

Social and Economic Changes in American Indian Reservations

**A Databook of the US Census and the
American Community Survey,
Third Edition**

1990–2020

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EXECUTIVE SUMMARY

This databook presents fourteen indicators of population, income, poverty, labor, housing, and education for Indian reservations in the Lower 48 states in the US from 1990 to 2020. It also begins to investigate the variations within Indian Country, although a complete examination is beyond its scope.

While reservation economic development has led to improvements in these indicators over the last three decades, gaps remain between American Indians on reservations and all people in the US.

- **Population:** The American Indian population on reservations declined 4.3% from 2010 to 2020, surpassing the overall decline in the rural US population.
- **Income:** Both Per Capita Income and Median Household Income for Indians on reservations excluding Navajo have increased from 2010 to 2020 by 11.6% and 7.8%, respectively. While encouraging, the actual dollar amounts compared to the United States overall show that parity is still a way off.
- **Poverty:** Family and Child Poverty for Indians on reservations continues to decline with reductions from 2010 to 2020 of 13.86% and 8.71%, respectively. Yet, both poverty rate categories are still more than double the national average in 2020.
- **Labor:** While tribes reduced Indian unemployment on reservations by nearly 35% from 2010 to 2020, a gap between reservation and national unemployment rates remains. The progress in job creation is encouraging, but labor force participation rates show declines for both Native men and women that outpaced the US.
- **Housing:** Overcrowding on Indian reservations excluding Navajo declined over the last three decades, from 10.5% in 1990 to 6.0% in 2020. However, the national overcrowding rate in 2020 was 3.4%.
- **Education:** Education levels for Indians on reservations have risen over time. The percentage of *High School Graduates* (or equivalent) now surpasses the national average. Although *College Graduates* have increased each decade, this group still falls short compared to the rest of the United States.

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NATIVE NATIONS IN THE US

The contours of Indian Country are intricate, shaped by a complex history of colonization and assimilation policies that have profoundly influenced the composition and experiences of Native communities across the United States [21, 53, 84]. The legacies of these historical policies continue to impact Indigenous communities today, affecting their social, economic, and cultural realities [20, 41, 48, 55, 56, 68]. Despite the historical legacy of harmful policies, nations across Indian Country are reclaiming sovereignty and self-determination, reasserting control over their lands, economies, and governance. The rise of tribally-owned enterprises, revitalization of cultural practices, and Indigenous-led policies are not just responses to past injustices but examples of how culturally grounded governance can create meaningful change. The approaches Native nations have taken in serving their communities and pursuing self-governance offer valuable insights for policymakers seeking more equitable and sustainable solutions in diverse contexts.

Three distinct groups are recognized under the trust responsibility of the federal government: American Indians, Alaska Natives, and Native Hawaiians [43]. This trust responsibility originates from the Commerce Clause in the US Constitution and has been further defined through treaties and federal legislation, and reaffirmed by landmark Supreme Court decisions [50]. The federal government is legally obligated to uphold its trust responsibility towards these Indigenous Peoples in the US. While this databook focuses on American Indians living on reservations in the Lower 48, it is important to acknowledge the histories and political statuses of Alaska Natives and Native Hawaiians. Each of these groups has unique experiences and challenges shaped by their historical and legal contexts.

Collecting accurate and comprehensive data on American Indians presents unique challenges [58]. The complexity of reservation life, diverse economic conditions, and variations in data reporting make it difficult to paint a complete picture with a single snapshot of selected characteristics. While this databook attempts to fill some of these gaps, data limitations persist. These challenges are pronounced for Alaska Natives and Native Hawaiians, where historical data is even more sparse and less detailed.

Self-Government

In 2025, the United States federal government recognizes 574 American Indian tribal governments and Alaska Native villages [30]. Within the Lower 48, 347 of these tribal governments manage a diverse array of lands, including reservations, pueblos, rancherias, colonies, and others [30].¹ These lands vary in size, from a few acres to hundreds of thousands of acres.

Similar to states, Native nations create policies that impact their communities and residents' daily lives by exercising specific regulatory powers within their boundaries. Tribal governments possess the sovereign authority to establish and govern their own institutions, including defining citizenship criteria; creating and enforcing laws through their legislatures, courts, and police forces; collecting taxes; and regulating property use through zoning and environmental controls [50, 106].

In addition to these internal governance functions, tribes frequently engage in intergovernmental agreements with cities, counties, states, and other Native nations [63]. These agreements cover a broad range of areas, including law enforcement, infrastructure development, and environmental management [64]. Such partnerships highlight the administrative capabilities of tribal governments and their capacity to effectively navigate and contribute to broader regional governance frameworks. By working with other government entities, tribes are not only addressing local needs but also strengthening their role in regional and national policy discussions.

Tribal self-governance also extends to the provision of public goods for both Native and non-Native people, especially in areas where other institutions may struggle to meet community needs. Recent rural hospital closures in Oklahoma, part of a broader trend in rural areas, exemplify this challenge [37]. In response, tribes such as the Cherokee Nation [82] and the Chickasaw Nation [78] are actively expanding or constructing new health-care facilities, benefiting not only tribal members but also the broader rural population. Similarly, the Pokagon Band of Potawatomi Indians provides police services across a 10-county area, serving both Indian and non-Indian communities [65]. The progress observed in reservation economies amidst these challenges underscores the resilience and capacity of tribal governance to foster development and address critical needs.

¹Note that there are many other state-recognized and non-recognized Indigenous Peoples in the US; these groups are not included in the current analysis but include a variety of Indigenous Peoples from Puerto Rico, Guam, Hawaii, and other US Territories.

Economic Development

Tribal governments are located across both urban and rural areas throughout the United States. However, they are important economic players in rural regions where attracting investment and sustaining population growth can be challenging. Businesses located on reservations survive at higher rates compared to those similarly situated in other rural counties [18]. In some counties or entire regions, tribes are the largest employers, employing people in tribal government administration or tribally owned enterprises [100]. The Hualapai Tribe was the second largest employer in Mohave County, Arizona, in 2017, providing jobs to over 1,500 Native and non-Native employees [67]. In 2022, the Winnebago Tribe of Nebraska's Ho-Chunk Inc. employed 2,783 people, and the Tribe's economic activity supported 3,525 jobs across Nebraska, Iowa, and South Dakota [96]. Other Native-led institutions also play key roles in reservation economies. Institutions like Four Bands Community Fund, a Native community development financial institution (CDFI) based on the Cheyenne River Sioux Reservation in South Dakota, have been instrumental in providing capital for Native-owned businesses, offering homeownership loans, and, as of 2021, lending through the USDA's Farm Service Agency Guaranteed Farm Loan Program [67]. Recent research also highlights the efficacy of Native CDFIs in reducing loan failures on reservations and developing innovative models to assess credit risk that improve loan access [45, 46].

It might be a misconception that reservation economies are solely focused on gaming and confined by reservation boundaries. Recent research reveals that tribal enterprises contribute to economic activity across a diverse range of industries throughout the United States [38]. New data from the Center for Indian Country Development shows that tribes now operate businesses across all 50 states and in over 1,300 cities, showcasing their expanding economic influence [76]. This diversification not only bolsters economic activities within reservations but also has a broader impact, enhancing economic opportunities off-reservation [24]. Tribal enterprises also have positive spillover effects on surrounding non-reservation communities. Studies have shown that businesses located near reservations experienced an increase in sales, employment, and foot traffic, benefiting from the economic activity generated by tribal enterprises [10, 60].

These findings highlight how tribal economic development can create ripple effects that enhance local economies beyond reservation boundaries. While gaming remains a vital component of many tribal economies, it is clear that some tribes have effectively used the revenue and economic mo-

mentum generated by gaming to invest in and expand into other sectors. This diversification strategy helps to build more resilient and robust tribal economies, reducing dependence on a single source of revenue and fostering long-term sustainability and also benefits non-reservation economies. This expanded economic footprint extends beyond the traditional image of reservation economies, illustrating a diverse and dynamic landscape.

Reservation Economies in the National Context

The 1990s ushered in a period of significant opportunity for Indian Country, as long-standing assertions of sovereignty began to yield tangible results. The self-determination policies initiated in the 1970s matured into broader self-governance frameworks in the 1990s, allowing tribes to reclaim control over vital areas such as education, healthcare, and natural resources [42, 63, 87]. These developments marked a transformative era for tribal economies in the first two decades of the 21st century, notwithstanding the gap between life on reservations and the US.

Table 1 presents changes in several reservation characteristics between decades over a forty-year period for American Indians on reservations in the Lower 48, excluding Navajo. Per capita income for Indians on reservations increased by thirty percent between 1990 and 2000 and grew by eight percent and eleven percent over the early 2000s and 2010s. As a consequence, there has been a reduction in on-reservation family and child poverty over these years. This has not completely eliminated poverty, but it has been an area of improvement that exceeds that of the US as a whole (see Table 2). The other indicators in this table indicate that there has been a general improvement in various outcomes. The last column of this table shows the total change between 1990 and 2020. We observe a reduction in homes with incomplete facilities over this time period with the exception of homes without a complete kitchen. There is also a notable increase in educational attainment as well. There's an overall reduction in labor force participation for men, but this is present for the US as a whole over this time period as well. We also find that there is a large reduction (approximately 42%) in unemployment between 1990 and 2020 and it is three times the size for the US as a whole.

Table 1:
Percent Change on Reservations Excluding Navajo
Indians on Reservations Excluding Navajo

Census Variable	1990 to 2000	2000 to 2010	2010 to 2020	1990 to 2020
Per Capita Income	30.03%	8.30%	11.55%	57.09%
Median Household Income	30.36%	-3.75%	7.79%	35.24%
Family Poverty	-35.83%	-5.65%	-13.86%	-47.85%
Child Poverty	-19.70%	4.67%	-8.71%	-23.26%
Male Labor Force Participation	-5.36%	-1.03%	-9.19%	-14.94%
Female Labor Force Participation	9.26%	2.64%	-8.62%	2.47%
Unemployment	-16.25%	5.47%	-34.91%	-42.50%
Living in Crowded Homes*	-30.04%	-35.64%	-7.69%	-63.19%
Homes Lacking a Complete Kitchen*	116.67%	25.64%	-20.41%	116.67%
Homes Lacking Complete Plumbing*	57.14%	-22.73%	-23.53%	-7.14%
High School Degree Only	4.67%	-0.60%	8.08%	12.46%
College Graduate or More	40.43%	31.82%	18.39%	119.15%

*Due to Census data limitations, the Indian-area figures for overcrowded homes and homes without complete kitchens and plumbing are all people in the specific geography, rather than Indian, statistics.

