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When (Government) Work Disappears: Disparate Employment Effects of DOGE in the Short-Run

Brandon Enriquez

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MIT Shaping the Future of Work Initiative
70 Memorial Drive, Building E51-355 - Cambridge, MA 02142

shapingwork.mit.edu

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Abstract. We study the short-run employment effects of the U.S. Department of Government Efficiency (DOGE). Using a difference-in-difference analysis, we find that DOGE reduced Black women's federal employment by 25%. We do not find statically significant effects for other demographic groups. Between 20-40% of the disparate impact on Black women can be explained by baseline differences in age, education, occupational composition. In metropolitan areas with more federal employees at baseline, Black women experienced greater decreases in labor force participation. Taken together, these results underscore the historic and continued importance of public sector employment for economic advancement for Black women.

*Affiliation: National Bureau of Economic Research. Email: benrique@umd.edu.

1 Introduction

Wilson (1978, 1999) conjectures that deindustrialization had disparate effects on Black workers and communities. Corroborating this hypothesis, both manufacturing-related trade shocks and the secular manufacturing decline have been shown to disparately affect Black employment (Batistich and Bond, 2023; Enriquez and Kurtulus, 2025; Gould, 2021). These shocks were particularly acute for Black men, because semi-skilled manufacturing operator employment was an important driver of economic advancement for Black men in the 1900s (Enriquez and Kurtulus, 2025).

By contrast, Black women's economic advancement was fueled by public sector employment. In particular, the federal government had a history of anti-discrimination in hiring, leading Black workers (especially Black women) to be overrepresented in federal employment (Forston, 1968; Katz, Stern and Fader, 2005). This overrepresentation remains true in the present: Figure 1 shows that around 4.1% of Black women ages 25-54 worked in the federal government in 2023 and 2024. That figure was 3.2% for Black men, 2.1% for White workers, 1.3% for Hispanic workers. Yet, despite the historic importance of federal employment for Black women's economic advancement, we know little about the labor market consequences of mass layoffs in federal employment, and whether those consequences are disparate for Black women.[1]

This paper fills that gap by studying one of the largest mass layoffs in federal government history: those induced by the Department of Government Efficiency (DOGE), also called the U.S. DOGE Service. President Trump announced his intention to create DOGE in November 2024; he formally created DOGE in January 2025. He named Elon Musk its leader, and appointed Musk a special government employee – a term-limited position carrying a statutory maximum limit of 130 days. DOGE's employment-related efforts included multiple offers to employees for paid resignation, mass reductions in force across federal agencies (particularly for probationary employees), and scaling down diversity-related work (Fowler and Bond, 2025; Fowler et al., 2025; Shao and Wu, 2025). We provide evidence on the contemporaneous effects of DOGE through April 2025, which encompasses the first phase of DOGE's work prior to the expiration of Musk's initial appointment.

Using a difference-in-difference strategy, we show that DOGE has a strong effect on

[1] Aneja and Xu (2022) examine the effects of the Wilson administration resegregating the federal workforce. These changes were gradual; they were mainly implemented through changing hiring practices and reallocating workers to different roles within the government, not through mass layoffs.

federal employment for black women. Our estimates suggest that DOGE reduced Black women's federal employment by about 25%, or 1.2pp as a share of population. We find no statistically significant direct effects on other groups. To study the effects on total employment, we then use a triple-difference strategy that compares metropolitan areas with greater/lesser numbers of federal employees at baseline. We show that DOGE reduced overall employment by 0.7 pp. Moreover, DOGE had even larger effects for Black women: it reduced overall employment by 3 pp, and reduced labor force participation by 2.2 pp.

