

# The Great Recession and Economic Outcomes for Indigenous Peoples in the United States

*By*  
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This article examines the earnings and employment experience of American Indians and Alaska Natives (AIAN) and Native Hawaiians and Pacific Islanders (NHPI) residing in the United States during and after the Great Recession. I compare these populations to non-Hispanic whites over the same time period with respect to median earnings and inequality, labor force participation rates, earnings by location, educational attainment, and occupational status. I find that the AIAN population has the lowest median earnings and highest level of earnings inequality. NHPI and AIAN experience a sharp increase in earnings inequality over the Great Recession and AIAN have a pronounced drop in labor force participation; these inequality measures remained elevated and stable over the recovery period especially for the AIAN population. Indigenous peoples employed in food services occupations experienced the least amount of earnings decline over the Great Recession, while those employed in construction and sales experienced larger declines. Labor force participation rates dropped most dramatically for the AIAN population over the Great Recession and remained at a new lower level in the recovery period. The analysis shows that there are stark differences across time, space, and occupation for these groups.

*Keywords:* Great Recession; Indigenous peoples; earnings; inequality; JEL classification

While the Great Recession (2008–2011) had a significant effect on the country as a whole, it had a disparate impact on different parts of the economy by industry and region. The nature of the Great Recession and its impact on housing markets, construction, and associated industries meant a reduction in household wealth as well as employment (Danziger 2013; Foster, Grim, and Haltiwanger 2016; Meyer and Sullivan 2013; Smeeding

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2012; Yagan 2019). The recessions significantly increased household debt and default rates and depressed consumer spending (Kaplan, Mitman, and Violante 2020; Mian, Rao, and Sufi 2013).

Increasing evidence exists that the impact of the Great Recession on minority groups was greater than for non-Hispanic whites (NHW). Kochhar and Fry (2014) examine the impact on wealth and assets using the Survey of Consumer Finance data. In that analysis, the authors find that differences in wealth between white and Black households in the United States increased from tenfold to thirteenfold over the course of three years (2010–2013), primarily due to the decrease in housing values and the actual loss of homes as an asset for these populations. In additional research, Pfeffer, Danziger, and Schoeni (2013) found that median wealth for NHW and Asians fell to about 69 percent of their pre-Great Recession levels by 2011; however, for all other race groups, it fell to just 25 percent. Due to data limitations, such as sample size, it is difficult to calculate these types of analyses for wealth and asset ownership separately for smaller race and ethnic groups in the United States. Therefore, in the analysis that follows, I examine primarily earnings and labor force participation for Indigenous peoples of the United States.

Indigenous peoples occupy a different space than other minority groups in the United States, as they are also a separate political class. In this regard, some, though not all, Indigenous peoples are self-governing and manage resources and territories. As a result, some of these tribal government nations and Indigenous communities weathered the Great Recession and recovery period differently from other race and ethnic groups, primarily due to their unique political and economic position in their local and regional communities. In particular, tribal governments for American Indians and Alaska Natives operate independently of state, local, and municipal governments (Duthu 2008; Wilkins 2002). In many instances, tribal governments operate their own school, health, and educational systems (Strommer and Osborne 2014). Additionally, in recent decades, tribal governments have embarked upon gaming operations as well as hotel and leisure industries (Akee, Spilde, and Taylor 2015; Conner and Franklin 2019; Conner and Taggart 2013). These new activities have increased employment and earnings of both tribal citizens and non-tribal citizens in the local area. As a result, tribal enterprises serve as an important economic pillar in many of their communities (Akee, Spilde, and Taylor 2014). Native Hawaiians do not have a direct government-to-government relationship with the U.S. federal government due to the historical and political circumstances underlying the annexation, without a treaty, of the Kingdom of Hawaii by the United States; there are situations, however, where Native Hawaiians are accommodated under federal laws or by executive agencies as Native American (Wilkins 2002). Pacific Islanders from territories such as Guam or American Samoa do not have government-to-government relationships (separately from the territorial governments) with the U.S. federal government, yet they are citizens of the United States. Finally, there are Pacific Islanders (non-U.S. citizens) from other nation-states such as Fiji, Federated States of the Marshall Islands, or the Republic of the Marshall Islands who also reside in the United States and are included in these counts of Pacific Islanders.

In this analysis, I examine the experience of the American Indian and Alaska Native (AIAN) population and Native Hawaiian and Pacific Islander (NHPI) population over the period of the Great Recession and during the recovery period. I examine the median earnings by year and group as well as measures of earnings inequality over time. Next, I examine labor force participation rates by group over time and earnings trends by location on or off of AIAN reservations and/or NHPI homelands. Finally, I examine earnings by group by year by educational attainment and selected occupation categories. The split by educational attainment helps to distinguish between a broad category of workers with the highly skilled in managerial occupations and those with lower educational attainment in manual and service occupations; in particular, this division helps to broadly establish a working-class definition using a standard education measure.

