

Inequality in the Labor Market for Native American Women and the Great Recession

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Abstract

Existing research has documented the negative outcomes associated with recessionary periods differ based upon gender, race, income percentile, and educational attainment, resulting in a widening of existing gaps and increased inequality between groups. Native American women are highly concentrated in areas within these groups that are disproportionately impacted by recessions. This research paper builds on previous literature and documents general changes in the labor market for Native American women that occurred during the Great Recession using extracts of data from the Current Population Survey Annual Earnings file, known as the Merged Outgoing Rotation Groups (MORG). Wages, unemployment and other labor market variables for Native American women are contrasted with those of Native American men and white women to determine the relative change in Labor market inequality that occurred during the Great Recession.

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1 Introduction

The Great Recession has received much study by economists because of its significant impact on the U.S. economy. The average unemployment rate rose from 4.6% to a high of 9.6%,

while the employment-to-population ratio of prime age workers (25 to 54 olds) dropped by 5.3 percentage points. Simultaneously, wages began to decrease; the 2011 wages of those in the 10th and 50th percentile decreased by 5% and 3.5% from their respective peaks in 2002 and 2003. (Mishel, Bivens, Gould and Shierholz 2012)

Much of the work involving the Great Recession has focused on understanding its disproportional effect on different populations. Meyer and Sullivan (2013) studied the role of percentile rank in determining changes in consumption and income. Whereas, Hoynes, Miller and Schaller (2012) concentrate their analysis on the differential labor market outcomes for men and women as well as those between whites, blacks and Hispanics. Similarly, Lichter, Parisi and C. (2012), uses the same racial groups to explore the linkage between race, geographic location and concentrated poverty. Each of these have found that minorities were disproportionately impacted. The only study in this area, Lamb (2015), including Native Americans finds that Aboriginal people in Canada have been disproportionately burdened.

This study uses relative changes in the unemployment rate, employment-to-population ratio and real hourly wage rates to determine if the labor market for Native American women was disproportionately effected during the Great Recession. It also explores the relationship between percentile status and wage rate changes from 2003-2014.

2 Data

This study uses data from Current Population Survey (CPS) Merged Outgoing Rotation Groups (MORG), made available by the National Bureau of Economic Research. The MORG collects demographic and labor market information concerning race: employment status, labor market participation, hours worked and wages, on a monthly basis that makes it an ideal source for analyzing gender and racial differences in labor market statistics.

Since the goal of this study is to understand the overall experience of Native American women relative to their white and male counterparts, the sample includes all those who identify as American Indian or Alaska Native (AI/AN) or white and are 16 and older. The unemployment rate and the employment-population ratio is calculated using CPS provided weights for both AI/AN and white women and men separately. Similar to Autor, Katz and Kearney (2008), analysis including real wages are these same weights multiplied by the number of hours worked. Individuals with an allocation flag, earning less than \$2.80 in 2000 dollars are removed from the sample and those with top-coded wages or earning with an hourly wage more than $\frac{1}{35}$ th the top-coded value of weekly earnings are multiplied by 1.5.

Labor Market Differences

The unemployment rate is a widely cited measure of labor market health since it represents the difficulty of securing employment and earning a wage. Its well-known weakness, fluc-

tuations can be driven by changes in labor force participation instead of changes in access to employment opportunities. Subsequently, prolonged differences in unemployment rates are generally needed to serve as an indicator of significant labor market issues. The unemployment rates and the differences for AI/AN women relative to their reference groups are displayed in Figure 1.

