Still an Equal Opportunity Employer?
Public Sector Employment Inequality after the Great Recession

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Abstract

Historically, the public sector has served as an equalizing institution through the expansion of job opportunities for minority workers. This study examines whether the public sector continues to serve as an equalizing institution in the aftermath of the Great Recession. Using Current Population Survey data, I investigate changes in public sector employment and unemployment between 2003 and 2013. My results point to a post-recession double disadvantage for black public sector workers: they are concentrated in a shrinking sector of the economy, and they are substantially more likely than other public sector workers to be without work. These two trends are a historical break for the public sector labor market. I find that deteriorating employment outcomes for black public sector workers cannot be explained by differences in education, occupation, or any of the other measurable factors that are typically associated with employment.

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Introduction

After recessions, government employment usually expands (Elsby et al. 2011). But after the Great Recession of 2007 - 2009, government employment contracted. Aside from the two week shutdown of the federal government in 2013, most of the layoffs were made by state and local governments (Stevenson and Langan 2011).[1] Severe cuts were made to police forces, fire departments, social service agencies, and school districts (Dewan and Rich 2012). Despite the billions allocated to preserve jobs through the American Reinvestment and Recovery Act of 2009, total government employment fell three percent between December 2008 and December 2013. Why did the government shrink after the Great Recession? Similar to previous recessions, the Great Recession led to a decrease in sales and income tax receipts. The drop in tax revenue after the Great Recession, however, was especially deep and long-lasting (Gordon 2012). Compared to earlier recessions, workers stayed unemployed for longer and the transition rate of workers leaving the labor force altogether was lower (Kroft, Lange, Notowidigdo, and Katz 2014). As a result of heightened demand for unemployment benefits and other government subsidies, budgets at both the federal and state level were stretched thin.

There are also political forces that contributed to the contraction of public sector employment. After the 2010 midterm election, the Tea Party and its supporters were vocal about their intent to cut public sector employee benefits and slash public spending (Skocpol and Williamson 2012). With tax revenues in freefall, political constraints against raising taxes, and a growing number of high-profile political attacks against public sector employees (including those led by governors in Wisconsin and Indiana), many states and municipalities resorted to drastic measures. In 2011, approximately 40% of state and local governments reported layoffs; more than half implemented pay freezes or furloughs (Center for State and Local Government Excellence 2012).

The effects of public sector decline will be uneven simply because black workers –

[1] The majority of public sector workers are employed by local government; less than a fifth are employed by the federal government.

black women in particular – are over-represented in the public sector. In 2010, when state budget shortfalls reached their peak, 17% of black women in the Current Population Survey (CPS) worked in the public sector, compared to 15% of white women, 13% of black men, and 12% of white men (Oliff, Mai, and Palacios 2012). Yet there is also evidence that inequality increased *within* the public sector. Among women in the CPS who reported that their current or most recent job was in the public sector, there was a dramatic increase in the black / white unemployment gap from less than a percentage point in 2008 to a peak of 5.5 percentage points in 2011.

What accounts for the sudden increase in public sector employment inequality? This study considers potential explanations based on theories about human capital and occupational sorting. I examine black / white differences in public sector employment and unemployment after taking into account compositional differences in education and occupation. The dynamics of public sector stratification are important for at least two reasons. First, social scientists consider the public sector to be a major source of economic mobility for black workers, particularly black women (Parks 2011; Zipp 1994). Understanding public sector decline should inform debates about between-race and within-race inequality in the United States. Second, by clarifying the link between public sector decline and racial inequality, this analysis advances the literature on the social and economic consequences of the Great Recession (Grusky, Western, and Wimer 2011).

Theoretical Framework

Similar to Wilson's (1996) contention that industrial restructuring led to black employment disadvantages after the 1970s, the recent restructuring of the public sector may have led to black employment disadvantages after the Great Recession. Faced with sudden pressure to downsize, public sector managers might try to protect high-skill workers who would be difficult to replace once tax revenues and personnel budgets start to rebound. Data from the CPS suggest that educational credentials reduce the likelihood of becom-

ing unemployed in both the private and the public sectors. Among public sector teachers (roughly a third of the female public sector labor force), holding a master's degree significantly decreases the odds of being laid off (Goldhaber and Theobald 2013). In the CPS, 45% of white teachers hold a master's degree or higher, compared to just 36% of black teachers.

On the other hand, public sector layoffs may be decided based on the type of job rather than the type of worker. If black women are concentrated in the type of public sector jobs that tend to be eliminated or scaled back during a budget crisis – net of their individual levels of human capital – then their employment and earnings disadvantage may be linked to occupational sorting (Tomaskovic-Devey 1993). Since the early 1940s, the public sector has been a major source of clerical employment for black women (King 2003). Data from the CPS indicate that these positions may have been targeted during the recent downsizing of the public sector. Compared to employed public sector workers in the CPS, unemployed public sector workers between 2009 and 2013 are more likely to have worked in administrative and secretarial occupations.

Trends in public sector employment and unemployment

During the latter half of the 20th century, the public sector provided an employment boom for groups that had been historically underrepresented in the labor market. Between 1961 and 1965, blacks gained 28% of new positions in the federal government despite the fact that they only made up a little more than 10% of the U.S. population (Krislov 1967). The share of female government workers rose by nearly 70% between 1964 and 1974, and by another 28% by 1981 (Abramovitz 2012; U.S. Department of Labor Women's Bureau 1983; U.S. Department of Labor Women's Bureau 1975). Since 1960, the proportion of blacks working for the government has surpassed the proportion of blacks in the population (Hellriegel and Short 1972; Pitts 2011).

There are both political and structural reasons for the over-representation of blacks and

women in government jobs. In the decades following World War II, a series of executive orders and court decisions established equal opportunity employment procedures for government workers. On June 25, 1941 – a week before a scheduled "March on Washington" by civil rights leaders – President Roosevelt established the Committee on Fair Employment Practices. The order was the first of its kind, but the committee had little power (it had no authority over military personnel, for example). President Kennedy's Committee on Equal Employment Opportunity arguably had the largest impact on the enforcement of non-discrimination employment policies (Krislov 1967, p. 30). Rather than focusing on grievances, Kennedy's committee implemented a plan of "positive compliance" based on an annual census of employment. In 1965, President Johnson signed an executive order prohibiting federal contractors from discriminating in employment decisions on the basis of race. Responding to pressure from the National Organization of Women, Johnson amended the order in 1967 to prohibit federal contractors from discriminating on the basis of sex.