The analysis reveals that there are persistent differences in median earnings for AIAN, NHPI, and NHW in the United States. The level of earnings inequality over the Great Recession increased most dramatically for the NHPI population and AIAN population to a lesser extent; these inequality measures remained elevated and stable over the recovery period especially for the AIAN population. On the other hand, labor force participation rates dropped most dramatically for the AIAN population over this time period and remained at a new lower level in the recovery period. There were declines for the NHPI and for NHW population as well in the Great Recession, but there was a return to approximately pre-recession levels during the recovery period. Earnings diverge over the Great Recession and into the recovery period for American Indians residing on and off of reservations; those residing off of reservations on average are earning more over time. There is some evidence that the AIAN population with lower levels of education were less affected by the Great Recession than their more educated counterparts; this does not hold for the NHPI population. In the recovery, however, the earnings of AIAN tend to recover at a rate that matches the NHW population. Finally, I find that individuals from the AIAN and NHPI groups that were employed in food services were the least adversely affected by earnings losses over the Great Recession; in fact, the recovery earnings in those industries exceeded those of the start of the period in 2007. AIAN and NHPI employed in the construction industry were, as expected, the most affected, on average.

## Data

This analysis uses data from the 2007 to 2018 American Community Surveys one-year data, which uses data from the Minnesota Population Center IPUMS USA (Ruggles et al. 2018). Those data are a snapshot of the U.S. population at that point in time and provide approximately a 3 to 5 percent sample of U.S. households for each year. In the analysis that I report here, I examine the results for three race groups in the United States: AIAN, NHPI, and NHW. The first two groups compose the Indigenous peoples of the United States, and the third group provides a useful comparison group for earnings changes and trends over

TABLE 1  
Descriptive Statistics of Economic Characteristics for Indigenous Peoples  
and NHW in the United States

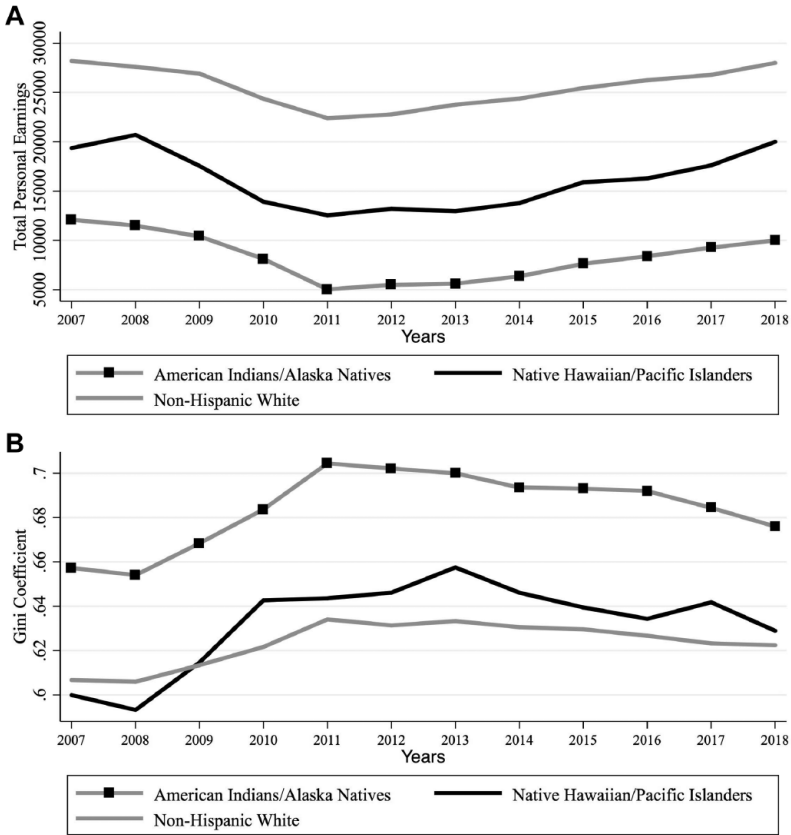
Variable	AIAN		NHPI		NHW		<i>t</i> -Test	<i>t</i> -Test
	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>	AIAN NHW	NHPI NHW
Personal income	26,209	39,483	30,686	43,251	46,074	65,970	-326.0	-99.0
Personal earnings	22,279	37,095	28,000	41,388	41,317	62,435	-332.4	-89.5
Age	38.4	14.6	36.1	14.1	41.5	14.5	-141	-106
Male	0.49	0.49	0.49	0.49	0.49	0.49	0.83	-0.9
Married	0.37	0.48	0.42	0.49	0.55	0.49	-238	-69
Poverty	236.1	170.6	283.2	173.8	338.0	167.3	-396	-88
Employed	0.53	0.49	0.62	0.48	0.69	0.46	-214	-37
>High school degree	0.39	0.48	0.42	0.49	0.54	0.49	-207	-68

NOTE: There are 453,109 observations for the AIAN sample, 78,399 observations for the NHPI sample, and 16,270,376 in the NHW sample. All dollar values are inflated to 2018 dollars using the Bureau of Labor Statistics Consumer Price Index (CPI) Urban Index for June.

time. For the AIAN and NHPI populations, I include individuals who either identify as those race groups alone or in combination with other races or ethnicities; therefore, this is the most inclusive and expansive definition of these two race categories.