To our knowledge, this paper is the first to study the labor market effects of DOGE. More broadly, our results contribute to the large literature on drivers of racial inequality (Aneja and Xu, 2022; Batistich and Bond, 2023; Bayer, Charles and Derenoncourt, 2025; Enriquez and Kurtulus, 2025; Gould, 2021; Jardina et al., 2023; Lang and Spitzer, 2020). This paper contributes to this literature by identifying mass federal government layoffs as a driver of racial inequality. Our results also speak to the literature on job loss and mass layoffs (Blau and Kahn, 1981; Davis and von Wachter, 2011; Hellerstein, Kutzbach and Neumark, 2019; Jacobson, LaLonde and Sullivan, 1993). This paper contributes to this literature by showing that mass federal government layoffs can increase racial inequality given Black workers' overrepresentation in the federal civil service.

2 Data and Empirical Strategy

This paper utilizes monthly data from the Current Population Survey (CPS). The CPS Basic Monthly dataset contains worker-level information about employment, including employment status, occupation, and industry. It contains demographic information, including gender, age, race, and ethnicity. Importantly for our purpose, it contains a variable denoting whether an individual worked for the federal government, state/local government, a private non-profit corporation, a private for-profit corporation, or is self-employed. This allows us to identify individuals that work for the federal government.[2]

We use two complementary empirical strategies. To analyze the direct effect of DOGE on federal employment, we utilize a difference-in-difference strategy, comparing workers (1) before versus after the January 2025 beginning of DOGE, and (2) in the 2024-2025 year compared with the two previous years (2022-2023, 2023-2024).[3] Our study period con-

[2]The *classwkr* variable contains the employment sector for workers at their current job if employed, or at their most recent job if they are unemployed. We define an individual as federal employee if they are both employed (per the *empstat* variable) and the employment sector is the federal government.

[3]This specification controls for seasonal trends in the CPS data.

sists of the six months before the January 2025 beginning of DOGE and the four months after (including the rollout), plus the corresponding time periods two years prior.[4] For individual i, month m, and year t, our empirical specification is:

$$y_{i,m,t} = \alpha + \beta_1 * DOGE_m + \beta_2 * Yr24/25_t + \beta_3 * DOGE_m * Yr24/25_t + \delta * X_{i,m,t} + \epsilon_{i,m,t} \quad (1)$$

where $DOGE_m$ is an indicator equal to one during the months of January to April of each year; $Yr24/25_t$ is an indicator equal to one during the time period July 2024-April 2025, and equal to zero during the time period July 2022-April 2023 and July 2023-April 2024; $X_{i,m,t}$ is a vector of controls; and $y_{i,m,t}$ is the outcome. The coefficient of interest is β_3.

This strategy identifies the causal effect of interest if the parallel trends assumption holds: if not for DOGE, worker outcomes would have evolved similarly in 2024-2025 and the control years. Figure 2 shows there are no significant pre-trends in employment across demographic groups, giving credibility to the parallel trends assumption.[5]

Next, to analyze the effect of DOGE on total employment, we utilize a triple difference-in-difference strategy, comparing workers (1) before versus after the January 2025 beginning of DOGE, (2) in the 2024-2025 year compared with the two previous years (2022-2023, 2023-2024), and (3) in metropolitan areas with more versus less federal workers at baseline.[6] For individual i, month m, year t, and metropolitan area l, our empirical specification is:

$$\begin{aligned} y_{i,m,t,l} = \alpha &+ \beta_1 * DOGE_m + \beta_2 * Yr24/25_t + \beta_3 * DOGE_m * Yr24/25_t \\ &+ \beta_4 * fedGov_l + \beta_5 * DOGE_m * fedGov_l + \beta_6 * Yr24/25_t * fedGov_l \\ &+ \beta_7 * DOGE_m * Yr24/25_t * fedGov_l + \delta * X_{i,m,t,l} + \epsilon_{i,m,t,l} \quad (2) \end{aligned}$$

where $fedGov_l$ is the fraction of workers employed who are federal employees in 2023-2024. We define the variables $DOGE_m$, $Yr24/25_t$, $X_{i,m,t,l}$, $y_{i,m,t,l}$ as in the previous specification. The coefficient of interest is β_7.