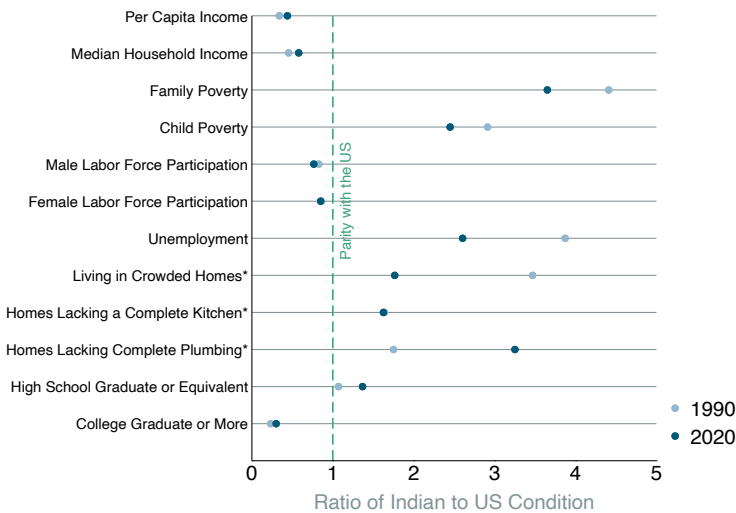
Table 2:
Percent Change in United States
All People

Census Variable	1990 to 2000	2000 to 2010	2010 to 2020	1990 to 2020
Per Capita Income	11.38%	-5.72%	15.41%	21.20%
Median Household Income	3.95%	-8.35%	11.15%	5.9%
Family Poverty	-29.00%	19.72%	-25.88%	-37.00%
Child Poverty	-9.29%	25.30%	-19.71%	-8.74%
Male Labor Force Participation	-4.97%	-0.71%	-2.42%	-7.93%
Female Labor Force Participation	1.23%	3.30%	-1.35%	3.17%
Unemployment	-8.06%	61.40%	-42.39%	-14.52%
Living in Crowded Homes	21.28%	-43.86%	6.25%	-27.66%
Homes Lacking a Complete Kitchen	18.18%	130.77%	-20.00%	118.18%
Homes Lacking Complete Plumbing	-25.00%	-16.67%	-20.00%	-50.00%
High School Degree Only	-4.67%	-1.40%	-6.38%	-12.00%
College Graduate or More	20.20%	16.80%	20.35%	68.97%

These advancements reflect positive changes within reservation communities; however, these improvements are not uniform across all tribal nations and ongoing challenges remain. Not all of the economic gains benefit all reservation residents equally, indicating perhaps uneven development within reservation economies. Significant disparities between Native populations on reservations and the broader US population also remain. We provide an additional figure to show that there are ongoing differences in the average value of these different characteristics relative to the US as a whole (see Figure 1). In the figure, we depict the 1990 ratio of these various characteristics (relative to the US as a whole) as a light blue dot and the 2020 ratio as a dark blue dot. While per capita income has increased

over these decades (the 2020 blue dot is further to the right of the 1990 light blue dot), the ratio relative to the US as a whole remains below one (which is depicted by the vertical green dashed line). Male and female labor force participation and college graduate or more rates for the population on Lower 48 reservation lands, excluding Navajo, in 1990 and 2020 are also lower than the rates for the US as a whole.

Figure 1:
Relative Standing of Indians 1990 and 2020
Reservations Excluding Navajo



*Due to Census data limitations, the Indian-area figures for overcrowded homes and homes without complete kitchens and plumbing are all people in the specific geography, rather than Indian, statistics.

Reservation lands are overrepresented with regard to the other measures as compared to the US as a whole. The 1990 light blue dot and the 2020 dark blue dot are to the right of the vertical line that indicates parity with the US for several characteristics such as poverty rates, unemployment, and housing characteristics. It is possible to observe the improvement over time for some of these characteristics such as family poverty and child poverty and unemployment by comparing the horizontal distance between these dots.

The gaming industry has played a significant role in improving economic conditions on some reservations, particularly between 1990 and 2000. Over

this decade, there was an unusually large reduction in family and child poverty; related to that, over the same time period, we observe one of the largest increases in per capita income and median household income. However, these improvements have not increased at the same rate over the past twenty-five years. This may indicate the need for new and diverse revenue sources to bolster tribal economies.

While we include some analysis of the gaming industry throughout this databook, we do not draw sharp comparisons between gaming versus non-gaming tribes as in previous databooks. In reality, nearly every tribe is impacted by gaming in some capacity, whether directly or indirectly.

Past studies on American Indian gaming likely understate its impact, as nearly every tribe in the US may be exposed to various aspects of the industry whether they directly operate a casino themselves or not. Native nations that do not operate casinos themselves may still benefit from gaming through employment opportunities provided by other tribes, ownership of businesses that serve tribal casino operations, or by receiving funds from gaming revenue-sharing agreements. Many tribal gaming enterprises prioritize Indian preference in hiring and providing employment opportunities for Native people across tribes [81]. Tribes also operate businesses that serve the tribal casino industry exclusively; for example, Mille Lacs Corporate Ventures, through its Slotco division, provides slot machine services exclusively to other tribal casino operations nationwide [75]. In a different example, the Mohegan Tribe assisted in funding and managing the Cowlitz Indian Tribe's casino operations which shows the collaborative and inclusive nature of tribal gaming industries in some cases [79]. Additionally, there is direct assistance to other non-casino operating tribal nations. In California, there is a large trust fund that is set up within the state with contributions from tribal nations with revenue-producing casinos for smaller tribal nations that have no casino operations [33].

Indian gaming revenues have also increased tribal advocacy on a range of issues at the state and federal levels. In California, for instance, a study showed that gaming was one of the most prominent issues, with tribes being among the largest lobbying groups [27]. Beyond gaming, these tribes advocate for issues such as healthcare and the environment, impacting broader tribal and non-tribal communities alike. Tribes with successful casinos also often play a significant role in funding community development, benefiting both tribal and non-tribal communities. The Shakopee Mdewakanton Sioux Community, for example, has used its substantial success in the gaming industry to invest in community projects and support other tribes across

the country [91]. This interconnectedness suggests that we should not think of tribal gaming as a narrow or singular effect; there are a number of potential benefits that extend well beyond the gaming industry itself.

The following sections present the key findings of this databook, offering a snapshot of changes on Indian reservations over time for a variety of indicators. The section begins with a detailed overview of the methodology, outlining the conventions and considerations that guided the selection and presentation of data. Additionally, we define the specific measure for each section for clarity and transparency. Next, we include figures with a discussion of the data and their implications. Lastly, the appendices include supplementary materials, acknowledgments, biographical information about the authors, and a list of references.

METHODOLOGY

This databook provides a comprehensive analysis of fourteen key indicators related to population, income, poverty, employment, housing, and education for reservations in the Lower 48, covering the period from 1990 to 2020. The data presented provides some metrics showing how these indicators have changed over time. The results indicate that there has been both progress and stagnation in certain indicators.

While the databook begins to explore the variations within Indian Country, a thorough examination of these disparities is beyond its scope. This edition builds on previous research, updating the data and analysis from earlier studies on reservation changes from 1990 to 2000 [97] and from 1990 to 2010 [16]. It also connects to foundational research documenting the persistent challenges faced by reservation communities [94, 101].

Reservations Excluding Navajo

The US Census Bureau designates several geographic areas for federally recognized Indian communities, with reservations and accompanying trust lands being the most common. These areas include treaty homelands, executive-order reservations, lands held by the federal government in trust for Native Americans, and other territories where tribes and the federal government possess the clearest jurisdictional powers. While reservations may be referred to by different names—such as rancherias in California, pueblos in New Mexico, or “Indian communities” in Bay Mills in Michigan—most share similar legal and economic characteristics. For more information on the various legal distinctions of Indian lands, see the Center for Indian Country Development’s “What is Indian Country?” [36].

The Census Bureau also identifies statistical areas where the powers and boundaries of reservations and trust lands are less clearly defined. Oklahoma Tribal Statistical Areas (OTSAs), for example, outline regions comparable to the historical reservations in Oklahoma [35]. These areas cover much of the state, including most of Tulsa, where thousands of non-Indians reside.²

²The US Supreme Court’s decision in *McGirt v. Oklahoma* (2020) affirmed that Muscogee (Creek) Nation’s reservation was never disestablished. However, the Census Bureau has not modified its classification of Muscogee’s land nor any other OTSA.

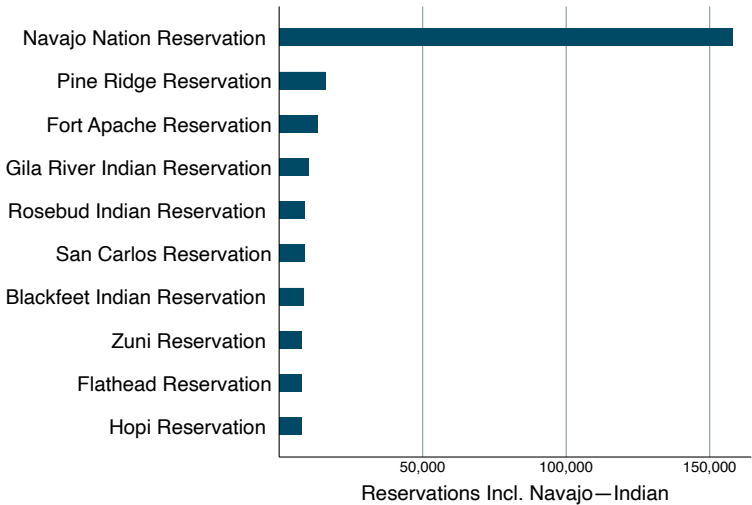
Additionally, Tribally Designated Statistical Areas (TDSAs) provide data on Native American populations in regions where tribes do not have federally-recognized reservation lands. And in fact, some tribes may not have a land-base at all [53]. The Census Bureau also tracks a range of other areas, including joint-use areas shared by federally recognized tribes, Alaska Native Village Statistical Areas, Alaska Native Regional Corporation Lands, State Designated Tribal Statistical Areas, and American Indian Reservations recognized by state governments.

The wide range of geographic classifications in Census Bureau data poses challenges for this kind of report. To maintain continuity with previous editions and streamline our analysis, we focused on Census areas encompassing federally recognized tribes in the Lower 48 states. This approach leaves the specialized task of exploring the socioeconomic conditions of Alaska Natives, Native Hawaiians, state-recognized tribes, and Native American life in urban or non-reservation settings to other studies. There is a large amount of American Indians residing off of reservation lands and further exploration of their experiences and outcomes are worthy of further research (see Population on p. 18).

However, even with these exclusions, the choice of geographic focus remains complex. While it might seem beneficial to include all American Indians residing in all Indian areas, the realities of life in these regions can vary. For example, Native Americans living in Tulsa, which falls within both the Muscogee (Creek) and Cherokee OTSAs, may have access to economic opportunities similar to those available to Native Americans in cities like Phoenix, Oakland, or Denver—opportunities that are starkly different from those on other, more rural or isolated tribal reservation lands.

Focusing the analysis on federally recognized reservations presents another challenge: the disproportionately large population of the Navajo Nation. Figure 2 displays the top ten reservations by population from the Census' 2022 American Community Survey five-year estimates for American Indian and Alaska Native alone. The Navajo Nation Reservation and its off-reservation trust lands account for 157,958 Native Americans. This figure vastly exceeds that of the Pine Ridge Reservation, which has the second-largest reservation population (16,284); therefore, the Navajo Nation is a significant outlier and has a significant influence on aggregated or averaged outcomes.

Figure 2:
Top 10 Reservation Populations
2022 ACS 5-Year Estimates



The Navajo Nation alone accounts for more Native Americans than the next nineteen largest reservations combined, making up almost thirty-one percent of the on-reservation Native American population in the Lower 48 (see Figure 2). This means that any analysis of reservation populations will inevitably be skewed by the size of the Navajo Nation.

To provide a more balanced analysis, we separate the Navajo Nation from other reservations. This prevents an overemphasis on “Navajo reservation life” when discussing broader “Indian reservation life.” Where applicable, we draw direct comparisons between the Navajo Nation and the overall United States population. In addition, we employ two alternative approaches—one that includes the Navajo reservation and another that includes both the Navajo and Oklahoma Tribal Statistical Areas (OTSAs)—in our presentation of per capita income. (See Online Resources on p. 54 for details on how to access the full dataset and graphs for all the geographies.)

