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The Landscape of Opportunity in Indian Country

A Discussion of Data from the Opportunity Atlas

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Parents generally want their children's lives to be better than their own. Economists call the likelihood of a child moving into a different income category than their parents in adulthood "intergenerational income mobility." Recent work by Raj Chetty, John Friedman, Nathaniel Hendren, Maggie R. Jones, and Sonya Porter shows that these probabilities heavily depend both on your race and where you grow up.[1] They have made the data from their work publicly available in the *"Opportunity Atlas: Mapping the Childhood Roots of Social Mobility."*

In this article I use these data to gain a better understanding of intergenerational income mobility of Native peoples in the United States. How likely is it that a Native child from a low-income family becomes part of the upper middle class? Does the answer depend on the place they grow up? While the data are not perfect for answering these questions (and I will discuss why), to my knowledge it is the best data currently publicly available for tracking intergenerational income mobility. The data follow nearly all children who were born from 1978 to 1983 in the United States and their outcomes are summarized by gender, race, place, and the income quintile of their parents. For the purposes of this post, when I say "childhood family income," I am referring to the household income of the home where a child lived when they were growing up. When I say "adult income," I am referring to either the child's individual income or household income as an adult.[2]

In section I, I present data from the Opportunity Atlas that suggests that the 1978-83 cohort of Native peoples face the lowest probability of reaching the top 20 percent of the income distribution of all racial categories, regardless of parental income. The data also suggest that Native women experience the largest disparities in intergenerational income mobility, whether they live in single or married households. In section II, I present data that suggests that the regional differences in intergenerational income mobility look very different for Native peoples and whites. I also present evidence that Native children who grow up in Census tracts that are more highly affiliated with tribal lands experience greater upward income mobility. Finally, in section III, I discuss the limitations of using the Opportunity Atlas to study intergenerational income mobility in Indian country and the potential for future research.

[1]The first to use the underlying linked data source was Akee et al. (2017) and they also show intergenerational income mobility and inequality depend on race.

[2]For more details about the data used in each part of article, please the appendix section A.

I. National Level Findings By Race

Figure 1 graphs the proportion of the population in each income quintile using data from Chetty et al. (2018). The left panel depicts the childhood family income by race and the right panel depicts adult individual income by race. AIAN is short for American Indian and Alaska Native (as used in the U.S. Census Data).[3]

The blue bar tells us the proportion of the population in the bottom 20 percent of the income distribution, the red bar the proportion between the 20th and 40th, green between the 40th to 60th, orange from 60th to 80th, and yellow the top 20 percent of the income distribution. For perfect racial income equity, all bars would be at 0.2. A bar higher than 0.2 represents over racial representation. A bar under 0.2 represents under racial representation.

I take two things away from this figure. First, Native, black, and Hispanic people are over-represented in the bottom of the income distribution, consistent with (Akee et al., 2017). Second, in the early 1980s while Native families were over represented in the bottom income quintiles, black and Hispanic families were even more heavily represented in the bottom of the income distribution. However, the adult incomes of Native peoples today are more heavily represented in the bottom of the income distribution, even relative to black and Hispanic people. Black and Hispanic children have seen a greater degree of upward intergenerational income mobility than Native children in this cohort.

This is confirmed from the statistics presented in Figure 2. The left panel depicts the probability of a person ending up on the bottom 20 percent of the income distribution given their childhood family income. The right panel depicts the probability of a person ending in the top 20 percent of the income distribution given their childhood family income (the vertical axis is the probability of ending up in either the top or bottom income quintile in adulthood and on the horizontal axis the income quintile of the parents).

In both panels, we see intergenerational persistence in the income distribution for children of all racial categories. If your parents are in the lowest income quintile, you are more likely to be in the lowest income quintile as an adult. If your parents were in the highest income quintile, you are more likely to be in the highest income quintile as an adult.

[3]See the online appendix and the discussion in the last paragraph.