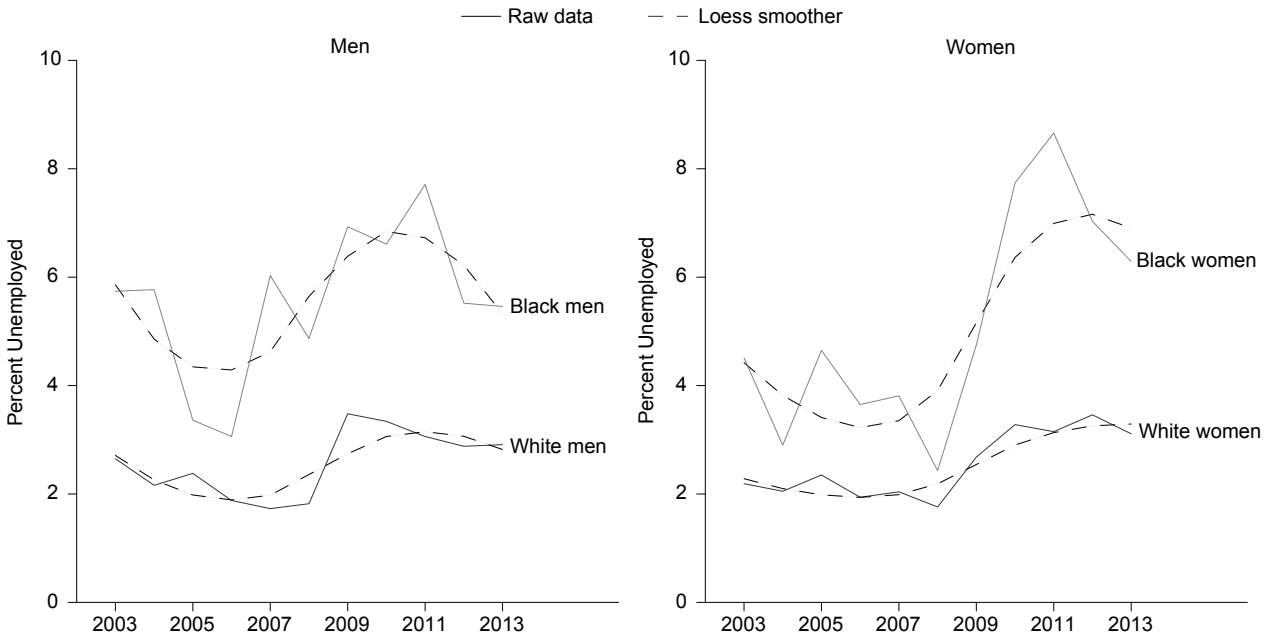
In addition to building political pressure to enforce equal opportunity in the public sector, there was a structural component that expanded public sector opportunities for blacks and women. The demand for government labor expanded significantly during World War II. As a result, there was a sharp increase in the overall number of public sector jobs (Grandjean 1981; Hellriegel and Short 1972; Krislov 1967). With a large supply of jobs and a small supply of workers, government managers could change the composition of the public sector workforce without having to displace white men (Krislov 1967). The number of federal employees peaked again during the Vietnam War. After the mid-1980s, the number of federal employees declined as the federal government increased the amount of work outsourced to contractors (Caplow, Hicks, and Wattenberg 2001). The number of state and local jobs, however, continued to increase through the late 2000s (U.S. Census Bureau 2012).

The public sector has not only provided blacks and women with equal opportunities

for employment – it has provided blacks and women with equal opportunities for *good* employment. Until the recent past, working for the government often meant having a pension, long-term job security, and regularly scheduled opportunities for upward mobility. Compared to the private sector, the public sector has offered black and female workers with better pay, job stability, and more professional and managerial opportunities (Blank 1994; Blank 1985; Hout 1984; Carrington, McCue, and Pierce 1996; Hollister 2011; Pitts 2011; Smith 1977). Historically, black-white and male-female income inequality has been significantly lower in the public sector, even after controlling for public / private differences in occupation and education (Gornick and Jacobs 1998; Grodsky and Pager 2001).

That was all before the Great Recession. Figure 1 below shows the black/white unemployment gap among public sector workers before, during, and after the Great Recession:

Figure 1: Public sector unemployment



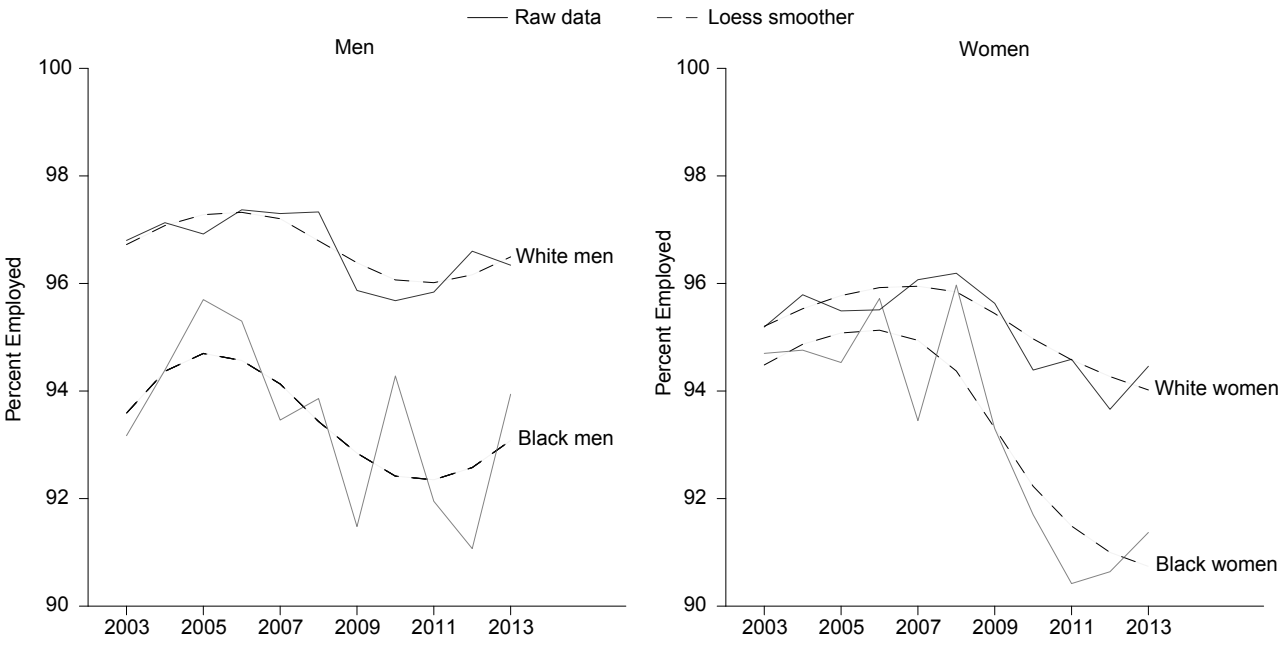
Source: Data come from the CPS-MORG files.
Note: Sample restricted to individuals in the labor force between 16 and 64 in their fourth interview.