Decennial Census vs. American Community Survey

This databook uses the US Decennial Censuses for 1990 and 2000 and the American Community Survey for 2012 and 2022. In general, population characteristics for 1990 are derived from GeoLytics [57]. Data for 2000 come from the Census summary file with long-form responses [34]. The 1990 and 2000 Censuses provided detailed data through a one-in-six sample, known as the Census Bureau’s “long form.” This extensive data collection method allowed for a thorough examination of various demographic and economic indicators. However, the long-form survey was discontinued in the 2010 decennial Census. It was replaced by the American Community Survey (ACS), which collects data annually but has a smaller sample size, making it less reliable for smaller geographic units.

To address this limitation, the Census Bureau provides three-year averages for areas with populations between 20,000 and 65,000 and five-year averages for geographic and political units with less than 20,000 people (relevant for most Indian reservations) [73]. Consequently, our analysis compares long-form data from the 1990 and 2000 Decennial Censuses with five-year averages from the ACS for the periods 2008-2012 and 2018-2022. The ACS five-year averages are plotted on the midpoint of each range: 2012 data represents 2010 and 2022 data with 2020. This databook replaces the 2014 edition’s representation of 2010, updating the 2010 ACS five-year average (which better represents 2008) with the 2012 ACS five-year average.

To ensure the reliability of our comparisons between the Decennial Census and ACS data, the charts use consistent definitions for the indicators analyzed. Where changes in census-taking procedures or definitions made direct comparisons challenging, substitute indicators were developed to maintain consistency across decades. For instance, we used alternative measures like “College Graduate or More” where necessary.

However, it was not feasible to create comparable indicators for all previous metrics. Specifically, the proportion of individuals in deep poverty, those with less than a ninth-grade education, and those dependent on public assistance—metrics included in earlier editions [97]—could not be replicated consistently in the 2014 edition. Consequently, these indicators are not included in this analysis either.

Additionally, it is important to recognize that the data presented do not account for migration onto or off reservations. This limitation affects all cross-sectional data as it does not allow for tracking the same individuals

over time. The Census Bureau's data collection methods do not enable researchers to reliably determine individuals' residency changes over the past decade with publicly available data, thus preventing the estimation of migration flows in or out of reservations.

Other Census Issues

Researchers have found that the ACS undercounts the number of American Indians and Alaska Natives relative to the US Census in 2010 [80]. To some extent, this is due to the sampling nature of the ACS data. However, in some cases, the discrepancy is almost ten times the potential sampling error, indicating that other factors are involved. Inaccurate sampling weights may contribute to this issue, and evidence suggests that the accuracy of counts is more problematic for urban settings than for rural ones [44]. This databook focuses on reservation populations, which may alleviate some of these concerns.

More recent research has highlighted key data trends that may influence the interpretation of Census data, particularly concerning the self-identification of Native Americans and recent changes aimed at protecting privacy [59, 72]. Over time, individuals who previously did not identify as American Indian may change their identification in subsequent Censuses. This shift often involves individuals with higher income and education levels, raising concerns that observed socioeconomic changes among American Indians may partially reflect changes in self-identification rather than actual progress [72].

Additionally, Indian gaming has been associated with an increased likelihood of individuals self-identifying as American Indian [22]. While gaming has undeniably affected reservation economies [17, 19, 105], some of the observed socioeconomic progress may result from these shifts in self-identification motivated by the expansion of Indian gaming. This effect can alter the overall composition of the data and complicate our understanding of the socioeconomic background of those who change their self-identification to American Indian [85]. The reasons why one would change their self-identification are nuanced but should be taken into account when interpreting Census data [71].

Per capita income data, in particular, is sensitive to changes in self-identification as it depends on individual identification rather than household data. Since these changes in self-identification are more pronounced among American Indians [72], they could skew per capita income figures. However, given

the relatively stable American Indian reservation population (see Population on p. 18), it is likely that socioeconomic changes on reservations are less influenced by self-identification shifts, and that population change issues may be more relevant in analysis outside reservations.

While individual measures, such as per capita income, are more sensitive to changes in self-identification, they are valuable for understanding the economic well-being of American Indians living on reservations given that this population is already challenging to measure accurately [104]. Unlike household-level data, which averages income across all members, per capita income provides critical insights into individual economic conditions and disparities within these communities. This approach helps identify inequalities that might be masked in broader household data, and it helps us understand how demographic shifts—such as changes in age, education, or employment—affect the economic landscape on reservations. Given the unique challenges of measuring reservation populations, these individual-level insights are crucial for gaining a comprehensive understanding of socioeconomic trends, addressing income inequality, and promoting social mobility within these communities.

Inflation-Adjusted Dollars

Unless otherwise indicated, the dollar figures in this report are converted to 2023 dollars using the Consumer Price Index for Urban Consumers (CPI-U) [54]. This conversion is necessary because the Census data reports income for the previous year; therefore, figures are originally from years such as 1989, 1999, 2012, and 2022. Adjusting these amounts to 2023 dollars ensures that comparisons over time accurately reflect changes in purchasing power and economic conditions.

Income

Census-recorded income encompasses a range of sources beyond just earnings, including Social Security benefits, Supplemental Security Income (SSI), retirement income, welfare transfers, and unemployment benefits [90]. However, it does not account for refunds, rebates, savings withdrawals, capital gains or losses, or in-kind payments. Additionally, the data is self-reported and is not subject to auditing or verification.

Indian

We use the terms American Indian, Indian, Native, and Native American to refer to the individuals represented in this data. There are numerous official and unofficial designations for Native heritage. Tribal governments also establish their criteria for citizenship [88].

For this report, we use the Census Bureau’s category “American Indian and Alaska Native Alone” (AIAN Alone), which reflects self-reported identification. Since the 2000 Census, individuals have had the option to select more than one racial or ethnic category. This shift, along with strong birthrates and a growing tendency to self-identify as Native American, has led to an increase in the reported American Indian and Alaska Native population over time [51].

At the national level, the difference between AIAN Alone and AIAN Alone or in Combination with another race is large. In 2000, the AIAN Alone population in the US was approximately 2.4 million, and the AIAN Alone or in Combination was about 4.1 million. In 2020, the Census reported those same numbers were 3.7 million and 9.7 million, respectively [29].

Average

Virtually all summary statistics for Indian areas—reservations, Oklahoma Tribal Statistical Areas (OTSAs), and Tribal Designated Statistical Areas (TDSAs)—are calculated as weighted averages based on the AIAN Alone population in these areas. The statistics are derived by dividing the sum of all relevant values (numerators) by the sum of all applicable population counts (denominators). For example, per capita income is the sum of total income earned by all AIAN Alone across reservations divided by the total number of AIAN Alone on those same reservations. This method reflects the average economic status of Native Americans across reservations, rather than the conditions of any single reservation.

Median

The exception to this approach is Median Household Income. Unlike other statistics, the median is calculated differently to serve as an appropriate counterpart to the weighted average. Since the Census Bureau maintains the confidentiality of individual household data, we use the Bureau’s Pareto interpolation method to estimate the median [34, 95]. This process involves aggregating counts of individuals within income bands across reservations

and then interpolating the median from a national income histogram. This method ensures that the median value accurately represents the income across different reservations.

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POPULATION

Understanding the dynamics of the American Indian population, particularly in terms of on- and off-reservation changes, helps contextualize the data discussed throughout this databook. The data presented are individuals who self-identify as Indian, which may sometimes align with but does not exactly match tribal enrollment figures [98]. Accordingly, this self-reported data does not fully capture the nuances of tribal enrollment criteria, which can include specific lineage, blood quantum, or other factors [88]. It is important to note that non-American Indians may also reside on American Indian tribal reservation lands; they may be spouses or other family members of American Indian individuals. The analysis that follows focuses only on the outcomes for the American Indian population.

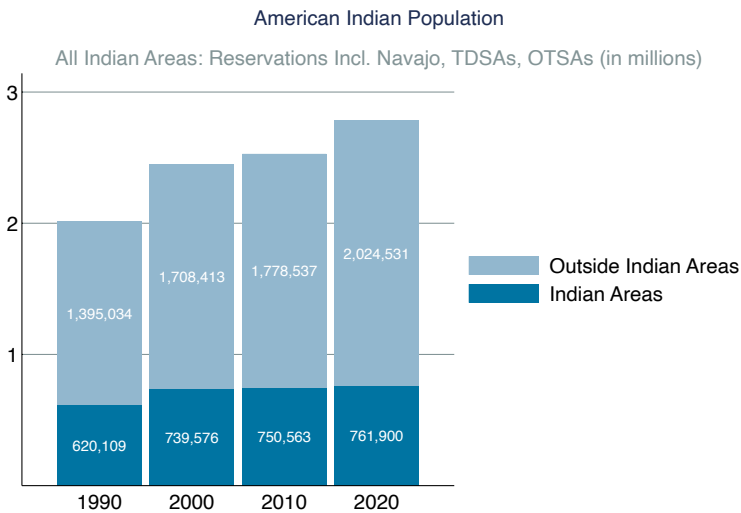
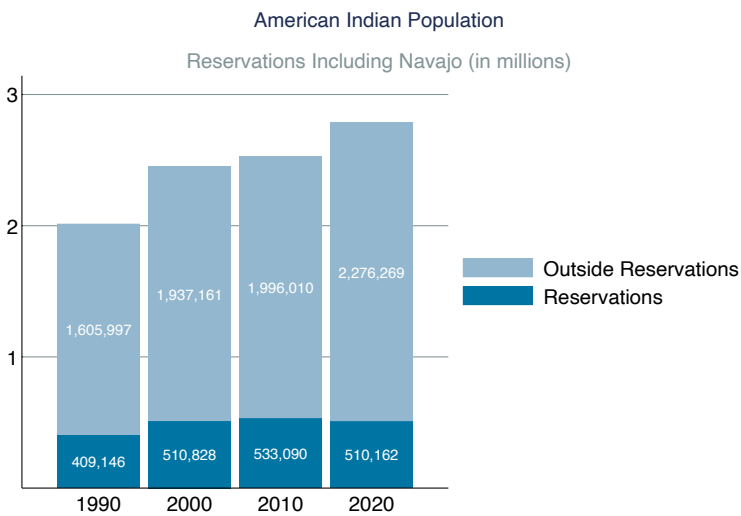
American Indian and Alaska Native Alone Population

Reservations Incl. Navajo and All Indian Areas: Reservations Incl. Navajo, TDSAs, OTSAs

Data: The graphs on the facing page illustrate the distribution of the Indian population both on Lower 48 reservations and within Census-defined Indian areas. Each bar is divided into two segments: the upper segment shows the number of Indians residing in cities, towns, or counties outside reservations (light blue), while the lower segment represents those living inside Census Indian areas (dark blue).

Trend: Over the past three decades, the Native population residing outside of a tribal reservation as well as on reservation lands increased. However, the Indian population on reservations declined from 2010 to 2020 by 4.3%, reflecting possible challenges such as limited economic prospects or outmigration [5, 70]. Examining the second figure, which uses a broader geographic measure that includes statistical areas as well, we see that these areas experienced growth from 2010 to 2020 of 1.5%.