Table 1 shows the 25 metropolitan areas with the highest fraction of workers that are

[4] We cluster the standard errors at the metro area level, and weight regressions by the inverse probability of inclusion in the sample. Unless otherwise noted, all figures focus on prime-age working population (ages 25-54). Results for ages 16-64 available upon request.

[5] Figure 4 also shows parallel trends during the pre-period. See Section 3.1.

[6] The CPS data contains information about which core-based statistical area individuals reside in. About half of individuals in the CPS data have information about the metropolitan area; there are 260 distinct metropolitan areas represented in the data. For the triple-difference analysis, we only consider individuals residing in a metropolitan area.

federal employees. This table shows the Washington, DC metropolitan area is an outlier: it has a large labor force and a large fraction of federal workers. Therefore, when running our triple-difference results, we exclude the Washington, DC metropolitan area.

Like our difference-in-difference strategy, our triple-difference strategy identifies the causal effect of interest if the parallel trends assumption holds: if not for DOGE, the difference in outcomes between areas more vs less reliant on federal employment would have evolved similarly in 2024-2025 and the control years. Figure 3 shows there are no significant pre-trends in employment across demographic groups, giving credibility to the parallel trends assumption.

3 Results

3.1 Direct Effect on Federal Employment

Figure 4 displays the share of workers employed by the federal government by demographic group. For each month, we compare the share of individuals working for the federal government to the two previous years. We normalize the series by its December average by year; therefore, this figure is a visual depiction of the variation captured by the difference-in-difference specification.

Figure 4 shows a large drop in Black women's federal employment starting when DOGE began in January, relative to the average of the previous two years. In the previous six months, there was no differential trend relative to the average of the previous two years.

Note that Figure 4 shows no strong pre-trend for any demographic groups. Recall that our identification strategy rests on the assumption of parallel trends. That none of the six series has a strong pre-trend provides additional confidence that the parallel trends assumption holds in our setting.

To estimate the direct effect of DOGE on federal employment, we run the difference-in-difference specification outlined in equation 1, comparing workers pre- and post-DOGE, in the 2024/2025 year with the two previous years. We run this specification separately by demographic group and report the coefficient of interest.

Figure 5 shows a strong effect of DOGE on federal employment for Black women. The results suggest that DOGE reduced Black women employment in the federal government by 1.2pp as a share of initial population. These results were driven by decreases for non-college Black women ages 16-49. That these workers were younger is partially consistent

with the government having wide latitude to lay off probationary workers. However, no other demographic group had significant decreases for that age range, which may suggest the firing of probationary workers cannot explain the entirety of the effect. The next section quantifies the extent to which baseline disparities in the age composition explains this disparate impact.

There is a borderline significant effect for white men ages 55+. This could be consistent with differential take-up of early retirement. There is no statistically significant effect for any other race, gender, education, or age group.

3.2 Were Black Women Disparately Exposed to DOGE?

We apply the decomposition from Enriquez and Kurtulus (2025) to test whether Black women were disparately exposed to DOGE cuts because they worked in different types of jobs at baseline. We use $s^{g,o}_{t-1,m-1}$ to denote the share s of all demographic group g workers who both work in the federal government and work in an occupation o, in the time period before DOGE begins ($m-1$) during the control comparison years ($t-1$). (We define the other 3 shares in the difference-in-difference analysis analogously.) We can write the double-differenced change in employment share for an occupation as

$$s^{g,o}_{t,m} - s^{g,o}_{t,m-1} - s^{g,o}_{t-1,m} - s^{g,o}_{t-1,m-1} = \underbrace{\frac{s^{g,o}_{t,m} - s^{g,o}_{t,m-1} - s^{g,o}_{t-1,m} - s^{g,o}_{t-1,m-1}}{s^{o}_{t-1,m-1}}}_{\equiv\text{growth rate}} \underbrace{s^{g,o}_{t-1,m-1}}_{\equiv\text{baseline share}} \tag{3}$$

We then use an Oaxaca decomposition to decompose the racial difference in employment-to-population into portion explained by baseline shares ("disparate exposure"), and a portion explained by the differences in employment growth rates ("disparate impact conditional on exposure" or "DICE").

