decomposition posits that any group may have lower average wages than the average U.S. worker either because of a shortage of the abilities which generate the groups average wage or because of lower returns to the groups abilities. The log wage is our dependent variable and we follow when applicable the right hand side variables used by Darity et al. (1996) to measure the productive characteristics of each worker with the purpose of summarizing worker ability. We therefore estimate 23 equations, one for all U.S. workers and one for each of the groups observed in Table 1.<sup>4</sup>

We next decomposes how much of the differences in wages between the average U.S. worker and the subgroup is explained by our estimate of average group ability. Lastly, we decomposes how much of the differences in wages between the average U.S. worker and the subgroup is left unexplained by our estimate of average group ability. Because of inherent limitations in the CPS data measuring worker ability, past labor market experience, and family background characteristics this share of the decomposition therefore captures both the effects of discrimination and unobserved group differences in productivity and tastes.

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<sup>4</sup>The 1976 ACES is missing Asians and Mexicans and Hispanic white females have less than 200 observations. As a result, we don't estimate equations for those groups in that year.

Table 2 report results from the decomposition for public and private sector workers for 2014 and 1975 log earnings. Columns 1 to 4 in Table 2 present the average real hourly wage (Wage), the predicted wage relative to the average wage (Ratio), the percentage of the wage differential between all workers and workers by grouping explained by observable groups characteristics (OWN), and the part of the wage differential between all workers and workers by grouping that is explained by the returns to observable group characteristics.

The results in Panel A provide evidence that male workers fair better than women in both the public and private markets in both 2014 and 1975 but that male public workers do better than men in the private sector only in 2014. For both men and women, in 2014, their relative earnings are higher in public sector jobs than private sector jobs. Men in public sector typically earned wages above regardless of racial ethnic group. This was not the case in 1975, where only non-Hispanic whites earned wages in the public sector above the U.S. average. There is also a shrinking of relative earnings as most racial-ethnic groups wages moved closer to the mean over time. For instance non-Hispanic white females earned 93 percent of the mean in the public sector in 1975 compared to earnings of 101 percent of the mean in 2014. Despite the shrinking disparity in wages by racial groups, most women working in the public sector earn less than the average worker in 2014. The exceptions are for Non-Hispanic white women and Asian American women.

The shrinking wage disparities in the public sector are mostly driven by higher productive characteristics. Non-Hispanic black males earnings are raised by 3 percent due to their productive characteristics in the public sector. It is clear that overtime, the decrease in wage-disparities across racial ethnic groups is being driven by increase in productive characteristics by both genders.

The remaining difference in earnings relative the U.S. average is a result of the worker returns to productive characteristics in our wage decomposition model. Two patterns exist over time and across racial and gender groups. The returns to productive characteristics are typically smaller for males relative to females in absolute terms. The returns to productive characteristics for women are negative in both 2014 and 1975. Table 2 show clear evidence that women labor market characteristics are not as valued as men.

### **3 Conclusion**

The goal of this study is to identify current facts about gender and race in labor market outcomes for public workers compared to those 40 years prior. We find small earnings differentials by race and large differentials by gender in the 2014 public sector labor market. In the 1975 public sector labor market we find large differentials by race and gender. When describing the causes of these labor market outcome differences in 2014, the proportion of workers by group in poverty and unmarried are most likely related to the patterns of labor market differentials we observe.

We find small earnings differentials by race and large differentials by gender in the 2014 public sector labor market. In 1975, we find large differentials by race and gender. When describing the causes of these patterns poverty levels and marriage status by group are the most related in 2014 and in 1975 education is related as well. We find that almost all earnings by public sector workers were raised above the average U.S. worker because of productive group characteristics. However, all female workers had lower than average rates of return on their estimated group characteristics which for non-Hispanic black, Hispanic white, and Mexican females was not offset by an equal or greater amount of productive group characteristics.