In Table 1, I provide some summary statistics for these three groups. I restrict analysis to individuals who are aged 15 to 64 in all years so that this analysis covers the working-age population in the United States. The first variable is total personal income, which measures an individual's total pretax personal income or losses from all sources for the previous year. I report this in 2018 dollars. It is approximately \$26,000 for the AIAN population and \$30,000 for the NHPI population, while it is \$46,000 for the NHW population. The final two columns provide a *t*-test for the equality of the means between the two Indigenous peoples groups and that of NHW. In the next row, I show that the total personal earnings for the AIAN population is about \$22,000, while it is \$28,000 for NHPI and \$41,000 for NHW. Total personal earnings reports the income earned from wages or a person's own business or farm for the previous year. I find that the average age is higher for NHW than for AIAN or NHPI. In general, the samples are evenly divided among males and females. The sample of NHW are more likely to be married on average (55 percent) compared to AIAN (37 percent) and NHPI (42 percent) samples. I also report the average poverty level for each of these three groups: AIAN are on average at 236 percent of the federal poverty

FIGURE 1  
Median Earnings and Gini Coefficients



Panel A. Median Total Personal Earning

Panel B. Gini Coefficients for Total Personal Earnings for AIAN and NHPI

NOTE: All dollar values are inflated to 2018 dollars using the Bureau of Labor Statistics CPI-Urban Index for June.

level, NHPI are at 283 percent of the poverty level, and NHW are at 338 percent of the poverty level. Employment levels differ across the three groups as well: AIAN have the lowest employment levels at 53 percent and NHPI have the next lowest at 62 percent, while NHW have almost 70 percent employment. Finally, I disaggregated the educational attainment into greater than a high school degree or not. On average, the AIAN population has 39 percent with a high school degree or more, the NHPI population has about 42 percent with a high school degree or more, while the NHW population has about 54 percent with a high school degree or more.

## Income, Earnings, and Poverty for the AIAN and NHPI Populations: Earnings Measures and Inequality Measures

In panel A of Figure 1, I provide the median of the earnings distribution as reported in the American Community Survey (ACS) by year for three race groups: AIAN, NHPI, and NHW. These median amounts are presented by year by group for 2007–2018. All dollar values are inflated to 2018 dollars using the Consumer Price Index (CPI) Urban Index for June of each year. Qualitatively, the results indicate that NHW having a higher overall level of earnings than NHPI and AIAN. The median earnings for AIAN range from \$12,000 to as low as \$5,000 and then back up to \$10,000 by 2018; for NHPI, median earnings range from \$19,000 to a low of \$12,500 and back up to \$20,000 by 2018. For NHW, median earnings ranges from \$28,000 to a low of \$22,000 and back up to \$28,000 by 2018. The median earnings for all three groups are approximately \$10,000 to \$15,000 lower than the mean earnings for the same groups. In appendix Figure A1, I provide the mean earnings for these three groups by year. This indicates a great deal of very high income individuals in all three groups, which are skewing the average earnings upward away from the median. In general, the results indicate very little real improvement in earnings for any of these three groups over the course of these 11 years.

The previous figure shows that there are level differences in median earnings across the three race groups examined. Next, in panel B of Figure 1, I show earnings inequality over time for these same three groups in the next figure. I compute a Gini coefficient for each group for each year and plot those points on the figure that follows. The higher the Gini coefficient, the larger the earnings inequality in that particular group in that year; a Gini coefficient closer to 1 indicates that a few individuals are earning the entire sum of earnings, while a coefficient closer to 0 indicates a fairly equal distribution of earnings. The results provided here indicate that the AIAN population starts out with the highest levels of earnings inequality in 2007 and have persistently higher Gini coefficients than the other groups over all years. The earnings inequality peaks in 2011 at .70 and then trends downward in subsequent years. For NHPI populations, there is a noticeable increase in earnings inequality over the first few years in our sample, and then the inequality stabilizes around .64 and trends downward slightly. Earnings inequality for NHW is fairly constant, with a slight upward movement in 2009 and with a very modest downward trend after 2011.

While the Gini coefficient analysis provides an overall picture of the earnings inequality across time for these three race groups. Appendix Figures A2 and A3 identify changes in earnings inequality in the top and bottom halves of the earnings distribution. In appendix Figure A2, I show the ratio of log earnings of the 90th to the 50th percentile of the earnings distribution for each race group by year, while appendix Figure A3 shows the ratio of log earnings of the 50th to 10th percentile of the earnings distribution.

The log earnings ratio for the 90th and 50th earnings percentiles for AIAN increases in the first few years of the Great Recession and remains constant until 2012, and then there is a reduction in the log earnings ratio. A larger ratio would

indicate that the two percentiles are getting further away from one another (an increase in inequality), while the converse would indicate that the two percentiles are moving toward one another (a decrease in inequality). Examining the log ratio for the NHPI population, there is divergence (or an increase in the ratio) for the log 90/50 earnings ratio. Examining the raw data in appendix Table A1, we see that the change is due to a decrease in real median earnings in the middle of the observed time period. However, there is a resumption of earnings gains in the later part of the time period. Finally, for comparison, I include NHW and note that there is not a lot of change for that group over time.

In appendix Figure A3, I show the log earnings ratio for the median with the bottom decile of earners for each of these race groups by year. The log earnings ratio declines for the AIAN group over this time period. Examining the raw data, the bottom decile of AIAN earners are increasing their earnings relative to the median earner. Therefore, this relative decrease in earnings inequality is due to the bottom earners realizing some real improvement in earnings.