Black women appear to be among the workers most affected by public sector layoffs. The race gap in female public sector unemployment rates increased dramatically from less

than a percentage point in 2008 to a peak of 5.5 percentage points in 2011. Compared to their male counterparts, both black and white women in the public sector experienced a steeper rise in post-recession unemployment.

The gaps in unemployment do not capture the full extent of the gaps in labor force participation. During recessions, there is a greater tendency for individuals who desire work to stop looking (i.e., to become discouraged workers). As the economy improves and more jobs become available, individuals re-enter the labor market, temporarily increasing the ranks of the unemployed. The prime-age employment ratio captures trends in labor force participation without being affected by temporary changes in job search behaviors. Among working-age individuals who report that their current or most recent job is in the public sector, there was a large increase in the female black /white employment gap (Figure 2).

Figure 2: Public sector employment, ages 25 - 54.



Source: Data come from the CPS-MORG files.
Note: Sample restricted to individuals between 25 and 54 in their fourth interview who reported that their current or most recent job was in the public sector.

Between 2009 and 2011, there was a steep decline in the employment rates for black women in the public sector. There also appears to be a lag in the recovery for women.

By 2013, employment rates for black men had rebounded to the pre-recession range. Employment rates for black women in the public sector bottomed out in 2011. As of 2013, prime-age employment rates for black female public sector were still 4.6 percentage points lower than the 2008 peak.

Whether the public sector will continue to serve as an equalizing institution depends on the mechanism driving recent changes in public sector inequality. It may be that blacks are over-represented among the types of government workers or in the types of government jobs that are the most vulnerable to elimination following a recession. If this is the case, then only high skill workers in recession-proof jobs are benefiting from the equalizing effects of the public sector.

Data and Methods

I examine stratification in employment and unemployment using data from the merged outgoing rotation group of the Current Population Survey (CPS-MORG). The CPS, the source of the official U.S. monthly unemployment rate, is a monthly survey of approximately 60,000 households conducted by the Census Bureau for the Bureau of Labor Statistics. I use the 2003 - 2013 CPS MORG files (prior to 2003, there are major changes to the Census occupation scheme). I use the MORG files of the CPS instead of the CPS Annual March Demographic survey for two reasons: the MORG samples are larger, and the March samples may be subject to seasonal or recall bias because they are administered once a year rather than monthly (Akerlof and Yellen 1985; Horvath 1982; Morgenstern and Barrett 1974). I restrict the sample to working-age men and women between the ages of 16 and 64.[2]

The CPS is a monthly survey, although new households are not interviewed each month. Households that enter the CPS are typically interviewed for four months, then ignored for

[2] Members of the military who reside in military barracks are excluded from the CPS. Because the CPS is designed to measure unemployment in the civilian labor force, members of the armed forces are not part of the universe for many employment-related questions. For these reasons, members of the armed forces are not included in this analysis.

eight months, then interviewed again for four more months. Households in months four and eight are considered the "outgoing rotation groups" because they are about to leave the observation sample (temporarily or permanently). I drop CPS respondents in their eighth interview to avoid observing respondents twice in one sample. Because the CPS models include occupation as a control, I further restrict the sample to those from whom the CPS collects occupation information. The CPS collects occupation information from those who report one of the four following conditions the week prior to the survey: 1) employed, 2) laid off / unemployed / looking and ever worked, 3) retired and worked within last 12 months, or 4) disabled and worked within last 12 months or otherwise not in the labor force and worked within last 12 months.[3] I use the BLS definition of unemployment: not currently working, have actively looked for work in the prior four weeks, and currently available for work.

My race/ethnicity categories are: non-Hispanic white, non-Hispanic black, Hispanic, and other non-Hispanic race. The variable I use to examine variation by sector is "class of worker," an indicator of whether the respondent's current job (or most recent job if the respondent is unemployed or out of the labor force) is in the private or public sector. Public sector workers can be further disaggregated by type of public sector employment (federal, state, or local).

I run the models separately by gender and sector based on the assumption that pathways to employment and opportunity structures vary by gender and by sector. In the full model, I control for education, occupation, age, age squared, marital status, parental status, and veteran status.[4] Educational attainment, age, and being married are all associated

[3]Those who are not working, available for work, have looked for a job during the past year but not during the past four weeks are considered by the BLS to be discouraged workers. Approximately 77% of the 3,885 discouraged workers in the CPS sample have missing occupation information and are therefore dropped from this analysis. Given that discouraged workers are disproportionately male and black, the CPS results most likely underestimate employment disadvantages among men and among blacks.

[4]I use the 22-category CPS "two-digit" detail occupation recode. The 22 categories are: management, business and financial operations; computer and mathematical science; architecture and engineering; life, physical, and social science occupations; legal occupations; education, training, and library occupations; arts, design, entertainment, sports, and media occupations; healthcare practitioner and technical occupations; healthcare support occupations; protective service occupations; food prep and serving occupations; building and grounds cleaning and maintenance; personal care and service; sales; office and administrative support; farming, fishing, and

with a lower risk of unemployment for both men and women (Farber 2005; Johnson and Mommaerts 2011). Men living with children tend to have lower unemployment rates than men not living with children. Among unmarried women in the CPS, living with children increases the probability of unemployment. I include the control for veteran status because veterans tend to have higher unemployment than non-veterans (Kleykamp 2013; Bureau of Labor Statistics 2012).[5]

The dependent variable in all of the employment models represents three outcomes: employed, unemployed, and not in the labor force.[6] Because my dependent variable consists of multiple unordered nominal categories, I estimate the outcome probability for individual i using a multinomial logit model:

$$\ln \frac{\Pr(y = m|\mathbf{X}_i)}{\Pr(y = n|\mathbf{X}_i)} = \mathbf{X}_i(\beta_m - \beta_n),$$

where $\mathbf{X}_i$ is the matrix of explanatory variables and the β coefficients correspond to outcomes m and n.[7] I include state, metro/non-metro, year and month fixed effects to control for observed and unobserved geographic and temporal factors that give rise to differential rates of employment and unemployment.