Implication: Given the concurrent decline in reservation populations and the increase in off-reservation populations it is clear that there are ongoing issues with regard to identifying a consistent population for American Indians over time using this data (discussed in Other Census Issues on p. 13). The 4.3% decline in the Indian population on reservations from 2010 to 2020, which surpasses the overall decline in the rural US population also underscores a concerning trend that could reflect unique challenges related to economic stability and community support on reservations [66].



INCOME

Income metrics, such as those presented here, provide insights into economic and financial conditions. These measures may be used to investigate ongoing economic challenges and disparities that inhibit economic mobility [11]. For Indians on reservations, high levels of poverty and limited economic opportunities are compounded by factors such as geographical isolation, limited access to education and healthcare, and historical policies that have marginalized these communities economically [41]. Research has also demonstrated that income is a fundamental determinant of overall well-being, influencing access to quality housing, healthcare, and educational opportunities [74]. Per capita income provides a per-person measure of economic output, offering a broad view of the average economic resources available to individuals [93]. Median household income, on the other hand, is the income level for households at the fiftieth percentile of all households. This provides another picture of the typical economic experience of families [14].

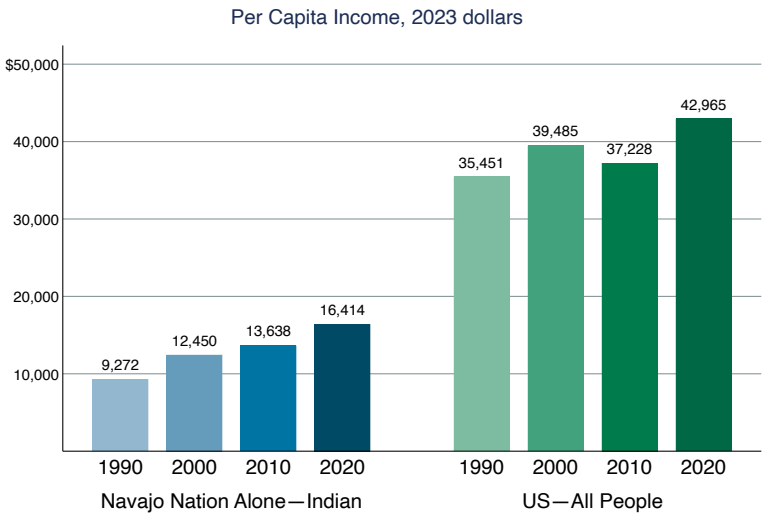
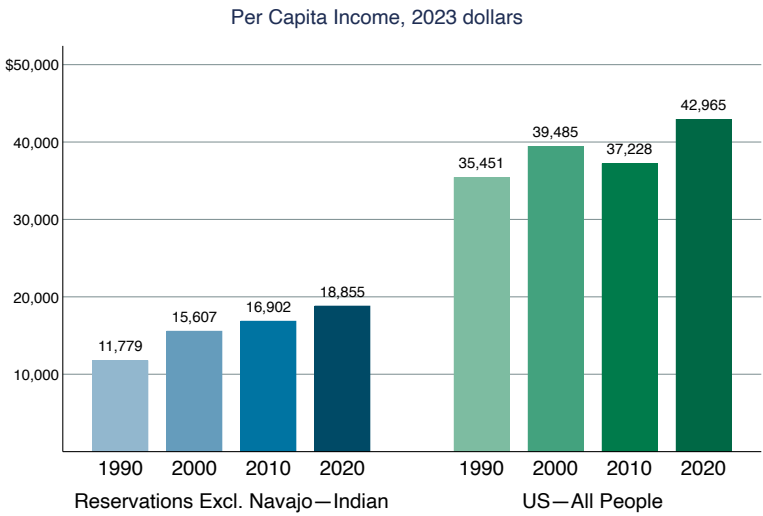
Per Capita Income I

Reservations Excluding Navajo and Navajo Nation Alone

Data: These graphs provide aggregate, inflation-adjusted income divided by population for Indians living on reservations and everyone in the US.

Trend: The growth for Indians does not compare to the overall increase seen in the broader US population. In 2020, Indians on reservations excluding Navajo had per capita incomes roughly 44% that of the US average for all people. There has been an increase in per capita income for American Indians of approximately 57% from 1990 to 2020; however, the actual per capita income amount is still less than half of that of the US overall average per capita income.

Implication: Per capita income indicates one dimension of the economic conditions on American Indian reservations. However, this measure can be skewed upwards by individuals with very high incomes. In this case, the average does not reflect typical economic conditions. Later, we present median household income, which is less sensitive to extreme outliers in the data (see p. 30). We also provide measures of Family and Child Poverty rates (see p. 34 and 36). These measures together provide a more complete picture of one dimension of economic conditions across American Indian reservations.



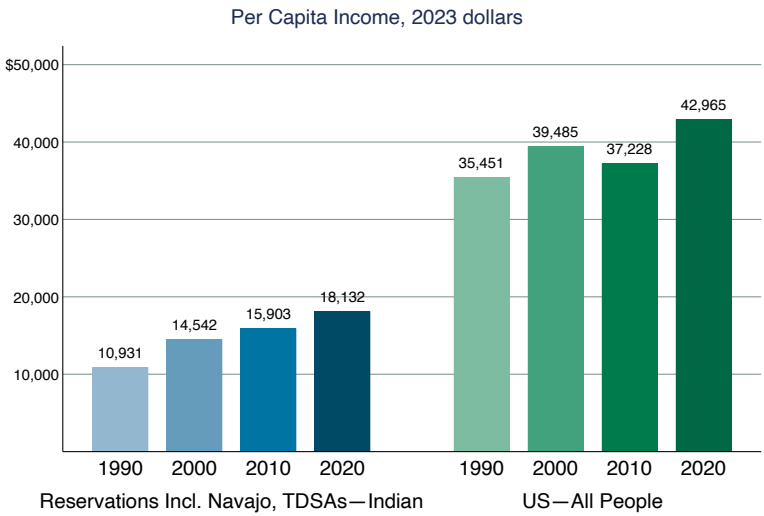
Per Capita Income II

Reservations Including Navajo, TDSAs

Data: This graph portrays the same data as the previous per capita income graphs, but now we add in Navajo Nation and Tribally Designated Statistical Areas (TDSAs) data. The TDSAs are most often associated with federally-recognized tribal nations that do not have a land base. In this analysis, we continue to exclude tribal nations located in Oklahoma (with the exception of the Osage Nation which has a federally-recognized reservation in Oklahoma.)

Trend: The per capita income trend in this expanded dataset aligns closely with the preceding graphs and the actual dollar amounts are also very close. This consistency suggests that the broader range of Indian areas exhibits similar income growth patterns over time.

Implication: It does not appear that there are substantial differences in per capita income when comparing a more narrowly defined Native geographic area with an area that includes the Navajo Nation and TDSAs.



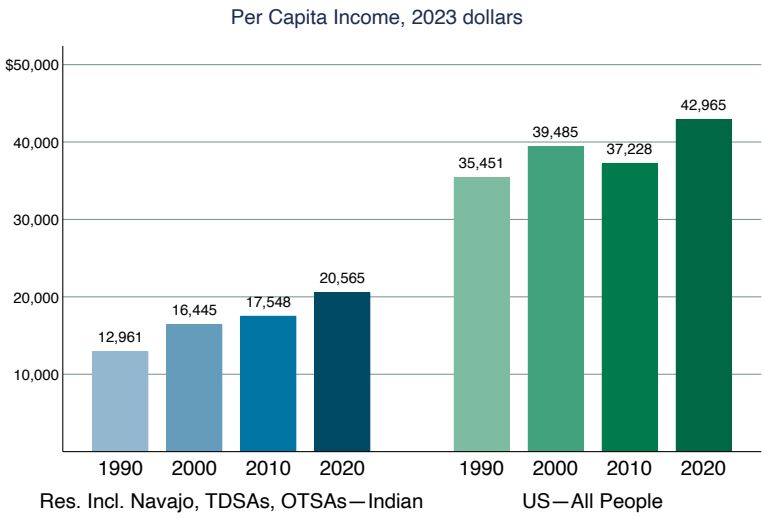
Per Capita Income III

All Indian Areas: Reservations Including Navajo, TDSAs, OTSAs

Data: The information here covers all Census-defined Indian areas associated with federally recognized tribes in the Lower 48. The inflation-adjusted income data (2023 dollars) are calculated as before, but the geography expands to include all reservations, including the Navajo Nation, Tribally Designated Statistical Areas (TDSAs), and Oklahoma Tribal Statistical Areas (OTSAs).

Trend: This data also follows the per capita trends of the preceding graphs. However, Indian incomes in OTSAs increased the average per capita income in 2020 by \$1,700 compared to Indians on reservations excluding Navajo and by over \$2,400 for Indians living in Indian areas outside of OTSAs. Per capita income in OTSAs was \$16,940 in 1990, \$20,741 in 2000, \$21,591 in 2010, and \$25,524 in 2020 (see Online Resources on p. 54 for details on how to retrieve the full dataset and other graphs not displayed in this databook).

Implication: The inclusion of OTSA observations in the data provides a useful example showing that there are notable differences in per capita income across Indian areas. Economic conditions in OTSAs are notably different from those of reservations in other regions. Consequently, including OTSAs adds additional variation which may be due to other, distinct factors and should be analyzed separately.



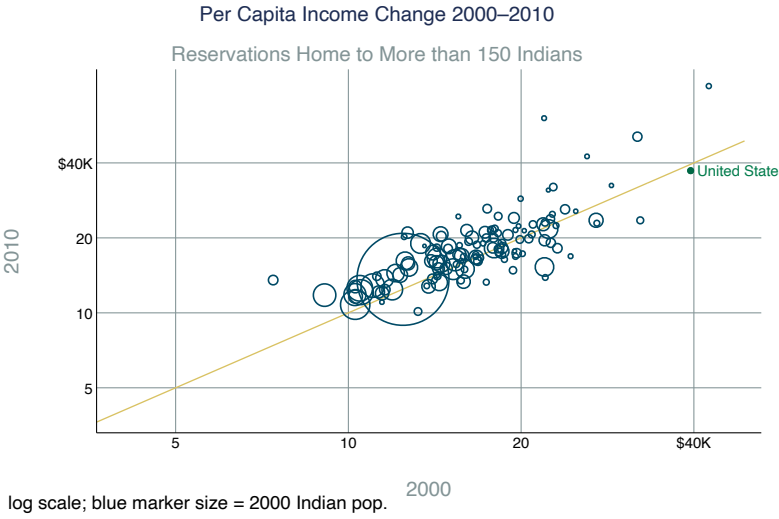
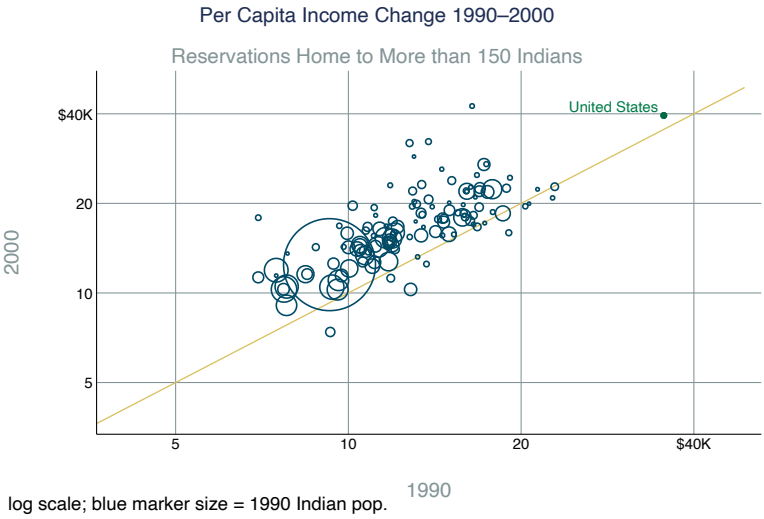
Change in Average Per Capita Income for Reservations by Decades