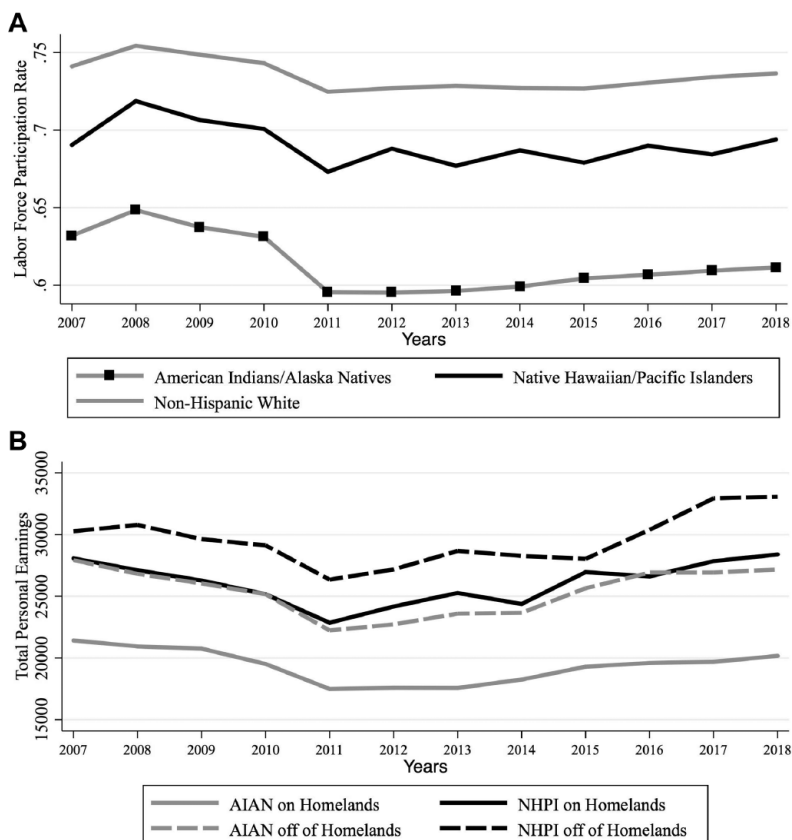
As noted in panel B of Figure 1, the median for that group was quite low—often below \$10,000 for the majority of the observed years; as a result, there is a lot of room for improvement in that regard. The change for NHPI is quite noisy; however, there does not appear to be a systematic upward or downward trend over time apart from a regression to the mean that occurred after a spike in inequality in 2011. The spike in the NHW line is driven by changes at the bottom earnings decile.

## Labor Force Participation and Earnings by Location

An important outcome of the Great Recession is that it may have discouraged many workers from remaining active, inducing them to leave the labor force permanently (Erceg and Levin 2014). In panel A of Figure 2, I provide the labor force participation rate for AIAN, NHPI, and NHW over the Great Recession. All three groups realize a reduction in the labor force participation rate by 2011 from the relatively high rates in 2007–2008. The largest relative drop is for the AIAN population, which drops to about 60 percent and remains there for the rest of the time period. The NHW and NHPI populations experience some rebounding; however, the decrease in labor force participation rates were not nearly as dramatic as they were for AIAN in this time period.

The Great Recession had a differential impact on different parts of the country, and one might expect there to be a similar impact for Indigenous peoples in the United States as well (Yagan 2019). Panel B of Figure 2 provides earnings by race group for individuals located on or off of American Indian reservations, Alaska Native Villages, or Native Hawaiian homelands; these geographic designations are defined by the U.S. Census Bureau and are either lands that are self-governing by AIAN, or lands that are held in trust for these Indigenous peoples (U.S. Census Bureau 2018).<sup>1</sup> Level differences exist across all three race groups. AIAN residing on reservations or in villages tend to have the lowest average earnings in real \$2018 as compared to all other groups; average earnings start out

FIGURE 2  
Labor Force Participation and Earnings by Location



Panel A. Labor Force Participation Rates

Panel B. Total Personal Earnings by Location on or off of Homelands

NOTE: All dollar values are inflated to 2018 dollars using the Bureau of Labor Statistics CPI Urban Index for June.

around \$20,000 and do not deviate too far from that amount over the time period examined. On the other hand, AIAN populations residing off of reservations or villages earn about \$5,000 to 7,000 more. Native Hawaiians residing on Native Hawaiian homelands similarly earn slightly less than their off-homeland counterparts. However, these differences are not quite as large as for the AIAN population. These results may provide some indication that reservations/homelands provide a distinctly different set of economic opportunities for all race groups. These locations often have lower earnings, which may reflect a lack of employment and business opportunities, or they may reflect the viability of alternative non-market- or non-employment-based earnings or economic opportunities. In particular, reservation- or homeland-based economies may rely more on subsistence



hunting, farming, gathering, fishing, or trapping; none of these activities would show up as employment or earnings in existing data sources.