CPS sample sizes and descriptive statistics for sector and employment are presented in

forestry; construction and extraction; installation, maintenance, and repair; production; transportation and material moving. I use this occupation scheme because it identifies occupation groups that were disproportionately affected by the recent recession (e.g., construction and extraction). With several hundred categories, the more detailed Census occupation scheme would yield cell counts that are too small to quantify race differences within sectors.

[5] For public sector workers, veteran status should theoretically reduce the odds of unemployment because preference for veterans is commonly used in in the civil service hiring process (Ban 1995; Lewis 2013). In none of my models (even those restricted to the public sector) did I find that veteran status reduced the odds of unemployment.

[6] "Not in the labor force" includes discouraged workers (with non-missing occupation information).

[7] The independence of irrelevant alternatives assumption of multinomial logit requires that an individual's probability of being in one outcome category relative to another outcome category should not change if a third (irrelevant) category is added to or dropped from the analysis (e.g., there is a chance that an individual's probability of voting for a Democrat versus a Republican will change if a third-party candidate is added to the ballot). Under the IIA assumption, there should be no systematic change in the coefficients if one of the outcomes is excluded from the model. I performed a Hausman test for a violation of IIA, comparing the results from the full model and a model that excludes those who are not in the labor force. According to the results of the Hausman test (available upon request), there is no evidence that the IIA assumption is violated in this analysis.

Table 1:

Table 1. Descriptive statistics for sector and employment by race and sex, 2003 - 2013.

	Women				Men			
	Black	White	Hispanic	Other	Black	White	Hispanic	Other
Percent public sector	21.2%	17.5%	13.4%	15.2%	15.4%	11.8%	7.1%	11.7%
Public Sector								
Percent employed	92.0%	93.7%	93.0%	92.1%	91.9%	94.7%	94.5%	92.0%
Percent unemployed	4.9%	2.4%	3.5%	4.3%	5.0%	2.2%	3.0%	4.1%
Percent out of labor force	3.1%	4.0%	3.5%	3.6%	3.1%	3.1%	2.5%	3.9%
Sample size	12,129	70,848	7,576	6,608	7,163	52,068	5,219	5,355
Total sample size		97,161				69,805		
Private Sector								
Percent employed	85.0%	90.6%	87.1%	90.1%	83.0%	91.1%	89.7%	90.8%
Percent unemployed	10.7%	5.0%	8.2%	5.6%	13.2%	6.0%	7.8%	6.2%
Percent out of labor force	4.4%	4.4%	4.7%	4.3%	3.8%	3.0%	2.5%	3.1%
Sample size	42,957	318,744	49,272	30,667	36,852	370,606	67,640	33,530
Total sample size		441,640				508,628		

Source: Data come from CPS MORG supplements, 2003-2013.
Note: Weighted percentages presented. Sample excludes those with any missing information about their current or most recent job. Sector refers to the respondent's job at the time of the survey if the respondent is employed. For those who are unemployed or out of the labor force, sector refers to the respondent's most recent job. Sample restricted to men and women ages 16-64. Unlike the official unemployment rate which excludes those not in the labor force, the denominator in the above estimates of percent unemployed also includes respondents who are not in the labor force.

Table 1 shows the composition of the labor force by sector and the disparities in employment status by sector, sex, and race. Among both public and private sector workers, black men have the highest rates of unemployment and the lowest rates of employment. Black women are clearly over-represented among government employees: roughly one in five works in the public sector.

Results

In Table 2 below, I present the results of multinomial regression models that test whether education or occupation can account for differences in the probability of unemployment among public sector workers. In the Appendix, I include results predicting the odds of not being in the labor force, as well as the results for the private sector. The coefficients in the Appendix tables show that the race gaps in unemployment cannot be attributed to differential likelihoods of being out of the labor force.

Table 2. Logit coefficients from multinomial logistic regressions predicting unemployment (vs employment), female public sector workers only.

	M1: Baseline			M2: M1 + education			M3: M2 + 22-cat occupation			Full model		
	2003 - 2008	2009 - 2011	2012 - 2013	2003 - 2008	2009 - 2011	2012 - 2013	2003 - 2008	2009 - 2011	2012 - 2013	2003 - 2008	2009 - 2011	2012 - 2013
Black	.65***	.86***	.85***	.51***	.74***	.75***	.52***	.75***	.78***	.55***	.68***	.69***
	(.08)	(.08)	(.11)	(.08)	(.08)	(.11)	(.08)	(.09)	(.11)	(.09)	(.10)	(.12)
Hispanic	.30**	.43***	.67***	.06	.23	.50***	.01	.18	.49***	-.02	.05	.41**
	(.11)	(.12)	(.13)	(.11)	(.12)	(.13)	(.11)	(.12)	(.13)	(.12)	(.13)	(.15)
Other	.73***	.59***	.57***	.63***	.54***	.50***	.63***	.53***	.50***	.59***	.48***	.49**
	(.09)	(.12)	(.14)	(.10)	(.12)	(.15)	(.10)	(.12)	(.15)	(.11)	(.13)	(.16)
Education												
(reference = less than high school)												
H.S. diploma or equivalent				-1.07***	-.84***	-.93***	-.91***	-.70***	-.83***	-.69***	-.54***	-.68***
				(.11)	(.15)	(.18)	(.11)	(.15)	(.19)	(.12)	(.15)	(.19)
Some college				-1.09***	-.85***	-1.13***	-.84***	-.62***	-.95***	-.72***	-.59***	-.91***
				(.11)	(.14)	(.17)	(.11)	(.15)	(.19)	(.12)	(.15)	(.19)
College degree				-1.62***	-1.34***	-1.47***	-1.35***	-1.04***	-1.23***	-1.12***	-.94***	-1.15***
				(.11)	(.14)	(.17)	(.12)	(.16)	(.20)	(.13)	(.16)	(.20)
Additional demographic controls												
Age										-.02***	-.02***	-.01***
										(.003)	(.003)	(.004)
Age-squared										.002***	.002***	.001*
										(.0002)	(.0002)	(.0003)
Veteran										.19	.54**	.87***
										(.20)	(.19)	(.22)
Married										-.21**	-.27**	-.39***
										(.07)	(.08)	(.09)
Children at home										.37***	.30***	.23*
										(.07)	(.08)	(.10)
Level of government												
(reference = federal)												
State government										-.24**	-.54***	-.41**
										(.09)	(.11)	(.13)
Local government										-.44***	-.47***	-.39**
										(.09)	(.10)	(.13)
Sample size	53,964	26,567	16,630	53,964	26,567	16,630	53,964	26,567	16,630	53,964	26,567	16,630
Total sample size		97,161			97,161			97,161			97,161	