Figure 6 examines whether Black workers were disparately exposed due to baseline differences in age, occupation, education, or sector of employment. It suggests that 20-40% of the disparate impact can be explained by differences in disparate exposure; by contrast, 60-80% of the disparate impact is due to DICE. Note that DICE includes both disparate treatment and all forms of disparate exposure not due to age, occupation, education, and sector of employment; this analysis therefore does not prove the existence of disparate treatment.[7]

[7] As an example: One of DOGE's stated priorities was scaling down diversity work (Fowler et al., 2025). If Black women were disparately laid off because they were likelier to work on diversity-related projects

3.3 Effect on Total Employment

We now turn to our results on the total employment effects of DOGE. We utilize metropolitan area-level variation for this analysis because job displacement occurs at local labor market level – firings of federal workers can affect the local economy, which may have spillover effects. We run the triple difference-in-difference specification outlined in equation 2. We run this specification separately by demographic group and report the coefficient of interest. We scale the exposure variable by its mean; coefficients therefore report the average effect of DOGE on the employment outcomes of interest.

Figure 7 shows a strong effect of DOGE on employment for Black women. The results suggest that DOGE reduced Black women employment by about 3pp as a share of initial population. Moreover, there is a negative effect on labor force participation that is also above 2pp. There is also a statistically significant negative effect on total employment, though this effect is borderline significant at the 5% level. By contrast, there is no statistically significant effect on employment for any other racial or demographic group. There is an increase on Black male unemployment of approximately 1.5 pp, and a reduction in Hispanic male labor force participation by over 1.5pp, but neither effect is statistically significant.

4 Conclusion

Manufacturing employment was a key driver of economic advancement for Black men, and many recent papers show decline of manufacturing had a deleterious effect on Black male employment. For Black women, federal government employment was important for their economic advancement; we have little large-scale evidence on what reductions in federal government work have on Black women. We fill that gap by studying DOGE, one of the largest mass employment reductions in federal government history.

We show that DOGE had a negative effect on Black women's employment, and a muted effect on other groups. Our results underscore the historical and continuing importance of federal employment for Black women, and show that Black women were disparately vulnerable to an employment shock to federal employment.

(conditional on occupation), such a disparity would accrue to the DICE term. We cannot test this hypothesis because the CPS does not contain information on the specific projects that workers work on.

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Metro Area	Total Employment (in thousands)	Federal Government Share of Workforce
Washington-Arlington-Alexandria, DC-VA-MD-WV Metro Area	3402.8	0.137
Warner Robins, GA Metro Area	92.2	0.132
Jacksonville, NC Metro Area	75.0	0.116
Huntsville, AL Metro Area	265.8	0.093
Fayetteville, NC Metro Area	152.1	0.092
Virginia Beach-Chesapeake-Norfolk, VA-NC Metro Area	834.8	0.085
Urban Honolulu, HI Metro Area	461.3	0.084
Baltimore-Columbia-Towson, MD Metro Area	1455.4	0.077
Killeen-Temple, TX Metro Area	204.5	0.075
Ogden, UT Metro Area	338.9	0.075
Watertown-Fort Drum, NY Metro Area	46.5	0.070
Las Cruces, NM Metro Area	99.5	0.069
Albuquerque, NM Metro Area	441.7	0.068
Panama City-Panama City Beach, FL Metro Area	105.3	0.068
Idaho Falls, ID Metro Area	78.4	0.066
Clarksville, TN-KY Metro Area	133.6	0.066
Yuma, AZ Metro Area	74.8	0.066
Hagerstown-Martinsburg, MD-WV Metro Area	146.1	0.064
Augusta-Richmond County, GA-SC Metro Area	279.1	0.060
Winchester, VA-WV Metro Area	72.3	0.060
Colorado Springs, CO Metro Area	372.9	0.059
El Paso, TX Metro Area	389.6	0.059
Columbus, GA-AL Metro Area	130.7	0.059
Amarillo, TX Metro Area	136.4	0.057
Santa Fe, NM Metro Area	73.6	0.054