## Earnings by Educational Attainment

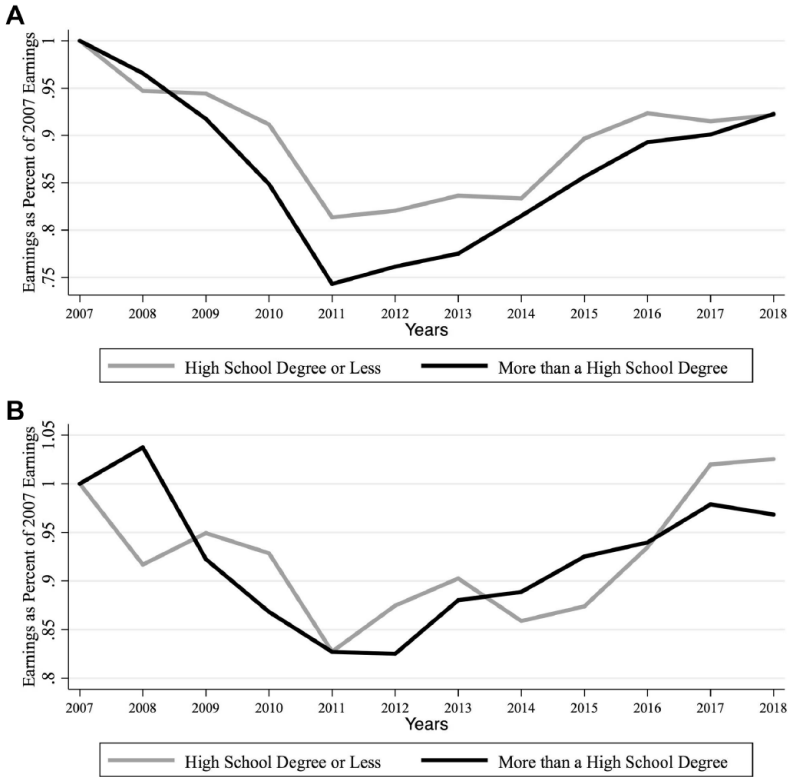
In panel A of Figure 3, I provide the total personal earnings for each race group by year for two broad educational attainment categories: high school degree or less and more than a high school degree. Separating the educational attainment into three categories, where a high school education alone is a third category, does not provide qualitatively different results. I show the earnings for AIAN as a percentage of their average earnings in 2007 by educational attainment. All dollar figures are inflated to 2018 dollars in this analysis. The first observation is that there is a noticeable decrease in real earnings for both educational categories of workers in this time period. It is more pronounced, however, for those with more than a high school degree, such that earnings are only about three-quarters that of the 2007 level in 2011. The other important fact is that the level of real earnings does not reach parity with their 2007 earnings by the end of our time period; it is still less than 95 percent of the 2007 earnings in real terms.

Panel B of Figure 3 provides a similar analysis for the NHPI population. The analysis shows that there is a decrease in real earnings for both educational attainment groups in 2011 and 2012. The differences do not appear as stark by educational attainment for the NHPI population as it was for the AIAN population. There is some evidence that the workers from lower education categories have made up some of the losses in earnings over the time period of the Great Recession; there is almost a return to parity for those with higher education.

## Earnings by Occupational Categories

In Figure 4, I provide the earnings as a percentage of the 2007 earnings by race group for selected occupational categories. In panel A, I provide the results for the AIAN population for four blue-collar occupations: food services, retail sales, janitorial services, and construction. I include managerial occupations as a useful comparison in the analysis. All dollar values are inflated to 2018 dollars. The data indicate that there were sharp drops in real earnings in the sales and janitorial services occupations in 2011. Food services, on the other hand, appears to have had the least negative impact of all of the occupations examined; indeed, this occupation ends 2018 with higher real earnings than 2007, which is not the case for many other occupations. Managerial occupations realize a decline in their real earnings, but there is a rebound toward the end of the data period; in general, the decrease in earnings is less severe than it was for other occupations, with the notable exception of food services. I have excluded other occupational categories to make the figures tractable; however, I do not show here other notable categories, such as manufacturing and production occupations, and other research has shown these categories to have persistent deficits in employment and earnings over the recovery period.