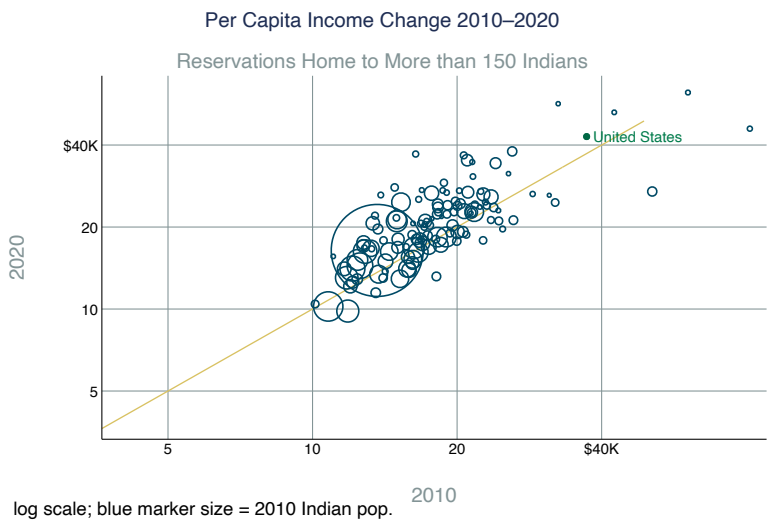
Reservations Home to More than 150 Indians

Data: The next three graphs compare inflation-adjusted per capita income for 1990, 2000, 2010, and 2020 for reservation geographies that have an American Indian population of 150 or more. The diagonal line signifies no change in average per capita income over the indicated periods. Individual tribal reservations are denoted by the open circles (the size of the circle indicates the size of the tribal nation); reservations appearing above the forty-five-degree line experienced growth in average per capita income between the earlier and later time periods. Reservations that fall below the forty-five-degree line experienced a reduction in average per capita income over the decade. In each graph, US per capita income is plotted in green and labeled as “United States.” The largest circle denotes the Navajo Nation. Reservations with fewer than 150 Indians at the start of either decade are excluded for visual clarity. As noted in the Methodology section (see p. 9), the ACS five-year average data does not allow for absolute change analysis, but comparisons relative to the US are appropriate. The axes use constant proportions rather than constant increments, which is typical for illustrating growth phenomena.

Trend: There was almost a uniform improvement in the average per capita income for the reservations between 1990 and 2000; most of the observed reservation markers are above the forty-five-degree line. However, between 2000 and 2010 the change in average per capita income straddled the forty-five-degree line indicating that for many tribal nations there was little change over the decade. Finally, in the third figure, there appears to be more reservation markers above the forty-five-degree line for the decade from 2010 to 2020 indicating an increase in average per capita income for most tribal nations. However, there is substantial variation at the individual tribal level reflecting the very different conditions and experiences across Indian country.

Implication: There is an income gap in per capita income between most reservations and the US as a whole. There is some evidence that a few reservations outpaced the overall growth of the United States in certain decades.





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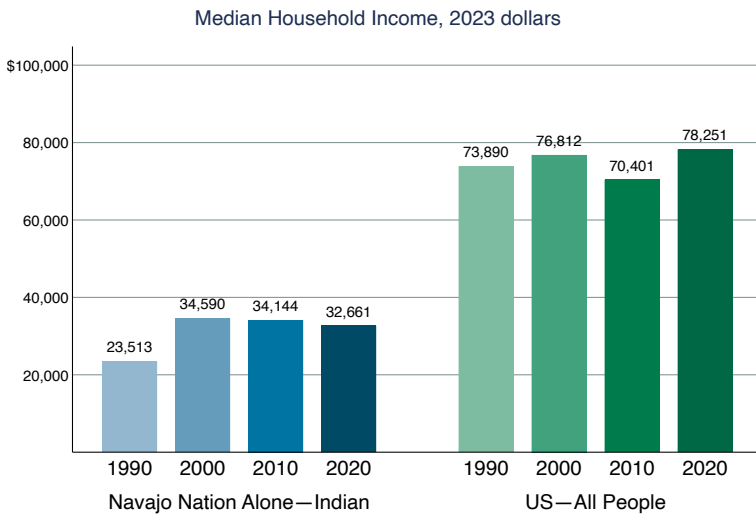
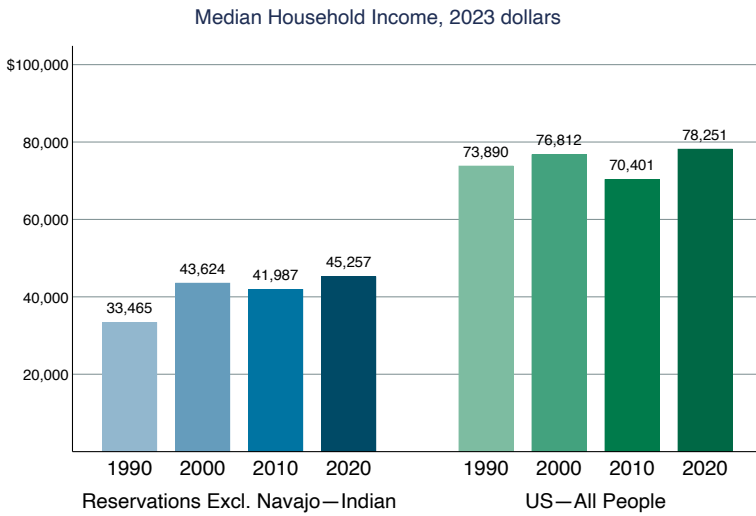
Median Household Income

Reservations Excluding Navajo and Navajo Nation Alone

Data: This section examines median household income, adjusted for inflation to 2023 dollars. The median household income represents the income level corresponding to the fiftieth percentile of all households in this particular location or geographic unit. (The calculation of the median is detailed in the Methodology section on p. 15.) The median is often used in settings where the measure may be skewed due to extremely large (or small) outliers such as income. The median is not influenced by the size of an outlier as would an average. Therefore, for certain data, this measure provides a more accurate depiction of the variable of interest.

Trend: Median household income for Indians on reservations, excluding the Navajo Nation, has risen over 35% from 1990 to 2020. This is a noteworthy trend, especially in contrast to the moderate increase (approximately 6%) in median household income for the United States overall during the same period. The Navajo Nation has experienced a large increase in median household income between 1990 and 2000; however, the median household income has steadily declined over time since 2000.

Implication: The median household income measure, as expected, has more consistency over time as compared to the previous measure of per capita income. The data indicates that there has been an increase over time, however, the measure is quite stable for most of the time period examined. This measure is also valuable considering the potential issues with self-identification, as it is calculated at the household level and therefore less affected by shifts in individual identification within households.



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POVERTY

In this section, we describe family poverty and child poverty on reservations over several decades. Poverty measures are dollar thresholds that are determined to cover basic needs for a family in a given year; individual families with incomes below this threshold are categorized as being in poverty. The US Census provides measures of both the official poverty measure (which includes all income sources for the family) as well as the supplemental poverty measure (which includes governmental transfers and income programs). In the analysis below, we are citing the official poverty measure. High rates of poverty among families and children highlight systemic barriers such as limited access to education, healthcare, and economic opportunities [39]. These measures reveal not only current economic hardships but also the potential long-term effects on future generations. Child poverty, for instance, is closely linked to adverse outcomes in education, health, and overall well-being, which can perpetuate cycles of poverty and impede community development [49].

Family Poverty

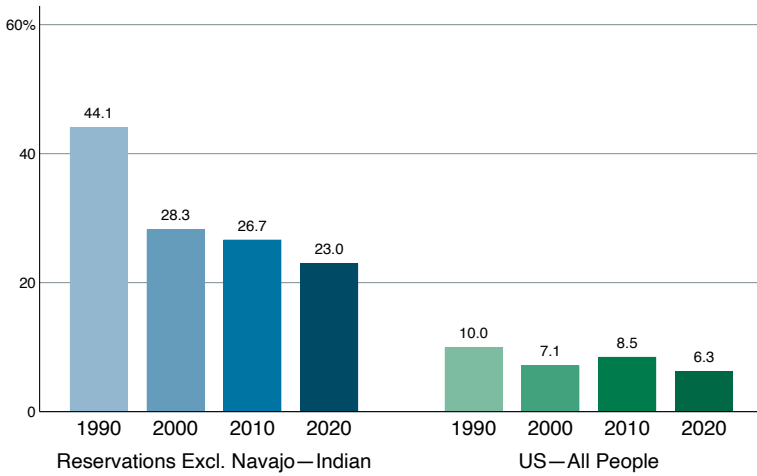
Reservations Excluding Navajo and Navajo Nation Alone

Data: If a family is deemed to be in poverty, each of its individual members is also considered to be in poverty [92]. The Census Bureau uses income thresholds set by the Office of Management and Budget. A family of two adults and two children fell below the poverty line in 2022 if its income was less than \$35,801 [92]. Income thresholds are common across all geography types and are updated for inflation. Income is measured before taxes and does not include non-cash government transfers such as public housing assistance and Medicaid [103]. Because the poverty threshold does not account for regional differences in the cost of living, family poverty rates on American Indian reservations may be slightly lower than reported. Additionally, other non-market based sources of income are not included in the determination of poverty; therefore, resources that are shared or acquired through subsistence economic activities are not fully accounted for in this measure [13]. We provide poverty rates derived from the official poverty measure as produced by the US Census Bureau.

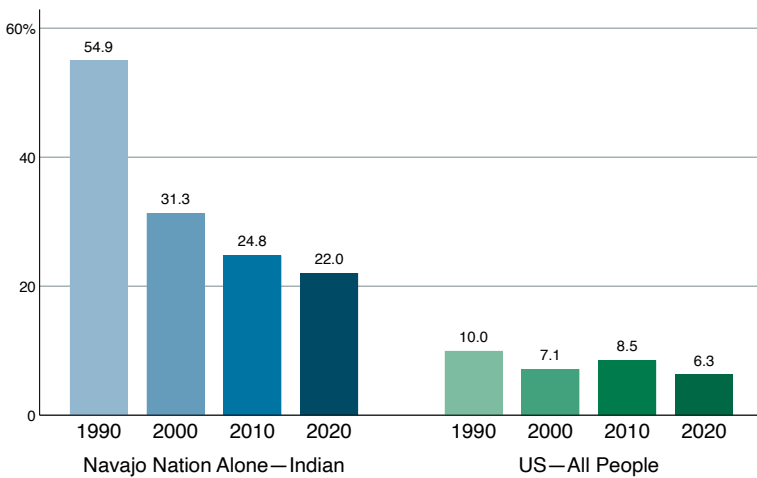
Trend: There was a dramatic reduction in the number of American Indian families in poverty on reservations; from 1990 to 2000 the poverty rate decreased by nearly 48%. This decrease is quite astonishing and represents a huge improvement in living conditions for the on-reservation population. In the decades since, there has been further reductions, although at a slower rate.