Table 1: Metropolitan Statistical Areas with the Greatest Federal Employment Share of Workforce, 2023

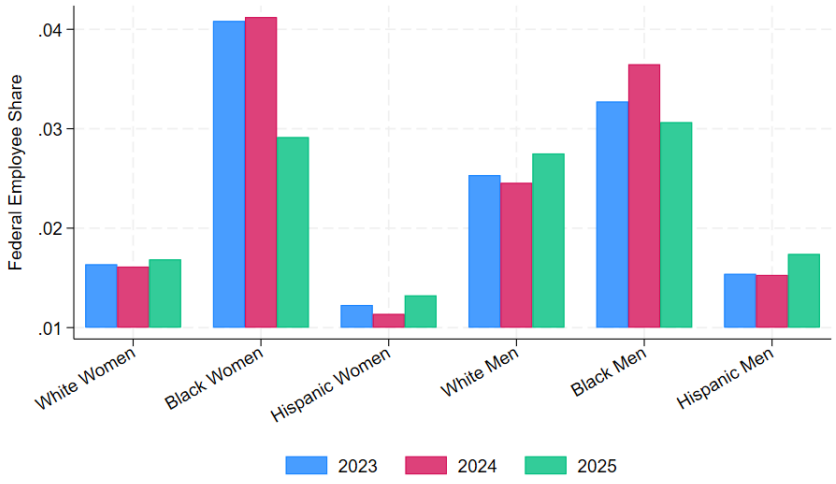

Figure 1: Share of All Workers that are Federal Employees, by Year and Demographic Group

Notes: This figure covers January-April of the respective years.

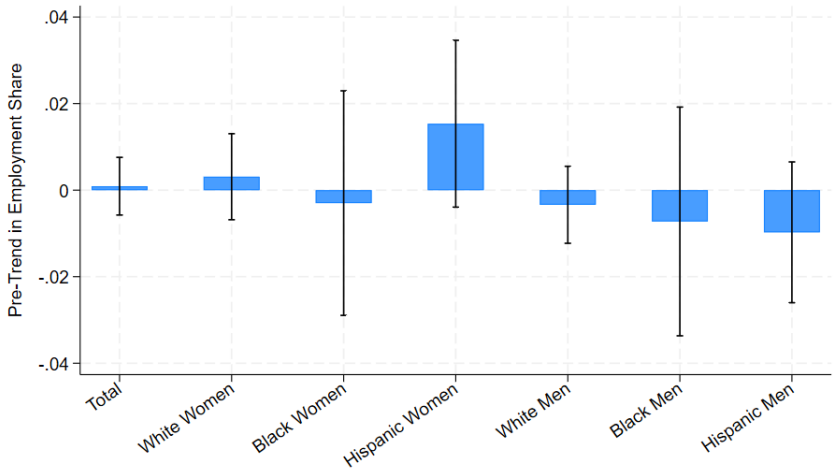

Figure 2: Pre-trends in Employment by Demographic Group: Difference-in-Difference Specification

Notes: This figure covers July 2024-December 2024, compared with July-December of the two previous years.