FIGURE 3  
Total Personal Earnings by Educational Attainment



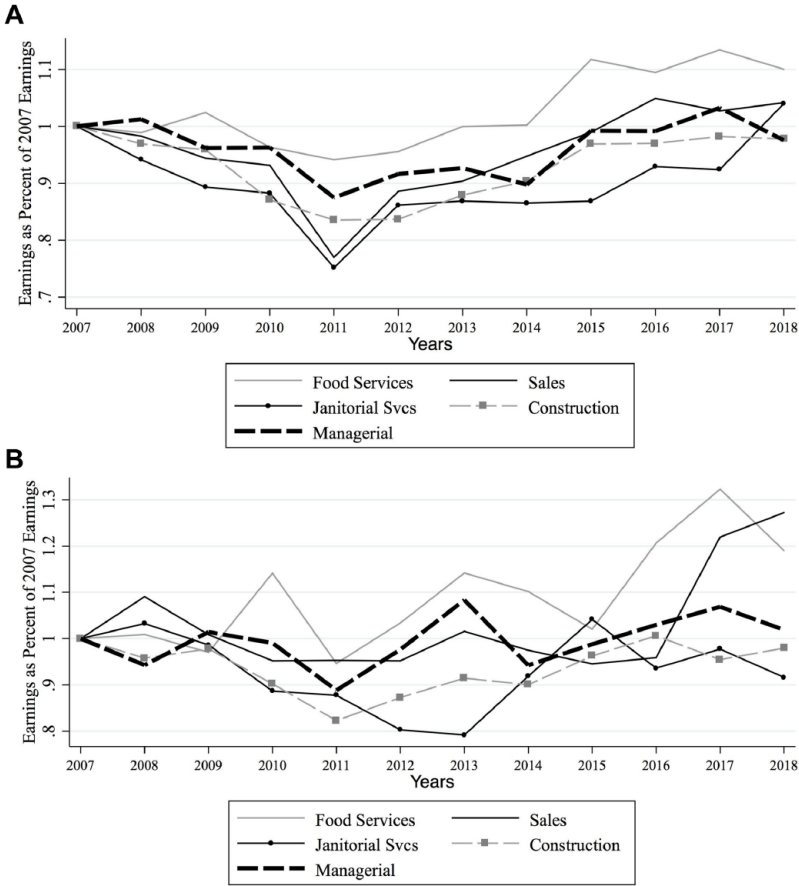
Panel A. AIAN

Panel B. NHPI

NOTE: All dollar values are inflated to 2018 dollars using the Bureau of Labor Statistics CPI-Urban Index for June.

In panel B of Figure 4, I provide a similar analysis for NHPI. The trends are less clear and more erratic than for the AIAN population. On average, it appears that the earnings in most occupations are fairly constant, with the exception of construction and janitorial services, which had a significant decrease relative to 2007 earnings in 2011 to 2013. However, there is significant improvement in earnings by the end of the data series. Food services occupations appear to be at or above the 2007 level for many years in the data series; there is a significant increase in earnings for sales in the last two years of the data series. In unreported results, earnings for NHW are qualitatively similar to that of the AIAN population. Once again, the decrease in earnings is not large as it was for the AIAN population; however, the relative performance of different occupations mirrors that of the AIAN population.

FIGURE 4  
Total Personal Earnings by Selected Occupational Categories



Panel A. AIAN

Panel B. NHPI

NOTE: All dollar values are inflated to 2018 dollars using the Bureau of Labor Statistics CPI-Urban Index for June.

## Discussion and Conclusion

The previous section provided a picture of the AIAN and NHPI earnings and employment experience over the period of the Great Recession and recovery period in the United States. NHPI experienced a decrease in earnings and labor force participation over the Great Recession and recovery period, but AIAN experienced longer-term impacts. As a result, total personal earnings and the labor force participation rate for AIAN did not converge back to the pre-recession levels by 2018. In general, over this period, there continues to be

persistent differences in median earnings between these two groups and NHW. The striking feature over this period is that there is a large decrease in the labor force participation rate for the AIAN population during the Great Recession that persists into the recovery period; NHPI observe a rebounding of the initial drop in labor force participation in the recovery period.

These results point to the stark differences that exist in the experience of different Indigenous peoples in the United States. These differences are found both in the level of earnings and the distribution of those earnings in those populations. An important determinant of earnings are skills and educational attainment. In subsequent analyses, I examined the extent to which educational attainment insulate individuals from the impact of the Great Recession. The analysis indicates that those with higher educational attainment suffered the largest earnings losses on average over the Great Recession and the subsequent recovery period. These results held for AIAN and the NHW population, but the impact was approximately similar for both educational groups of NHPI.

I also separated the earnings by year by group by a few selected occupational categories. Certain occupations were more adversely affected by the Great Recession. In particular, the financial crises originated in the subprime housing lending markets. The result was a severe contraction in housing prices and new construction (Danziger 2013; Myers and Lee 2018). As a result, individuals employed in these industries were at higher risk of job and/or earnings loss. To a large extent, these industries tend to have high proportions of minority workers (Yaya 2018). My results show that the earnings for both AIAN and NHPI in these occupations took some of the biggest relative earnings losses over the Great Recession. Food services fared the least badly.

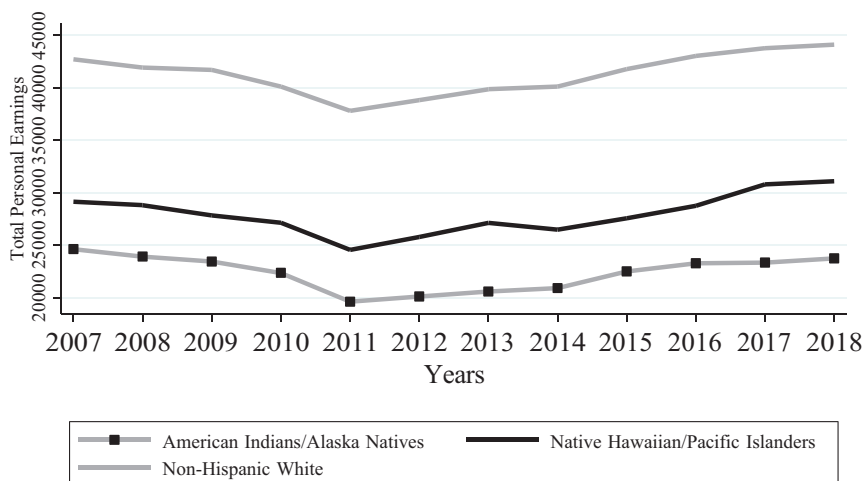
Typically, the experience of one recession may be useful to infer how more recent recessions will impact certain parts of the economy. The experience of the Great Recession, however, may not provide a useful guide for the economic impacts that may occur in the current COVID-19 pandemic. In the previous recession, there was no public health issue that limited the ability of tribal reservation enterprises to reopen in a timely manner. Additionally, certain occupations are on the frontline of exposure to the COVID-19 virus; the majority of individuals employed in these occupations tend to be minorities. Thus, the AIAN and NHPI individuals employed in food service and sales occupations who were less likely to be affected by earnings losses in the Great Recession may actually be more at risk in the current recessionary episode. Finally, the long-term health impacts and death rates from COVID-19 that have disproportionately affected minorities will have an effect on economic recovery rates as well. Indigenous peoples in the United States have already been disproportionately affected by the COVID-19 pandemic; in California, for instance, the NHPI population has a death rate that is four times its proportion of the state population (California Department of Public Health [CalHealth] 2020). The Navajo reservation is facing one of the highest rates of COVID-19 cases in the country (Romero and Healy 2020). The current economic downturn may play out and have much more dire impacts than the Great Recession did for Indigenous peoples in the United States.