Implication: To examine family poverty trends over time, this databook relies on the official poverty measures (supplemental poverty measures begin in 2011). However, critics have pointed to flaws in this measurement and recommend a higher poverty threshold [40]. Complicating matters even further poverty measures do not take tribal government transfers or subsistence activities such as hunting, fishing, and gathering into consideration [77]. It may be that these family poverty rates may understate economic hardship for Indians on reservations, but it also may be that some reservation resources are ignored [12]. However, even with these limitations, there is evidence that there has been a significant reduction in poverty rates over time. These poverty rates have persisted over time and have not converged to that of the US as a whole.

Family Poverty Rate



Family Poverty Rate



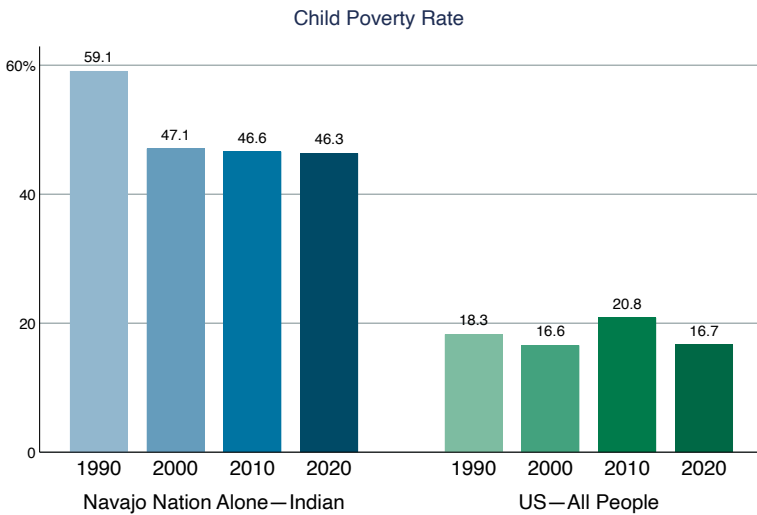
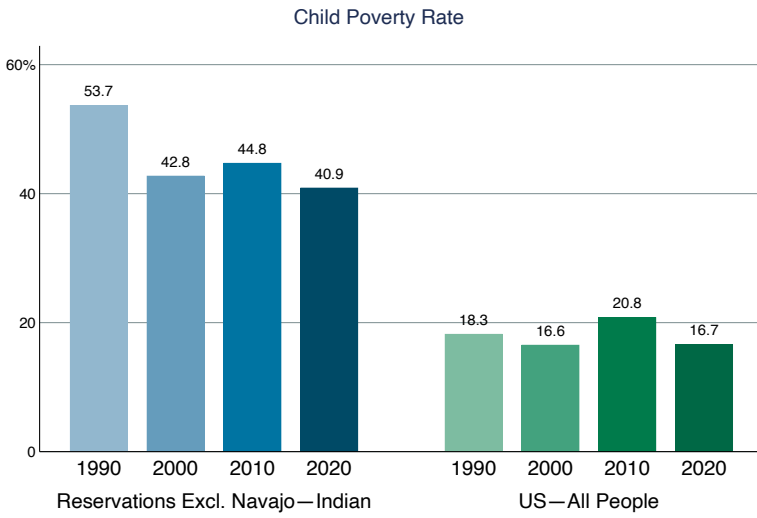
Child Poverty

Reservations Excluding Navajo and Navajo Nation Alone

Data: A child lives in poverty if his or her family's income falls below the relevant thresholds, which varies by family size and composition [103]. This data differs from the analysis above in that we exclude households without children.

Trend: There is a general decline in child poverty on reservations, though the reductions have been more modest in recent years with a decline of 8.71% from 2010 to 2020. Similar to results for family poverty, the greatest reduction in child poverty occurred from 1990 to 2000 with a decline of over 23%. This trend indicates that while progress has been made, the pace of improvement has slowed compared to earlier periods and poverty rates are still over double the national average.

Implication: The child poverty rate exceeds the family poverty rate for American Indian families on reservations. However, as previously mentioned, researchers have noted that the official poverty measure and supplemental poverty measure do not include community or in-kind transfers from tribal governments nor do they include the impacts of subsistence living [12, 77]. Nevertheless, it is unlikely that all of these differences can be attributed to the undercount of these additional sources of income and resources.



LABOR

Describing various labor market outcomes can illuminate the economic conditions and emerging issues for tribal reservations. Understanding the distribution of employment sectors provides insight into community economic foundations. This is relevant given the concentration of jobs in certain industries on reservations and the over-representation of Native workers in “low-skilled” occupations [99, 107]. Labor force participation rates, especially when disaggregated by gender, shed light on economic engagement and expose potential gender disparities. Recent research has also highlighted differential impacts by gender for Native Americans which has consequences for the labor market [15, 31, 32]. Unemployment rates also indicate economic health, revealing the extent of joblessness and the underlying challenges that may contribute to persistent poverty and economic stagnation on reservations [69]. Analysis at the reservation-level is particularly important because aggregating data to higher levels of geography can obscure these potential disparities.

Employment Sector

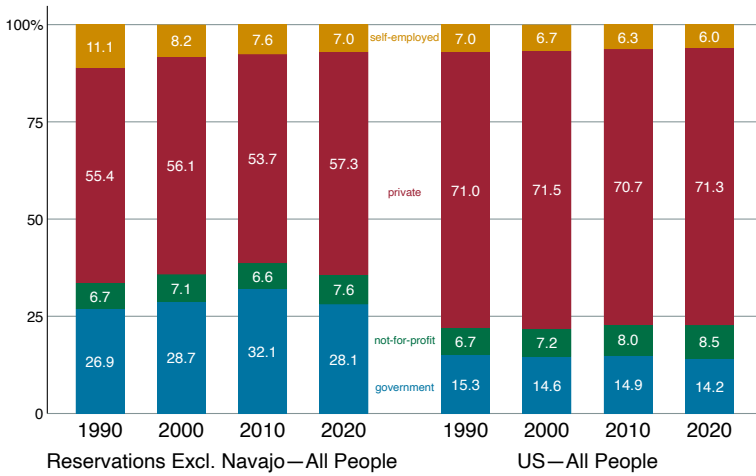
Reservations Excluding Navajo and Navajo Nation Alone

Data: These graphs provide the distribution of employment for all people over time across various different industry sectors: private, public, not-for-profit, and self-employment. The private sector encompasses all non-governmental businesses. The public sector includes employment at all government levels—federal, state, local, and tribal. The self-employment sector involves individuals running their own businesses, professions, trades, or farms for profit. The not-for-profit sector covers employment in non-governmental organizations. All of these industries are mutually exclusive of one another. Given the limitations of this data, this observation is for all populations.

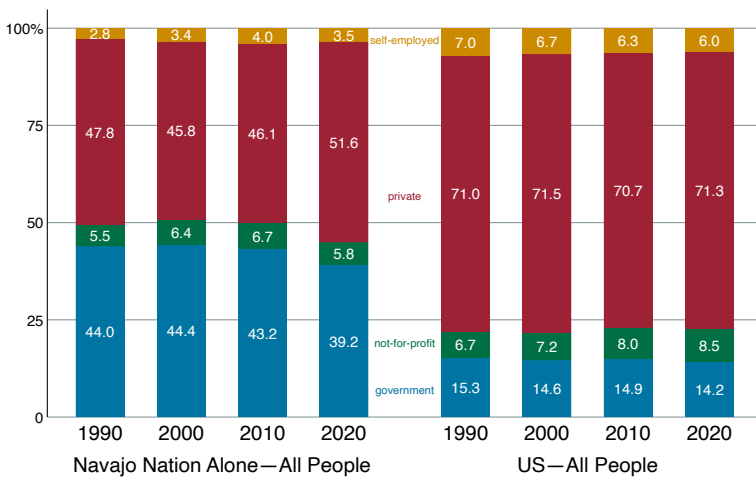
Trend: The distribution of employment by industry sectors has remained relatively stable over time for reservations and the US. The two largest employment sectors, private and public, consistently have over 80% of the workers on reservations. However, the government sector for reservations is quite large (almost double) that of the US as a whole.

Implication: Given the relatively large amount of employment in the government sector (almost 30%), reservation economies are more influenced any changes in government funding.

Percentage of Workers by Sector



Percentage of Workers by Sector



Male and Female Labor Force Participation

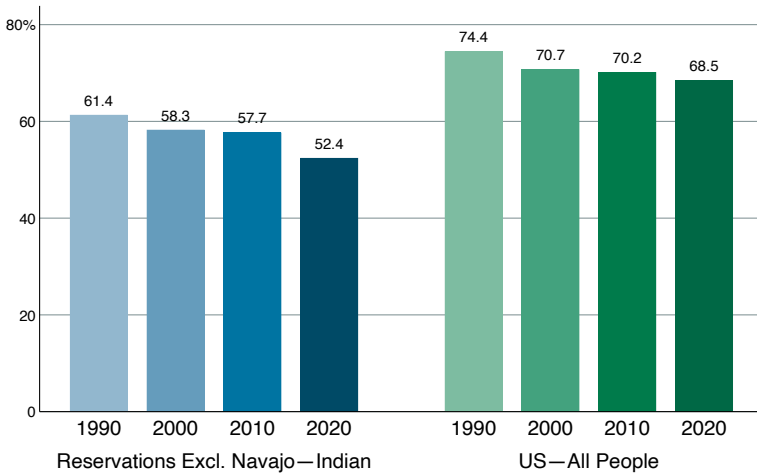
Reservations Excluding Navajo

Data: The labor force is defined as the total number of people aged 16 and older who are employed or are seeking employment.

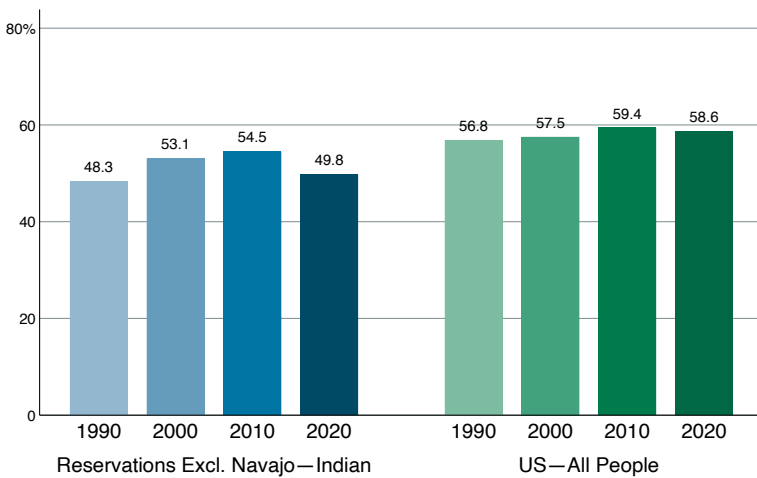
Trend: The broad decline in male labor force participation is well-documented, especially for those without a college education [26]. Yet, Native men have experienced a larger relative decline compared to the US overall from 1990 to 2020, with a 14.9% decline compared to 7.9% for all men in the US over the same period. Labor force participation among Native women declined from 2010 to 2020 by 8.6% compared to a 1.4% decline for the US overall.

Implication: The declines in labor force participation on reservations, particularly among Native men, may signal economic challenges. Native women have also experienced declines, though less severe, indicating that gendered differences may play a role in how these economic shifts are affecting communities.