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Table 1: Descriptive Characteristics, U.S. Labor Market, 2014 and 1975

Group	Obs.	Wage	Education	Manager	Poverty	Married
Panel A: U.S. Labor Market by Sector and Gender, 2014						
Public Sector Male	3,883	26.76	2.59	0.39	0.01	0.57
Private Sector Male	21,267	26.41	1.89	0.30	0.02	0.66
Public Sector Female	4,093	22.38	2.98	0.63	0.02	0.64
Private Sector Female	15,760	20.64	2.18	0.38	0.03	0.57
Panel B: Public Sector Labor Market by Race and Gender, 2014						
Non-Hispanic White Male	2,647	27.47	2.71	0.41	0.01	0.81
Asian Male	250	27.11	2.96	0.49	0.01	0.72
Asian Female	220	26.37	3.30	0.59	0.03	0.68
Hispanic White Male	398	25.42	2.17	0.31	0.01	0.67
Mexican Male	258	24.22	2.00	0.29	0.00	0.67
Non-Hispanic Black Male	475	24.14	2.22	0.31	0.01	0.56
Non-Hispanic White Female	2,577	22.68	3.16	0.70	0.02	0.72
Non-Hispanic Black Female	686	21.38	2.61	0.50	0.02	0.42
Hispanic White Female	464	20.37	2.52	0.54	0.03	0.59
Mexican Female	314	19.25	2.31	0.49	0.03	0.59
Panel C: Public Sector Labor Market by Race and Gender, 1975						
Non-Hispanic White Male	2,508	26.70	2.01	0.46	0.00	0.86
Hispanic White Male	204	20.23	1.11	0.25	0.01	0.82
Mexican Male	134	19.81	1.16	0.22	0.01	0.82
Non-Hispanic Black Male	286	22.30	1.18	0.22	0.01	0.79
Non-Hispanic White Female	1497	19.17	2.21	0.55	0.01	0.67
Non-Hispanic Black Female	316	17.72	1.60	0.41	0.02	0.55
Hispanic White Female	97	15.37	1.00	0.36	0.03	0.65
Mexican Female	64	14.19	0.78	0.31	0.03	0.66

Source: Current Population Survey, 2015 and 1976 Annual Social and Economic Supplement.

Note(s): This table presents labor market outcomes and descriptive characteristics for adults between the age of 25 and 54 that work more than 34 hours per week and were employed at least 50 weeks in the 2014 and 1975 U.S. labor market. Columns are defined as workers by group (Group), the number of observations (Obs.), the average real hourly wage (Wage), the average number of post secondary years completed (Education), the proportion of workers reporting their occupation was managerial or professional (Manager), the proportion of workers whose reported annual earnings were below the one hundred percent poverty threshold for one person in the same year (Poverty), and the proportion of workers who identified themselves as currently married (Married).

Table 2: Decomposition of Wage Differentials, U.S. Labor Market, 2014 and 1975

Group	2014				1975			
	Wage	Ratio	OWN	ROR	Wage	Ratio	OWN	ROR
Panel A: U.S. Labor Market by Sector and Gender								
Public Sector Male	26.76	107	5	2	25.83	111	6	4
Private Sector Male	26.41	102	-1	3	25.84	109	2	7
Public Sector Female	22.38	100	4	-4	18.74	91	-3	-7
Private Sector Female	20.64	95	-1	-3	15.16	76	-7	-16
Panel B: Public Sector Labor Market by Race and Gender								
Non-Hispanic White Male	27.47	108	6	2	26.70	113	8	5
Asian Male	27.11	107	7	0	N/A	N/A	N/A	N/A
Asian Female	26.37	105	7	-2	N/A	N/A	N/A	N/A
Hispanic White Male	25.42	105	2	3	20.23	95	-3	-1
Mexican Male	24.22	104	1	3	19.81	N/A	N/A	N/A
Non-Hispanic Black Male	24.14	104	3	1	22.30	102	2	0
Non-Hispanic White Female	22.68	101	5	-4	19.17	93	-1	-1
Non-Hispanic Black Female	21.38	99	2	-3	17.72	87	-6	-6
Hispanic White Female	20.37	98	2	-4	15.37	N/A	N/A	N/A
Mexican Female	19.25	96	0	-4	14.19	N/A	N/A	N/A

Source: Current Population Survey, 2015 and 1976 Annual Social and Economic Supplement.

Note(s): This table reports results from the decomposition of the log wage differential between all workers and workers by group in 2014 and 1975. Columns are defined as workers by group (Group), the average real hourly wage (Wage), the predicted log wage relative to the average log wage (Ratio), the percentage of the wage differential between all workers and workers by grouping explained by observable groups characteristics (OWN), and the part of the wage differential between all workers and workers by grouping that is explained by the returns to observable group characteristics (ROR).