## Appendix

TABLE A1  
Log Earnings for Selected Percentiles for the AIAN, NHPI, and NHW Groups  
for 2007 to 2018

	AIAN			NHPI			NHW		
	10th %	50th %	90th %	10th %	50th %	90th %	10th %	50th %	90th %
2007	7.600	9.998	11.03	8.006	10.16	11.12	8.294	10.37	11.40
2008	7.863	10.03	11.03	8.006	10.18	11.11	8.389	10.40	11.40
2009	7.824	9.998	11.08	8.294	10.18	11.15	8.366	10.40	11.41
2010	7.783	9.998	11.08	8.039	10.16	11.15	8.342	10.40	11.41
2011	7.600	9.952	11.03	7.863	10.12	11.15	8.294	10.37	11.41
2012	7.649	9.985	11.08	8.006	10.13	11.15	8.294	10.43	11.47
2013	7.740	10.03	11.11	8.070	10.16	11.22	8.294	10.46	11.51
2014	7.824	10.07	11.12	8.160	10.18	11.22	8.411	10.46	11.51
2015	7.824	10.08	11.18	8.160	10.23	11.26	8.476	10.49	11.51
2016	8.006	10.12	11.21	8.242	10.27	11.28	8.517	10.54	11.56
2017	8.006	10.12	11.22	8.160	10.30	11.35	8.517	10.59	11.60
2018	8.006	10.20	11.23	8.294	10.34	11.39	8.517	10.59	11.63

FIGURE A1  
Mean Total Personal Earnings for AIAN and NHPI



NOTE: All dollar values are inflated to 2018 dollars using the Bureau of Labor Statistics CPI-Urban Index for June.

FIGURE A2  
Log 90 / 50 Earnings Ratios for AIAN and NHPI

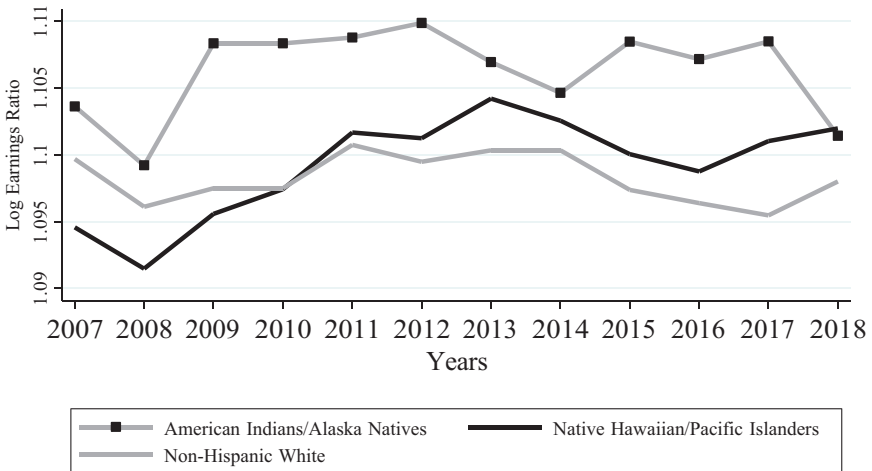
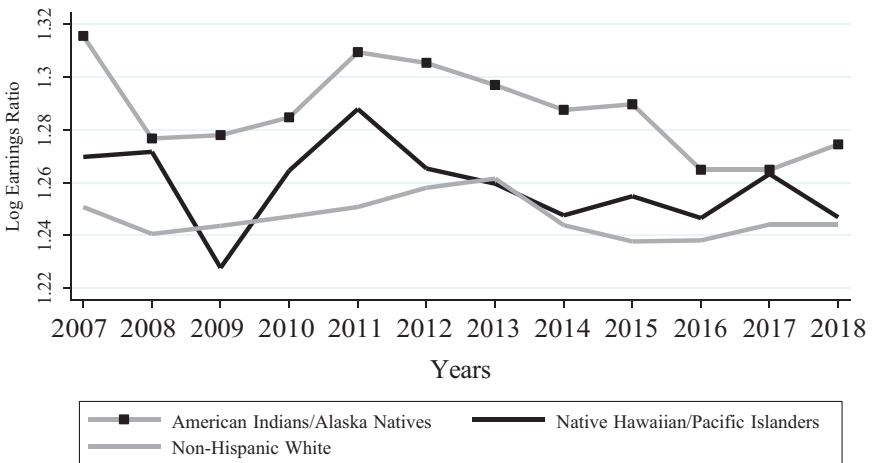