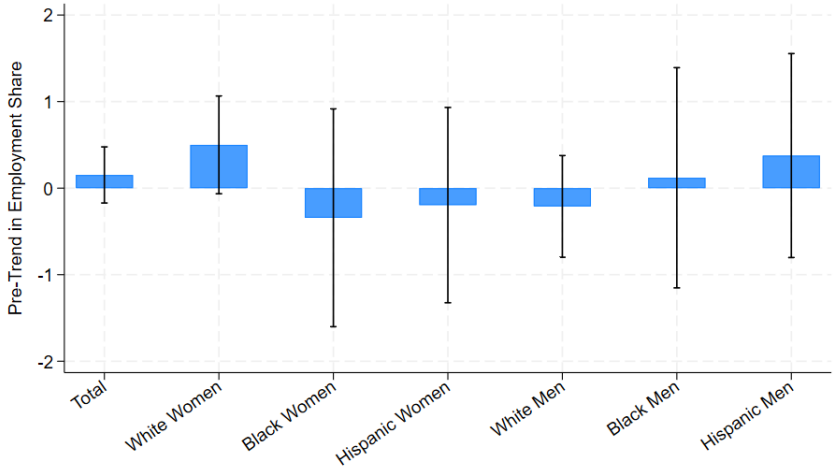

Figure 3: Pre-trends in Employment by Demographic Group: Triple Difference-in-Difference Specification

Notes: This figure covers July 2024-December 2024, compared with July-December of the two previous years.

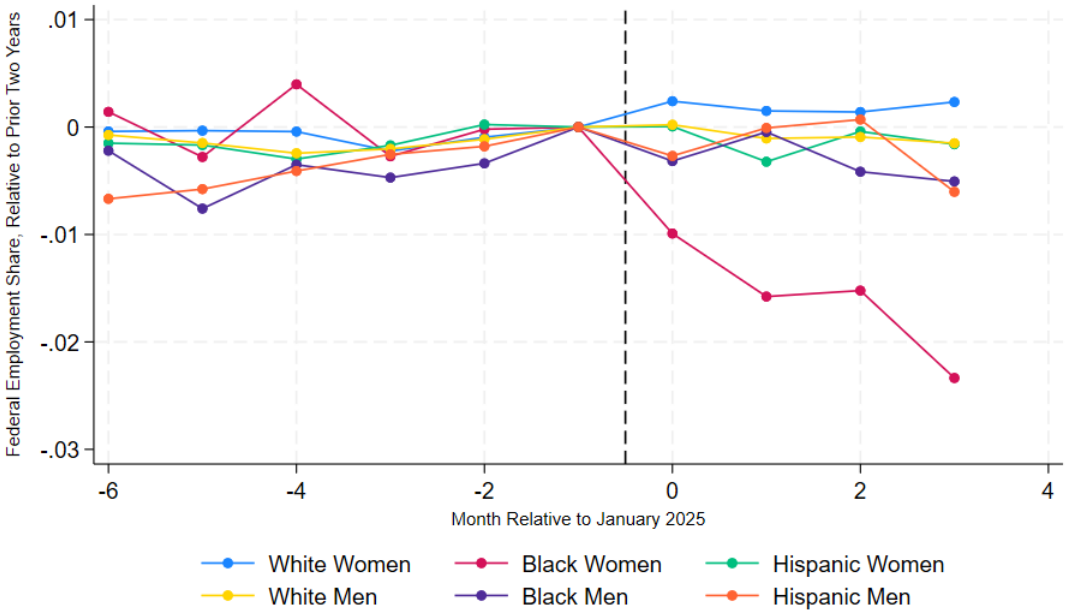

Figure 4: Trends in Federal Government Employment, by Demographic Group

Notes: This figure covers July 2024-April 2025, compared with July-December of the two previous years.