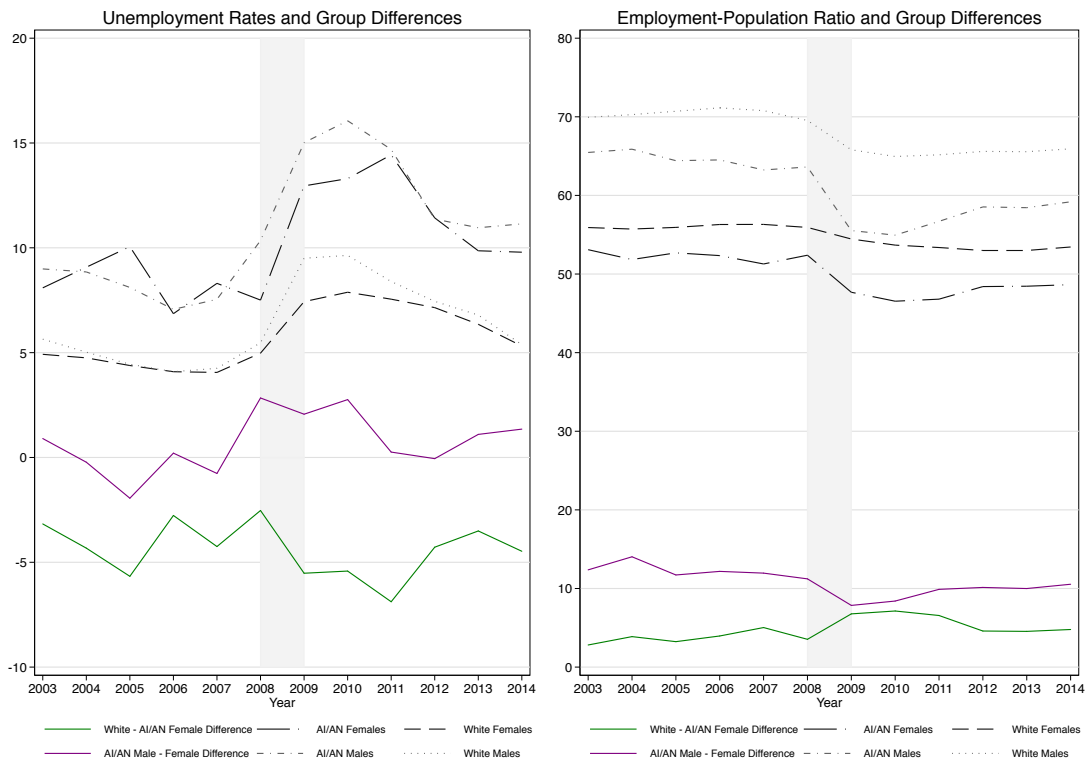
Unemployment rates for AI/AN women and men are higher than their white counterparts in all periods and increase during the recession. Unemployment rates for AI/AN women and men peak at 14.4% and 16.1%, compared to 7.9% and 9.6% for whites. By 2014, unemployment rates for whites have largely returned to their 2003 level. Since the recession, AI/AN unemployment rates have plateaued, but remain higher than those prior to the recession.

Before 2008, the unemployment rate of AI/AN women fluctuated around that of AI/AN men. In 2008, it was 2.8 points lower than AI/AN men, its largest difference. Since that time, the unemployment rate for AI/AN women has mostly remained below that of AI/AN men despite its larger increase during the recession.

The employment-to-population ratio (EPOP) serves as another measure of labor market health and because it is not susceptible to short-run changes in labor market participation it can provide a better signal of short-term labor market strength. The EPOP and the differences for AI/AN women relative to their reference groups are displayed in Figure 1.

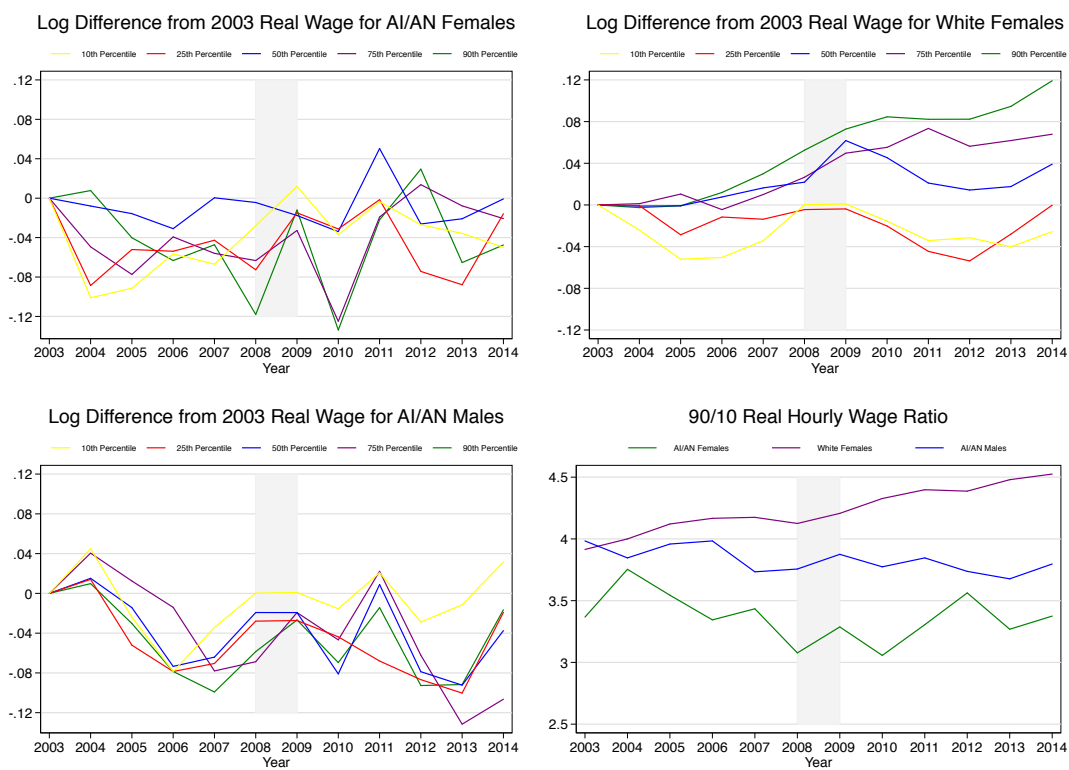
The EPOP for women, of both races, is less than that for men and the EPOP for AI/ANs is less than that of whites. Overall, the EPOP for white women remains relatively stable for the entire time period while that for AI/ANs experiences a large drop during the recession, 4.7 and 8.1 percentage points for women and men, respectively. It has still not returned to its pre-recession levels for any group but the overall drop is largest for AI/AN women and men.