Male Labor Force Participation Rate



Female Labor Force Participation Rate



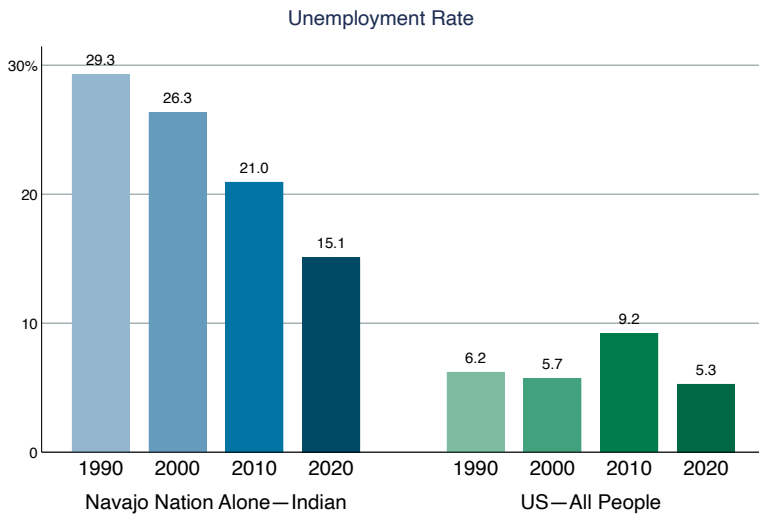
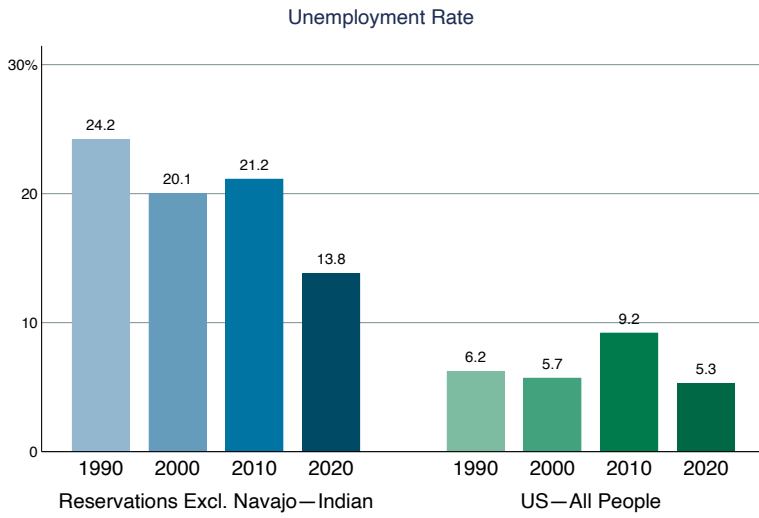
Unemployment

Reservations Excluding Navajo and Navajo Nation Alone

Data: Unemployment measures the percentage of working-age individuals (16 years or older) who are part of the labor force and actively seeking employment. This metric excludes full-time students, individuals working full-time at home without pay, and those not actively looking for work.

Trend: The unemployment rates for American Indians on reservations, excluding Navajo Nation, and for the US as a whole differ by 8.5 percentage points in 2020. Despite this disparity, there was a notable reduction in the unemployment rate of Indians on reservations with a decrease of nearly 35% from 2010 to 2020. The gap between reservation and national rates is the smallest it has been in recent decades.

Implication: While tribes have made progress in reducing unemployment on reservations, the disparity between reservation and national unemployment rates remains large. This progress in job creation is encouraging, but the declines in labor force participation suggest that more complex structural issues may be at play. Unlike other groups in the US where an aging workforce might explain declining labor market participation, this explanation does not align with the younger median age of Native Americans compared to the broader US population [6, 62].



HOUSING

Housing conditions are another measure that can highlight the overall well-being of communities, reflecting not only physical living standards but also broader economic and social stability. These issues are pronounced for American Indians, who may face unique and persistent challenges in accessing adequate housing, and ongoing under-investment in these communities [25, 86]. Poor housing conditions also have implications for health, education, and economic opportunities, and they are linked to mental health issues, including stress, depression, and anxiety, which can further perpetuate cycles of poverty and inequality [52]. Housing is not only a fundamental human need but also represents one of the largest assets for families [47].

Overcrowded Housing

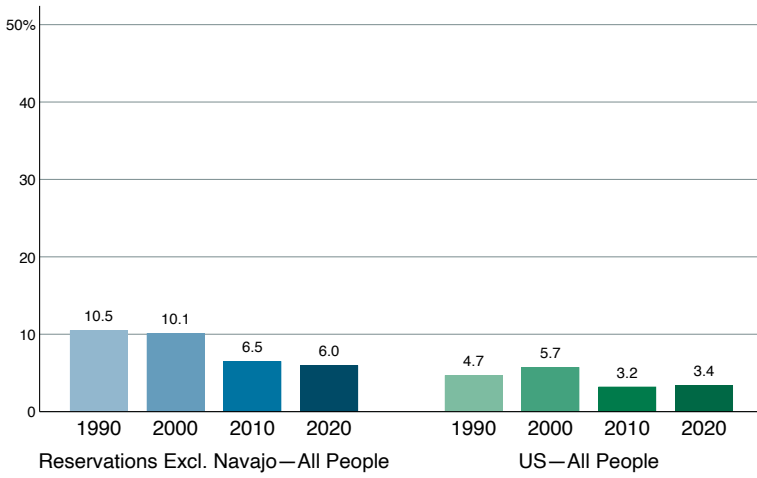
Reservations Excluding Navajo and Navajo Nation Alone

Data: These charts show the proportion of houses with more than one occupant per room. Only actual rooms, such as kitchens, bedrooms, dining rooms, and living rooms, are included in the count. Bathrooms, porches, balconies, and hallways are excluded [2].

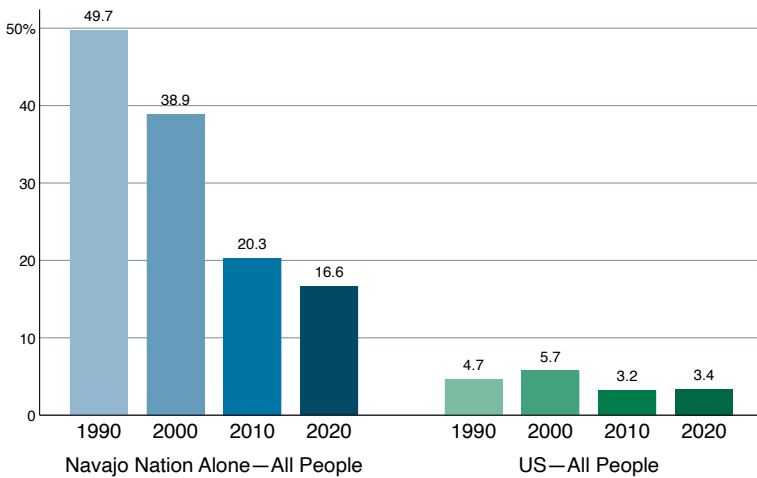
Trend: The percentage of individuals living in overcrowded housing has decreased for both Indians and the US as a whole from 1990 to 2020, by 63.19% and 27.66% respectively. However, the reduction in overcrowded housing on reservations has been smaller compared to the earlier decades.

Implication: While the reduction in overcrowded housing is a positive trend, it is important to recognize that the threshold of one person per room is quite minimal and not reflective of typical living standards in most American households [1]. The fact that overcrowded housing remains a persistent issue on reservations, despite progress in other indicators, suggests that the underlying challenges of housing inequality have not been fully addressed.

Percentage Living in Crowded Homes



Percentage Living in Crowded Homes



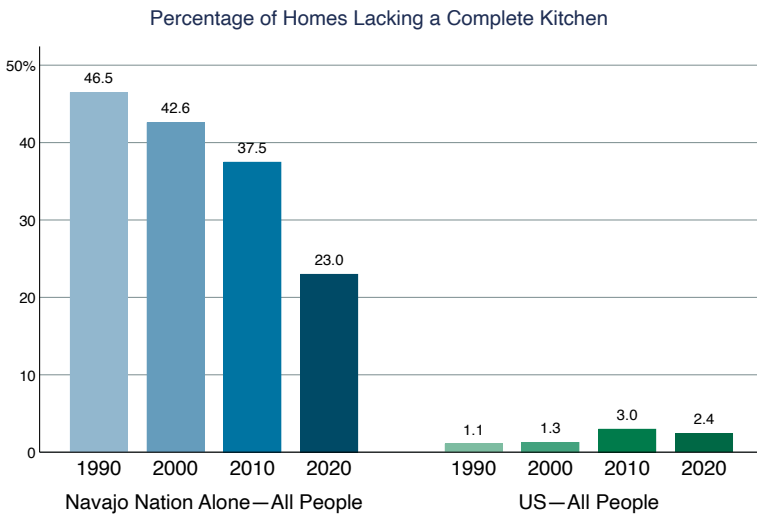
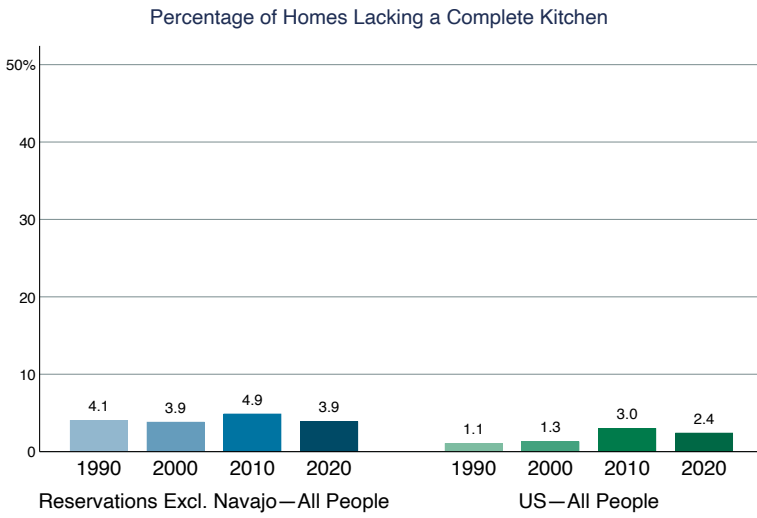
Homes Lacking a Complete Kitchen

Reservations Excluding Navajo and Navajo Nation Alone

Data: These graphs show the proportion of all housing units lacking a complete kitchen for all people. A complete kitchen has a sink with piped running water, a stove with an oven, and a refrigerator. The 1990 Census reported homes lacking a complete kitchen in *all* housing units. Later Census reports report the same indicator in *occupied* housing units. This databook maintains the use of all housing units for consistency.

Trend: There has been a very small reduction in the percentage of homes lacking a complete kitchen on reservations from 1990 to 2020. For the US as a whole, there was an increase from 1.1 % in 1990 to 2.4 % in 2020.

Implication: The true number of Indian homes lacking a complete kitchen is likely higher than reported, as the data represent all racial groups on reservations. However, it is still noteworthy that significant disparities persist on reservations for all people, highlighting ongoing infrastructural and resource challenges that disproportionately impact those living in these areas.