*p<.05; **p<.01; ***p<.001

Source: Author's compilations. Data come from CPS MORG supplements, 2003-2013.
Note: Models run separately by sex. Full model includes year, state, metro, and month fixed effects. Sample restricted to individuals ages 16-64 in their fourth interview.

Table 3. Logit coefficients from multinomial logistic regressions predicting unemployment (vs employment), male public sector workers only.

	M1: Baseline			M2: M1 + education			M3: M2 + 22-cat occupation			Full model		
	2003 - 2008	2009 - 2011	2012 - 2013	2003 - 2008	2009 - 2011	2012 - 2013	2003 - 2008	2009 - 2011	2012 - 2013	2003 - 2008	2009 - 2011	2012 - 2013
Black	.83***	.98***	.85***	.70***	.86***	.67***	.65***	.80***	.55***	.74***	.92***	.61***
	(.09)	(.10)	(.11)	(.09)	(.10)	(.14)	(.10)	(.11)	(.15)	(.11)	(.12)	(.16)
Hispanic	.31*	.45**	.67***	.12	.23	.08	.08	.18	.04	.10	.26	.01
	(.13)	(.14)	(.13)	(.14)	(.14)	(.19)	(.14)	(.14)	(.19)	(.15)	(.16)	(.21)
Other	.98***	.56***	.57***	.95***	.51***	.87***	.91***	.44**	.77**	.88***	.41***	.82***
	(.10)	(.14)	(.14)	(.10)	(.14)	(.15)	(.10)	(.14)	(.15)	(.11)	(.16)	(.17)
Education												
(reference = less than high school)												
H.S. diploma or equivalent				-.87***	-1.11***	-1.09***	-.72***	-.97***	-.92***	-.34*	-.76***	-.66**
				(.12)	(.15)	(.21)	(.13)	(.15)	(.22)	(.14)	(.17)	(.24)
Some college				-1.04***	-1.13***	-1.14***	-.85***	-.86***	-.88***	-.54***	-.76***	-.73**
				(.12)	(.15)	(.21)	(.13)	(.16)	(.22)	(.14)	(.16)	(.24)
College degree				-1.46***	-1.61***	-1.62***	-1.37***	-1.28***	-1.42***	-.74***	-.91***	-.99***
				(.12)	(.15)	(.21)	(.15)	(.18)	(.24)	(.16)	(.18)	(.26)
Additional demographic controls												
Age										-.02***	-.03***	-.02***
										(.003)	(.004)	(.005)
Age-squared										.001***	.002***	.002***
										(.0003)	(.0003)	(.0004)
Veteran										.02	.32**	.25
										(.10)	(.12)	(.15)
Married										-.79***	-.60***	-.76***
										(.09)	(.11)	(.14)
Children at home										-.27*	-.17	-.16
										(.11)	(.12)	(.16)
Level of government												
(reference = federal)												
State government										-.37***	-.12	-.41**
										(.11)	(.12)	(.13)
Local government										-.28***	-.16	-.39**
										(.10)	(.12)	(.13)
Sample size	38,716	19,033	12,056	38,716	19,033	12,056	38,716	19,033	12,056	38,716	19,033	12,056
Total sample size		69,805			69,805			69,805			69,805	

*p<.05; **p<.01; ***p<.001

Source: Author's compilations. Data come from CPS MORG supplements, 2003-2013.
Note: Models run separately by sex. Full model includes year, state, metro, and month fixed effects. Sample restricted to individuals ages 16-64 in their fourth interview.

Among both male and female public sector workers, blacks have higher odds of unemployment (versus full-time employment) than whites or Hispanics. The second model takes into account differences in educational attainment. Including education only slightly reduces the differences between groups, suggesting that public sector unemployment disparities by race are not attributable to differences in educational attainment. The third column of Table 3 includes education and the 22-category occupation variable (see the Data and Methods section for a list of all the occupations). Again, there are only minor changes in the race effects. It is clear from Table 3 that public sector unemployment disparities by race are not a function of educational attainment or a concentration of white-workers in recession-proof occupations.

The coefficients for the control variables are generally consistent with prior research. As expected, the odds of unemployment decrease with each education level. Age is negatively associated with unemployment (at a decreasing rate). Being married reduces the odds of unemployment, although the effect is much stronger for men. Among women, veterans have significantly higher unemployment but only after the onset of the recession. Being a parent with children at home increases the odds of unemployment for women. The parent effects may reflect a household specialization model, in which women's household obligations take away time that could be spent looking for a job.