Figure 1: Labor Market Differences, 2003-2014.



Source: Authors tabulations of Current Population Survey, Merged Outgoing Rotation Group (CPS-MORG) data.

Figure 2: Income Inequality by Percentiles, 2003-2014.



Source: Authors tabulations of Current Population Survey, Merged Outgoing Rotation Group (CPS-MORG) data.

Wage Inequality

Log differences in the real hourly wage relative to their 2003 level are displayed in Figure 2, by racial group for selected percentiles. The graph for AI/AN women shows little trend by percentile. The largest difference from 2003 wage levels occurs for the 90th followed by the 75th percentiles in 2010. Overall, 2014 wages are lower than those in 2003 for all percentiles with largest decreases for the 10th and 90th percentiles.

The 25th, 50th and 90th percentiles for AI/AN men are similar to those for AI/AN women. The 10th and 75th percentiles of wage earners deviated the most from their 2003 levels with those in the 10th earning slightly more than 2003 while those in the 75th experienced the largest decrease.

The situation for white women is similar for the 10th and 25th percentiles, with each exhibiting decreases from 2003 levels. Wages for the 50th, 75th, 90th percentiles all increase with those at the highest percentiles experiencing the largest increase .

The 90/10 ratio for real hourly wages provides a measure of within group wage inequality and is displayed for AI/ANs and white women. In 2003, this ratio is lowest for AI/AN women with similar numbers for white women and AI/AN men. Within group wage inequality fluctuates for AI/ANs but is lower in 2014 than in 2003. In contrast, white women displays a upward linear trend. While within group wage inequality decreased from

2003-2014 for AI/AN women and men, during the recession increased.

The mean wage gap provides another measure of relative well being for labor market participants, while the Oaxaca-Blinder (O-B) decomposition highlights the role of group characteristics. (Oaxaca 1973), (Blinder 1973) The O-B decomposition of wages measures the difference in average wages and separates it into a composition effect, the portion explained by differences in observable variables, and a structure effect, the portion related to differences in returns associated with observable characteristics. An O-B decomposition is performed using, Equation (1) for each reference group, pooled data from 2003-2007 and then compared to that from 2010-2014.

$$\ln \bar{W}_A - \ln \bar{W}_B = \beta_1^P (\bar{X}_A - \bar{X}_B) + (\beta_{0A} - \beta_0^P) + (\beta_0^P - \beta_{0B}) + (\beta_{1A} - \beta_1^P) \bar{X}_A \quad (1)$$

In Equation (1); $\ln \bar{W}_A - \ln \bar{W}_B$ is the difference in the log of real hourly wages between groups A and B; \bar{X}_A and \bar{X}_B are the mean values for human capital and job characteristics for those groups; β_{1A} is the return from these characteristics as determined from a separated regression for group A; and β_{0A} , β_{0B} and β_0^P are the intercept terms from the separated regressions for groups A and B and a pooled regression that includes a group dummy indicator.

It is well known that the estimates for the structure and composition effect from a O-B decomposition differ based upon choice of reference group, consequently a pooling approach is often take to determine the counter-factual wage. Elder, Goddeeris and Haider (2010) demonstrate that the above approach avoids understating the wage structure effect that

happens when excluding a group dummy indicator from the a pooled regression equation.

Regressions for Oaxaca-Blinder decompositions include: education categories (No Diploma, High School Diploma/GED, Some College/Associates Degree, Bachelor's Degree or More), occupation fields (Service, Blue-collar, White-collar and Science, Technology Engineering & Mathematics), metropolitan statistical unit residence, census division residence; parenthood status, married/single status, and potential experience as explanatory variables. The results are posted in Table 1.

Overall, average wages from the 5 years after the recession were lower than those prior. The smallest decrease, 0.006 log points, was experienced by white women. Comparatively, those for AI/AN women and men decreased by 0.022 and 0.150 log points, respectively.

AI/AN women earn significantly less than both white women before and after the recession. AI/AN women earn at least 0.19 log points less than white women with the majority of this difference, 65.6%, explained by observable characteristics. There is also a gender wage gap for AI/AN women in both periods, they earn at least 0.13 log points less than AI/AN men. However, the AI/AN gender wage gap is unexplained, the explained portion is not significantly different from zero..