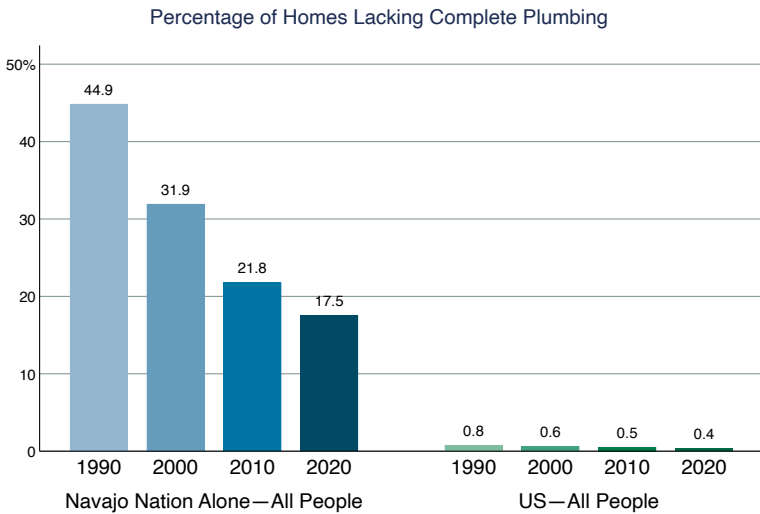
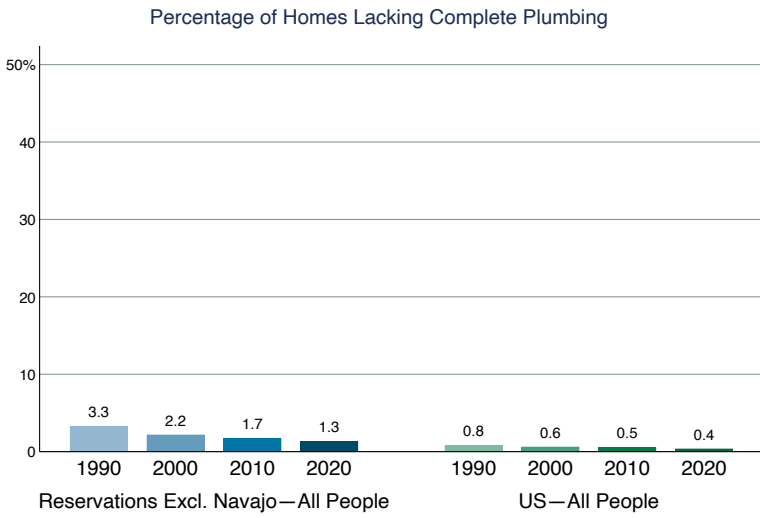
Homes Lacking Complete Plumbing

Reservations Excluding Navajo and Navajo Nation Alone

Data: These charts show the proportion of occupied housing units lacking complete plumbing for all people. A housing unit is considered to have complete plumbing if it includes hot and cold piped water, a flush toilet, and either a bathtub or a shower.

Trend: There has been a reduction of over 60% from 1990 to 2020 in the percentage of homes lacking complete plumbing on reservations while the US overall had a 50% reduction.

Implication: Despite the reduction in the percentage of homes lacking complete plumbing, the persistent disparities between reservations and the US overall suggest that significant infrastructure challenges remain un-addressed. The ongoing presence of homes without complete plumbing on reservations, particularly when considered alongside issues of over-crowded housing and incomplete kitchens, underscores the multifaceted and enduring nature of housing inadequacies in these communities.



EDUCATION

Education holds a transformative potential for Indians on reservations, reflecting both a painful history of forced assimilation and a present-day opportunity for self-determination. Historically, education was used as a tool of assimilation, with policies that sought to erase Native cultures and languages through boarding schools and other means [7]. These efforts often disrupted educational attainment and contributed to long-lasting socioeconomic disadvantages [89]. Today, however, education serves as a crucial avenue for advancing community development and self-determination, with tribes increasingly playing a larger role in education through tribal consultation with school districts, operating their own schools, and investing in scholarships for their people [3, 8, 9]. Focusing on heritage language learning and educational attainment—such as achieving high school diplomas and pursuing higher education—can significantly influence economic opportunities and overall quality of life [102]. High school diplomas often open doors to better employment prospects and income stability, while college degrees can provide pathways to professional advancement and greater economic stability [61].

High School Graduate or Equivalent

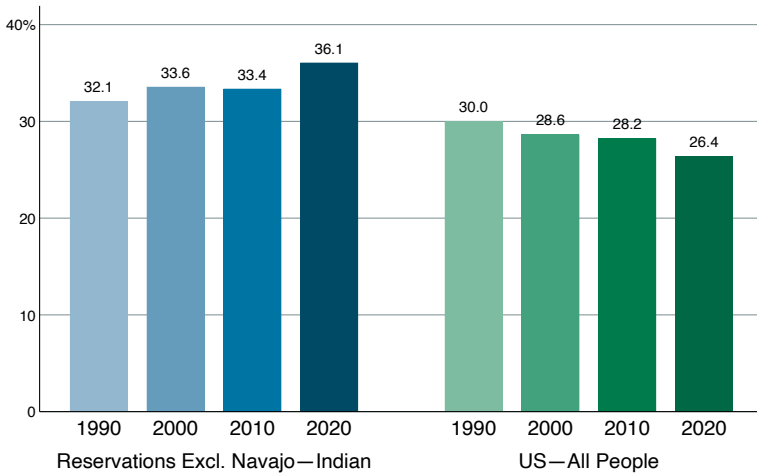
Reservations Excluding Navajo and Navajo Nation Alone

Data: The graph shows the percentage of adults living on reservations who are 25 and older and have a high school degree or the equivalent. People with post-secondary degrees are not included in this measure.

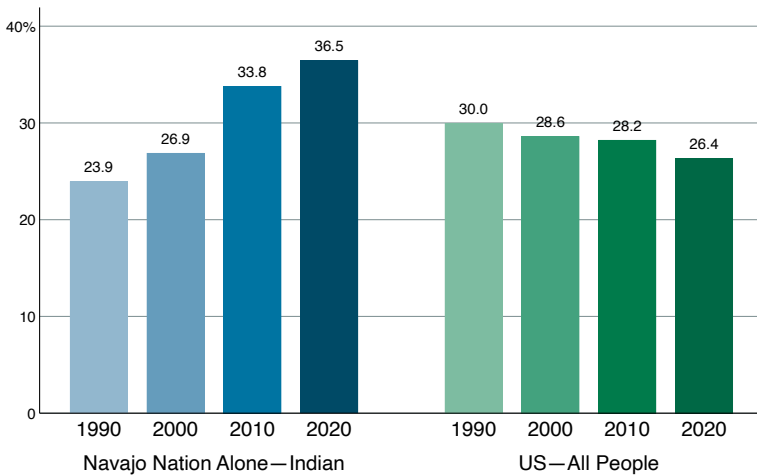
Trend: The percentage of the reservation population with a high school diploma or equivalent increased by 12% between 1990 and 2020; in the US as a whole, there has been a decline of 12% over the same time period.

Implication: The notable increase in high school graduation rates among people residing on reservations contrasts sharply with the decline observed across the broader US population over the same period. This trend could indicate that recent efforts to improve education in Native communities, including tribal involvement in education and culturally relevant curricula, are beginning to yield positive results [4, 28]. This measure is the highest educational attainment; therefore, the decrease for the US as a whole may indicate that a larger proportion of the US population is continuing on to additional education after high school.

Percentage High School Graduate or the Equivalent Only



Percentage High School Graduate or the Equivalent Only



College Graduates or More

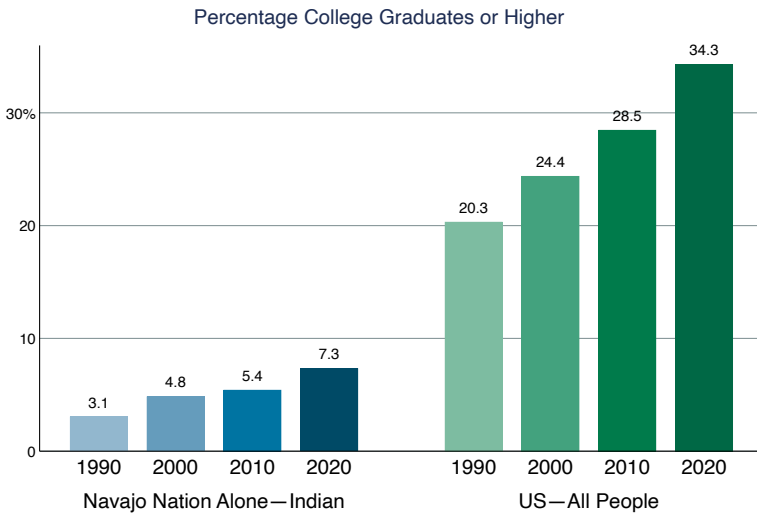
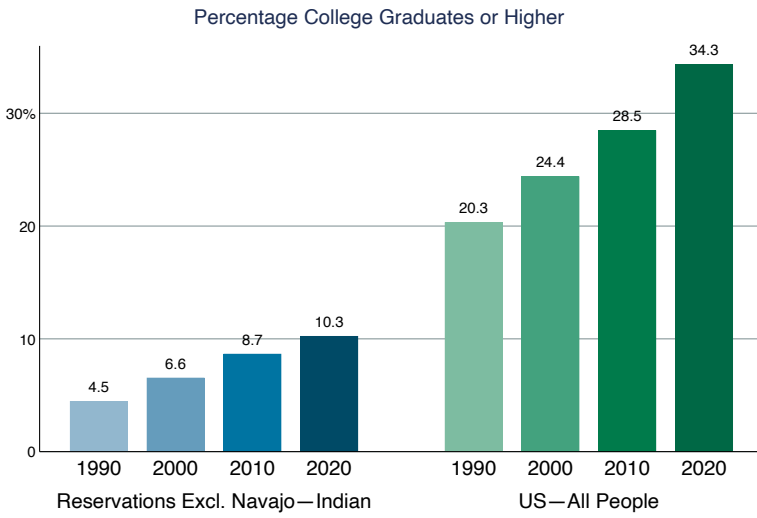
Reservations Excluding Navajo and Navajo Nation Alone

Data: The graph shows the percentage of reservation-dwelling Indian adults aged 25 years and older who have a college degree or more.

Trend: The proportion of the reservation population with post-secondary education has been increasing over time, increasing more than 125% from 1990 to 2020 yet is still 24 percentage points below the United States college graduate rate.

Implication: The increase of over 125% in the proportion of the reservation population with post-secondary education from 1990 to 2020, while noteworthy, should be interpreted with caution. This rise may partly result from changes in self-identification, with individuals who identify as Native American often having higher educational attainment [72]. However, the relatively stable reservation population helps mitigate concerns that this increase is due to an influx of educated individuals from outside (see Population on p. 18). Despite this, the trend still suggests positive developments, such as the expansion of local educational institutions like tribal colleges and improved access to higher education opportunities on reservations [83].

In contrast, high school graduation rates are less susceptible to self-identification issues. Native American high school students are often undercounted, making high school completion rates a more reliable measure compared to post-secondary education [23]. Thus, while the significant rise in post-secondary educational attainment is encouraging, understanding the underlying factors that may influence it helps to more accurately assess the educational progress of Native American communities.



APPENDICES

Online Resources

Alternate graphs displaying this data for all reservations (including Navajo), all Census Indian areas, OTSAs only, and Navajo only, along with the set of numerators and denominators for the indicators, can be found at <https://indigenousgov.hks.harvard.edu>

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