FIGURE A3  
Log 50 / 10 Earnings Ratios for AIAN and NHPI



Note

1. The NHPI designation may include Native Hawaiians and Pacific Islanders from U.S. territories such as Guam or American Samoa; however, it may include other Pacific Islanders such as Tongans, Fijians, and Marshallese residing on or off of tribal reservations, villages, or homelands for the AIAN or NHPI populations within the fifty U.S. states. There are separate insular areas enumerations, not included here or in the U.S. Census or ACS, that are conducted specifically for U.S. territories.

## References

- Akee, Randall, Katherine Spilde, and Jonathan B. Taylor. 2014. Social and economic changes on American Indian reservations in California: An examination of twenty years of tribal government gaming. *UNLV Gaming Research & Review Journal* 18 (2): 3.
- Akee, Randall, Katherine A. Spilde, and Jonathan B. Taylor. 2015. The Indian Gaming Regulatory Act and its effects on American Indian economic development. *Journal of Economic Perspectives* 29 (3): 185–208.
- California Department of Public Health (CalHealth). 2020. COVID-19 race and ethnicity data. Available from <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/COVID-19/Race-Ethnicity.aspx>.
- Conner, Thaddieus W., and Aimee L. Franklin. 2019. 20 years of Indian gaming: Reassessing and still winning. *Social Science Quarterly* 100 (3): 793–807.
- Conner, Thaddieus W., and William A. Taggart. 2013. Assessing the impact of Indian gaming on American Indian nations: Is the house winning? *Social Science Quarterly* 94 (4): 1016–44.
- Danziger, Sheldon. 2013. Evaluating the effects of the great recession. *The ANNALS of the American Academy of Political and Social Science* 650 (1): 6–24.
- Duthu, N. Bruce. 2008. *American Indians and the law*. New York, NY: Penguin.
- Erceg, Christopher J., and Andrew T. Levin. 2014. Labor force participation and monetary policy in the wake of the Great Recession. *Journal of Money, Credit and Banking* 46 (S2): 3–49.
- Foster, Lucia, Cheryl Grim, and John Haltiwanger. 2016. Reallocation in the Great Recession: Cleansing or not? *Journal of Labor Economics* 34 (S1): S293–S331.
- Kaplan, Greg, Kurt Mitman, and Giovanni L. Violante. 2020. Non-durable consumption and housing net worth in the Great Recession: Evidence from easily accessible data. *Journal of Public Economics*. Available from <https://doi.org/10.1016/j.jpubeco.2020.104176>
- Kochhar, Rakesh, and Richard Fry. 2014. Wealth inequality has widened along racial, ethnic lines since end of Great Recession. *Pew Research Center* 12 (104): 121–45.
- Meyer, Bruce D., and James X. Sullivan. 2013. Consumption and income inequality and the Great Recession. *American Economic Review* 103 (3): 178–83.
- Mian, Atif, Kamallesh Rao, and Amir Sufi. 2013. Household balance sheets, consumption, and the economic slump. *Quarterly Journal of Economics* 128 (4): 1687–1726.
- Myers, Samuel L., and Won Fy Lee. 2018. Racial disparities, homeownership, and mortgage lending in the post-Great Recession period: The case of the Minneapolis-St. Paul metropolitan area. *Journal of Economics, Race, and Policy* 1 (2-3): 47–59.
- Pfeffer, Fabian T., Sheldon Danziger, and Robert F. Schoeni. 2013. Wealth disparities before and after the Great Recession. *The ANNALS of the American Academy of Political and Social Science* 650 (1): 98–123.
- Romero, Simon, and Jack Healy. 11 May 2020. Tribal nations face most severe crisis in decades as the coronavirus closes casinos. *New York Times*.
- Ruggles, Steven, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas, and Matthew Sobek. 2018. IPUMS USA: Version 8.0 [dataset]. IPUMS, 10:D010. Minneapolis, MN: IPUMS.
- Smeeding, Timothy. 2012. *Income, wealth, and debt and the Great Recession*. New York, NY: The Russell Sage Foundation and the Stanford Center on Poverty and Inequality.
- Strommer, Geoffrey D., and Stephen D. Osborne. 2014. The history, status, and future of tribal self-governance under the Indian Self-Determination and Education Assistance Act. *American Indian Law Review* 39 (1): 1–75.
- U.S. Census Bureau. 2018. Definitions of the American Indian and Alaska Native geographic areas. Available from <https://www.census.gov/programs-surveys/geography/about/glossary/aian-definitions.html> (accessed 2 September 2020).
- Wilkins, David E. 2002. *American Indian politics and the American political system*. New York, NY: Rowman and Littlefield Publisher, Inc.
- Yagan, Danny. 2019. Employment hysteresis from the Great Recession. *Journal of Political Economy* 127 (5): 2505–58.
- Yaya, Mehmet E. 2018. Great Recession and income inequality: A state-level analysis. *Journal of Economics, Race, and Policy* 1 (2-3): 112–25.