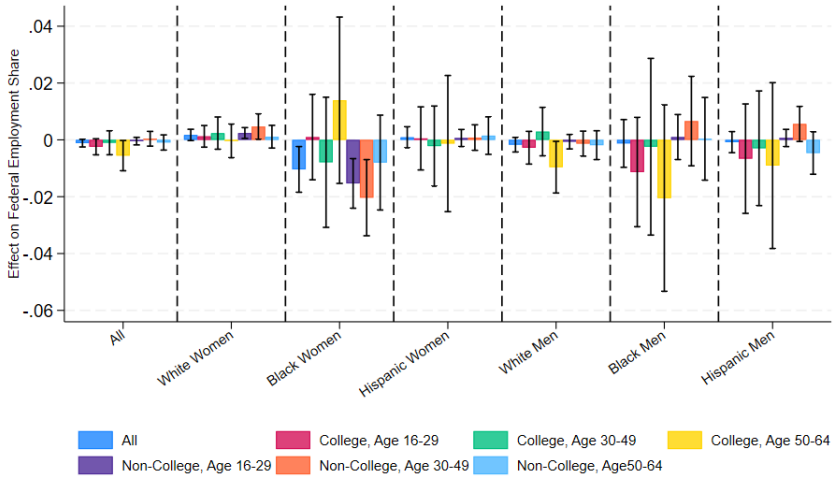

Figure 5: Effects of DOGE on Federal Employment, by Demographic Group

Notes: This figure displays the coefficient of interest from a difference-in-difference specification (equation 1).

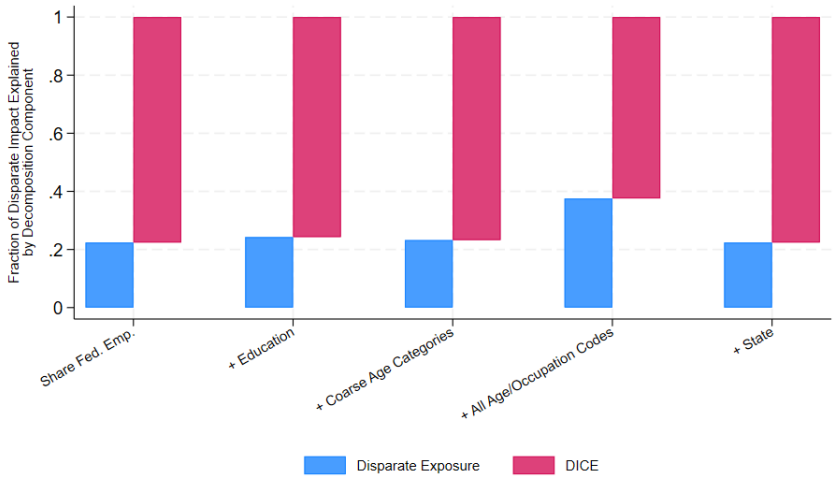

Figure 6: Oaxaca Decomposition of Disparate Employment Trends for Black Women

Notes: This figure implements the decomposition described in Section 3.2. It decomposes the employment differential between Black women and all other groups.

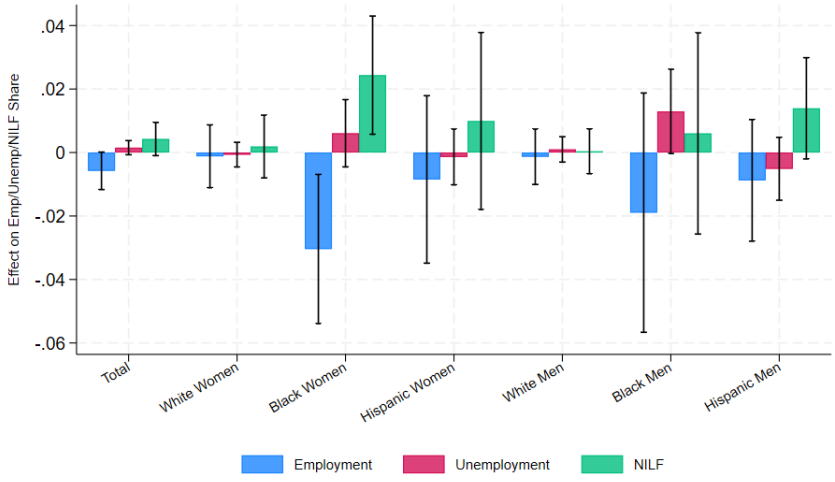

Figure 7: Effects of DOGE on Total Employment, by Demographic Group

Notes: This figure displays the coefficient of interest from a triple difference specification (equation 2).