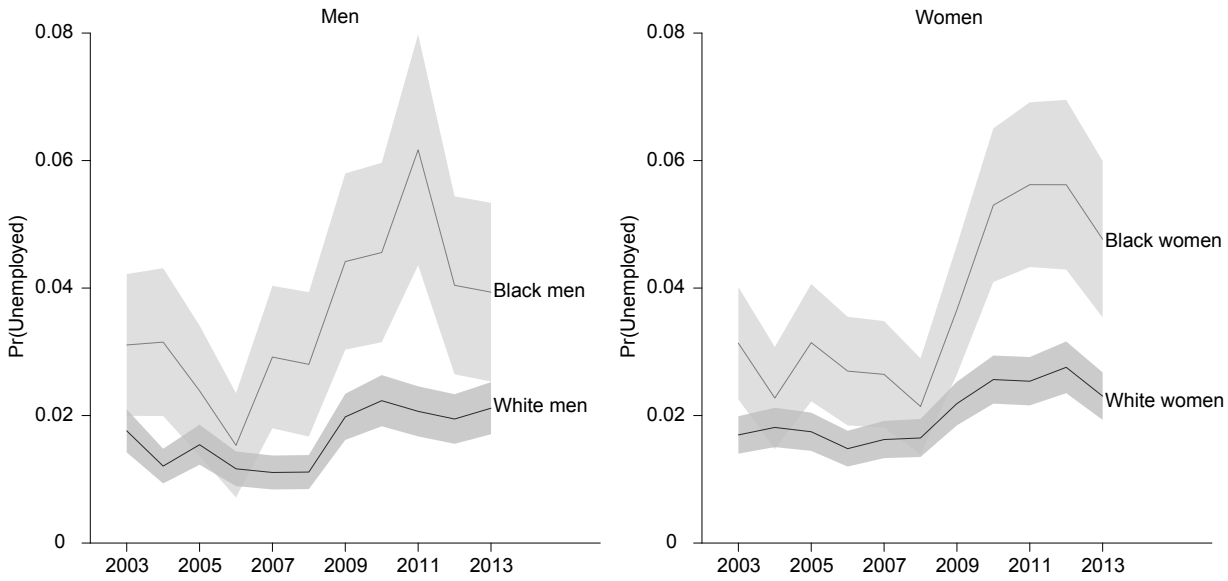
At first glance, the direction of the effects of working for state and local governments (versus the federal government) appear to be inconsistent with media accounts of public sector layoffs being concentrated at the state and local level. However, less than a fifth of public sector workers are employed by the federal government. Unemployment may be higher among federal workers simply because jobs with the federal government are relatively scarce.[8]

To get a more complete picture of how race gaps in public sector unemployment and

[8] Who is the typical federal, state, or local government employee? Approximately one quarter of state employees and one third of local government employees are teachers. Nearly a third of federal employees work in office or administrative support occupations; 50% of federal administrative support workers are postal workers. Among all public sector employees, half work for local governments, 30% work for state governments, and nearly 20% work for the federal government.

employment have changed over time, I also ran models with a race x year interaction (no year fixed effects). Figures 3 - 5 below show the predicted probabilities of unemployment and employment from the models with the interaction. I generate the predicted probabilities by holding the control variables at their mean, thereby creating a hypothetical situation in which blacks and whites have the same distribution across the covariates (including education and occupation).

Figure 3: Predicted probabilities of unemployment by sex and race for public sector workers, 2003 - 2013.



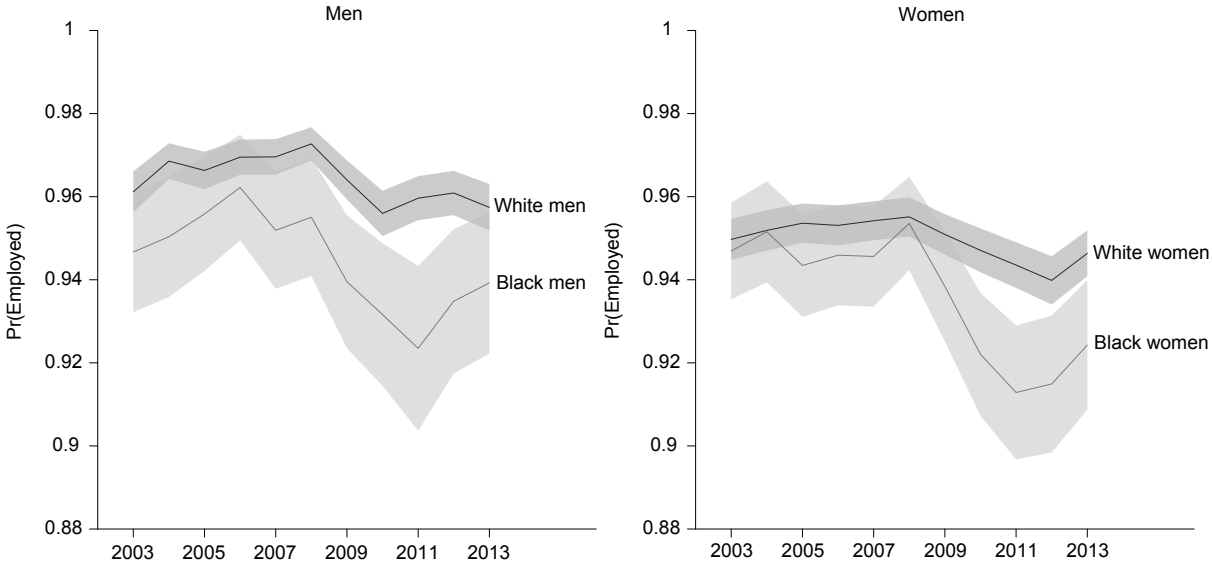
Source: Author's calculations. Data come from the CPS MORG supplements.
Notes: Shaded areas represent 95% confidence intervals. Models includes controls for education, age, marital status, occupation, interactions between year and race, as well as state and month fixed effects. Sample restricted to individuals ages 16-64 in their fourth interview.

The shaded areas represent 95% confidence intervals. Unemployment probabilities increased for all public sector workers as a result of the Great Recession; however, black workers experienced a much larger increase than white workers. For men in the public sector, the black / white disparity decreased substantially after 2012. Considering the extent of the financial shock to the public sector, white workers appear to have been well-protected.

Unemployment rates only reflect the population of active job-seekers. The trends in Figure 3 could understate or overstate labor force participation depending on whether

there are race differences in the propensity to stop looking for a job. Figure 4 below shows predicted probabilities of employment among those who reported that their current or most recent job was in the public sector.

Figure 4: Predicted probabilities of employment by sex and race for public sector workers, 2003 - 2013.



Source: Author's calculations. Data come from the CPS MORG supplements.
Notes: Shaded areas represent 95% confidence intervals. Models includes controls for education, age, marital status, occupation, interactions between year and race, as well as state and month fixed effects. Sample restricted to individuals ages 16-64 in their fourth interview.