The total amount of the race wage gap increased by 0.016 log points while the gender wage gap decreased by much larger 0.129 log points. The structure effect remains largely unchanged in both cases. Its contribution to the overall race gap changed from 0.12 to 0.13

log points while it comprised 0.18 log points of the gender gap in both periods. Consequently, the composition effect is larger in the post-recession period for both wage decompositions.

Table 1: Oaxaca-Blinder Wage Decomposition Results

	Racial Differences		Gender Differences	
	2003-2007	2010-2014	2003-2007	2010-2014
Comparison Group	2.84***	2.84***	2.91***	2.76***
AI/AN - Women	2.65***	2.63***	2.65***	2.63***
Log Wage Gap	0.19***	0.21***	0.26***	0.13***
Percentage Explained	65.6%***	62.9%***	6.9%	-13.8%
Percentage Unexplained	34.4%***	37.1%***	93.1%***	113.8%***
Comparison Group : n	131,673	169,916	2,806	3,520
AI/AN - Women: n	2,727	3,077	2,727	3,077

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: Authors tabulations of Current Population Survey, Merged Outgoing Rotation Group (CPS-MORG) data.

3 Conclusions

Prior to the recession, American Indian and Alaska Native women in the United States faced a tougher labor market than AI/AN men and white women. Their average unemployment, 8.48%, was higher than both AI/AN men, 8.11%, and white women, 4.44%. The employment-to-population ratio for AI/AN women, 52.3% was lower than both of their male, 64.7%, and white, 56.0%, counterparts. On average, AI/AN women earned 0.19 log points less than AI/AN men and 0.26 log points less than white women.

The Great Recession had a negative effect on the labor markets of all but did not impact each group equally. On average, the already comparatively poor labor market situation

for AI/AN women became disproportionately worse during the recession relative to white women. AI/AN women experienced: a larger increase in the unemployment rate, a larger decrease in the EPOP and a larger average decrease in wages. The declining labor market situation that occurred during the Great Recession was slightly less negative for AI/AN women than AI/AN men. The unemployment rate, EPOP decreased more for AI/AN males than AI/AN women and average earnings decreased more for AI/AN men. Despite these relative gains, AI/AN women still face a worse post-recession labor market than AI/AN men as evidenced by the sizable gender gaps in wage and EPOP.

The average real wages of AI/AN women in 2014 are lower than those in 2003 for individuals percentiles. Similarly, average wages of AI/AN men decreased and are lower for all except the 10th percentile. Over that same time period, the wages of white women were statistically unchanged and due to upper percentile wage increases and decreases for those in the 10th and 25th percentiles.

This study has explored changes in the labor market that occurred during the Great Recession for all women who identify as AI/AN. Its important to note that there are 567 sovereign Native American nations in the United States and many who identify as AI/AN have varying degrees of connection to the these communities. Consequently, examination involving a more nuanced analysis of racial and ethnic identity is needed to gain additional insights concerning changes in the relative labor market position for Native American women.

References

- Autor, David H., Lawrence F. Katz, and Melissa S. Kearney**, “Trends in U.S. Wage Inequality: Revising the Revisionists,” *Review of Economics and Statistics*, May 2008, 90 (2), 300–323.
- Blinder, Alan S.**, “Wage Discrimination: Reduced Form and Structural Estimates,” *The Journal of Human Resources*, Autumn 1973, 8 (4), 436–455.
- Elder, E. Todd, John H. Goddeeris, and Steven J. Haider**, “Unexplained Gaps and Oaxaca-Blinder Decompositions,” *Labour Economics*, 2010, 17, 284–290.
- Hoynes, Hilary, Douglas L Miller, and Jessamyn Schaller**, “Who Suffers During Recessions?,” *Journal of Economic Perspectives*, Summer 2012, 26 (3), 27–47.
- Lamb, Danielle**, “The Economic Impact of the Great Recession on Aboriginal People Living off Reserve in Canada,” *Relations Industrielles/Industrial Relations*, 2015, 70 (3), 457–485.
- Lichter, Daniel T., Domenico Parisi, and Taquino Michael C.**, “The Geography of Exclusion Race, Segregation, and Concentrated Poverty,” *Social Problems*, August 2012, 59 (3), 364–388.
- Meyer, Bruce D. and James X. Sullivan**, “Consumption and Income Inequality and the Great Recession,” *American Economic Review: Papers & Proceedings*, May 2013, 103 (3), 178–183.
- Mishel, Lawrence, Josh Bivens, Elise Gould, and Heidi Shierholz**, *The State of Working America*, Cornell University Press, 2012.
- Oaxaca, Ronald**, “Male-Female Wage Differentials in Urban Labor Markets,” *International Economic Review*, October 1973, 14, 693–709.