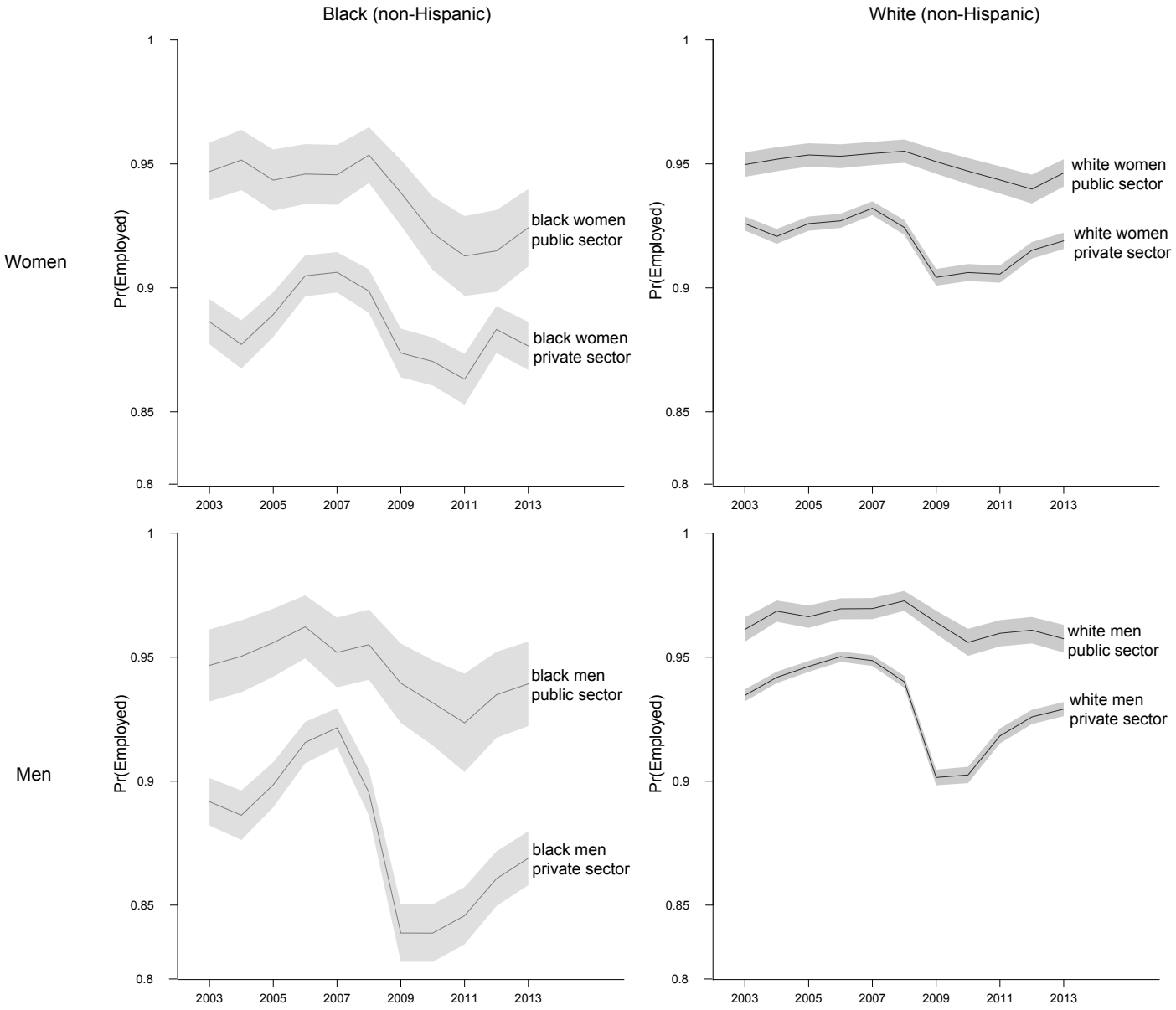
The trends in Figure 4 are consistent with Figure 3. Among public sector workers, black workers experienced a much larger drop in employment, even after controlling for education, occupation, and other observable factors associated with employment. The unemployment and employment probabilities together suggest that the public sector shed black workers – particularly black women - at a disproportionate rate following the Great Recession.[9] Figures 3 and 4 show that 1) observable employment-related factors in the CPS cannot account for the increase in black-white employment and unemployment disparities in the public sector, and 2) for black women, the rise in unemployment and the fall in employment persisted even after the recession was over.

To what extent are the trends in public sector inequality consistent with theories about

[9] Unfortunately the CPS does not allow me to identify workers previously employed in the public sector who have dropped out of the public sector labor force (either by switching to the private sector or by no longer reporting a public sector occupation). In the Discussion section, I address the potential implications of this limitation on my findings.

public / private sector convergence? Figure 5 below shows the gaps between public and private sector predicted probabilities of employment (with all of the covariates held at their mean). With a few exceptions, the controls for the private sector model are the same as the controls in the public sector model. All of the models used to generate the predicted probabilities include year X race interactions. Instead of controlling for type of government employment (federal, state, or local), the private sector model includes dummies for non-profit employment, incorporated self-employment, and non-incorporated self-employment (all of which reduce the odds of unemployment). See the appendix tables for the model coefficients.

Figure 5: Predicted probabilities of employment by gender, race, and sector.



Source: Author's calculations. Data come from the CPS MORG supplements.
Notes: Shaded areas represent 95% confidence intervals. Models includes controls for education, age, marital status, occupation, interactions between year and race, as well as state and month fixed effects. Sample restricted to individuals ages 16-64 in their fourth interview.

Although black workers in the public sector are at a disadvantage relative to white workers, private sector blacks have a much larger disadvantage relative to public sector blacks – even after the public sector started downsizing. Black men have the largest gap between public and private sector probabilities of employment. The trends in Tables 2 and 3 and Figures 3 - 5 are consistent with Couch and Fairlie's (2010) finding that black workers tend

to be the first fired as the business cycle weakens (Couch and Fairlie do not disaggregate their findings by sector or sex). What this analysis reveals is that while race differences in employment across the business cycle are attenuated in the public sector, black public sector workers continue to experience unemployment at a disproportionate rate compared to their white public sector counterparts.[10]

Discussion

This study examines whether the public sector continues to serve as an equalizing institution in the aftermath of the Great Recession. I document changes in employment and unemployment – both within the public sector and relative to the private sector. Contrary to recent accounts of public / private sector convergence, I find no evidence of sector convergence with respect to employment (Figure 5). Within the public sector, new patterns of employment stratification emerged after the recession. Black women are over-represented in a shrinking sector of the economy, and they are more likely than other public sector workers to be without work. These two trends are a historical break for the public sector labor market. I consider explanations based on compositional differences in education and occupational sorting. Models results show that even after controlling for education, occupation, and a host of other measurable factors associated with labor force attachment, there are significant race gaps in public sector unemployment and employment probabilities – particularly among women (Tables 2 and 3, Figures 3 - 5).

If education and occupational sorting are insufficient explanations, then what are the mechanisms driving recent change in public sector employment inequality? There are a number of state-level policies that are likely having unequal effects. Wisconsin, for example, implemented sharp and immediate funding cuts for municipalities in 2011. Black public sector employment started to rebound after 2011 in most states, but in Wisconsin,

[10] Compared to the private sector, the public sector has historically provided black workers with relatively high wages (Heywood 1989; Heywood and Parent 2012; Smith 1980). Despite widespread budget shortfalls in the public sector following the Great Recession, working for the government continues to provide a sizeable earnings premium - for both black and white workers (results of weekly earnings models available upon request).

black public sector employment continued to plummet into 2012. It may be that black workers are more likely to be laid off when the layoffs are triggered by a sudden and significant reduction in funding. When the number of layoff decisions increases, managers have more opportunities to discriminate. Unfortunately the CPS does not have enough public sector workers to conduct a representative multivariate analyses at the state level.

While this is the most comprehensive study to date of public sector inequality after the Great Recession, there are limitations to cross-sectional data. Specifically, my analysis does not control for differential rates of sector switching. Some of the within-sector differentials in employment and unemployment may reflect group differences in the likelihood of leaving one sector for another. Prior research on sector switching is limited. In their study of public sector and nonprofit managers from 2006, Su and Bozeman (2009) find no effect of gender or race on the odds of switching from the private sector to the public sector (their study was limited to managers from the public sector and non-profit organizations, so they could not estimate the odds of leaving the public sector for the private sector). Using data from the Panel Study of Income Dynamics (PSID) from 1985 to 2007, Wilson et al. (2013) report that whites are more likely than blacks to leave the public sector for the private sector, although sector switching does not account for widening race disparities in the risk of downward mobility within the public sector.

Even if employment and earnings disparities are affected by differential rates of sector switching, the ultimate conclusions of this article remain unchanged. First, the public sector continues to offer more job security than the private sector. Second, the protective effect of working in the public sector decreased substantially for black workers – especially black women – after the Great Recession, while white workers were relatively insulated. The preceding analyses suggest that without a course correction, further efforts to dismantle the public sector will most likely have a negative effect on the workers who have historically gained the most from public sector employment.

APPENDIX

Table A1. Logit coefficients from multinomial logistic regressions predicting unemployment and not in the labor force (vs employment), public sector workers only.

	Public sector men					
	Unemployed			Not in the Labor Force		
	2003 - 2008	2009 - 2011	2012 - 2013	2003 - 2008	2009 - 2011	2012 - 2013
Black	.74***	.92***	.61***	.10	-.07	.11
	(.11)	(.12)	(.16)	(.11)	(.16)	(.18)
Hispanic	.10	.26	.01	-.36*	-.09	-.41***
	(.15)	(.16)	(.21)	(.15)	(.18)	(.07)
Other	.88***	.41**	.82***	.42***	.30	.22**
	(.11)	(.16)	(.17)	(.11)	(.17)	(.08)
Sample size	38,716	19,033	12,056	38,716	19,033	12,056
Total sample size		69,805			69,805	

	Public sector women					
	Unemployed			Not in the Labor Force		
	2003 - 2008	2009 - 2011	2012 - 2013	2003 - 2008	2009 - 2011	2012 - 2013
Black	.55***	.68***	.69***	-.18*	-.09	-.07
	(.09)	(.10)	(.12)	(.08)	(.12)	(.15)
Hispanic	-.02	.05	.41**	-.17	-.12	-.0001
	(.12)	(.13)	(.15)	(.10)	(.14)	(.17)
Other	.59***	.48***	.49**	.02	.04	-.03
	(.11)	(.13)	(.16)	(.10)	(.15)	(.18)
Sample size	53,964	26,567	16,630	53,964	26,567	16,630
Total sample size		97,161			97,161	

*p<.05; **p<.01; ***p<.001

Source: Author's compilations. Data come from CPS MORG supplements, 2003-2013.

Note: Model includes controls for education, occupation, age, age-squared, veteran status, marital status, parental status, as well as year, state, metro, and month fixed effects. Sample restricted to individuals ages 16-64 in their fourth interview.

Table A2. Logit coefficients from multinomial logistic regressions predicting unemployment and not in the labor force (vs employment), private sector workers only.

	Private sector men					
	Unemployed			Not in the Labor Force		
	2003 - 2008	2009 - 2011	2012 - 2013	2003 - 2008	2009 - 2011	2012 - 2013
Black	.79***	.69***	.80***	.25***	.25***	.17*
	(.03)	(.03)	(.04)	(.04)	(.06)	(.08)
Hispanic	-.15***	-.09**	-.10*	-.36***	-.37***	-.41***
	(.03)	(.03)	(.04)	(.04)	(.06)	(.07)
Other	.27***	.18***	.09	.22***	.17***	.22**
	(.04)	(.04)	(.06)	(.05)	(.07)	(.08)
Sample size	283,256	137,082	88,290	283,256	137,082	88,290
Total sample size		508,628			508,628	

	Private sector women					
	Unemployed			Not in the Labor Force		
	2003 - 2008	2009 - 2011	2012 - 2013	2003 - 2008	2009 - 2011	2012 - 2013
Black	.71***	.52***	.57***	.06	.005	-.03
	(.03)	(.03)	(.05)	(.04)	(.06)	(.07)
Hispanic	.16***	.08*	.11*	-.10**	-.20***	-.16
	(.03)	(.04)	(.05)	(.03)	(.05)	(.06)
Other	.21***	.14**	.07	.09*	.10	-.003
	(.04)	(.05)	(.06)	(.04)	(.06)	(.08)
Sample size	245,229	119,514	76,897	245,229	119,514	76,897
Total sample size		441,640			441,640	

*p<.05; **p<.01; ***p<.001

Source: Author's compilations. Data come from CPS MORG supplements, 2003-2013.

Note: Model includes controls for education, occupation, age, age-squared, veteran status, marital status, parental status, as well as year, state, metro, and month fixed effects. Sample restricted to individuals ages 16-64 in their fourth interview.

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