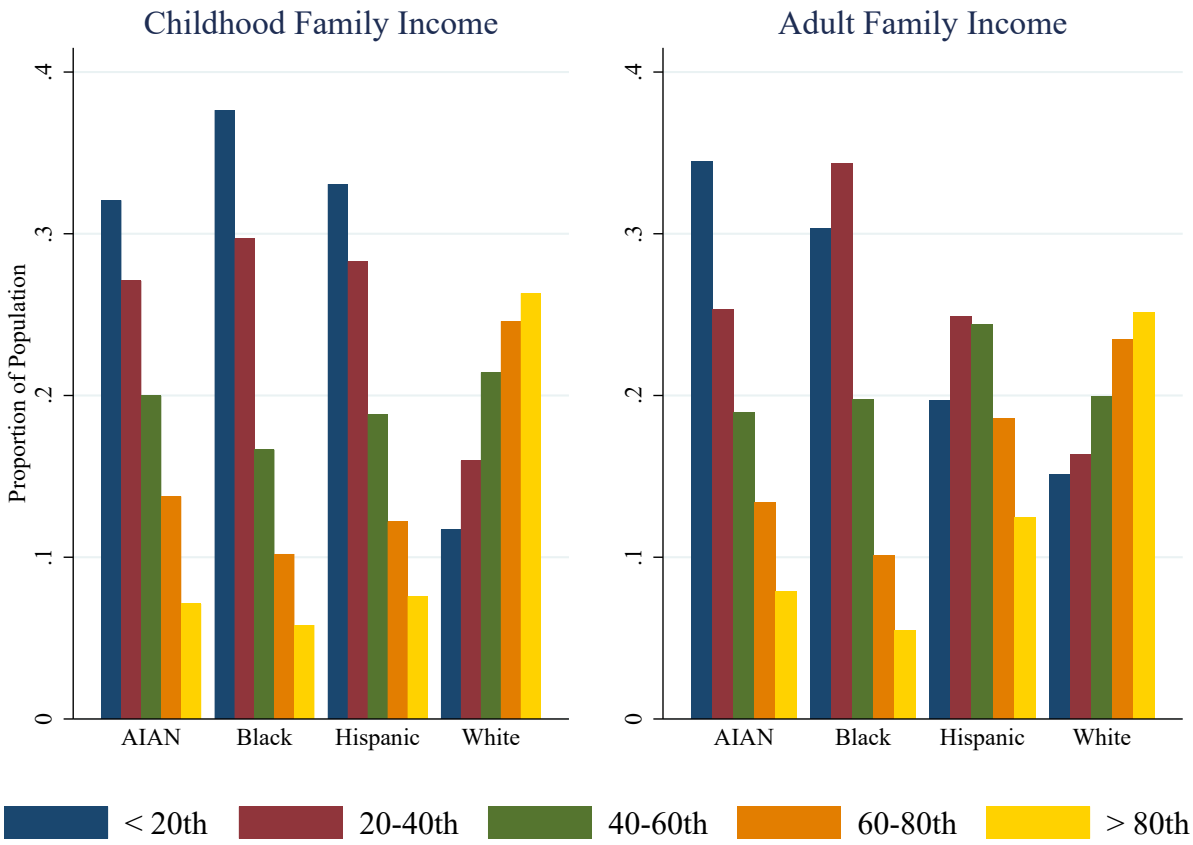


Figure (1) Proportion of Population in Each Income Quintile by Race.

However, there is substantial difference in income mobility between racial categories. Native children are more likely than any other category to end up in the bottom of the income distribution, even if they come from financially well off families. The data presented in Figure 2 suggests that the probability of ending up at the bottom of the income distribution is consistently higher and the probability of ending up at the top of the income distribution is consistently lower regardless of childhood family income. This pattern is consistent with systemic biases that create a "slippery income staircase" for Native peoples, even relative to other communities of color. Specifically, even if the parents of Native children have reached the highest income quintile, their children are less likely to be in the highest income category as adults than white children. Research understanding the systematic factors that may play a causal role in generating this pattern would be of significant interest. One hypothesis may be that high income families of color have less wealth than white families for historical reasons,

and thus may be less equipped to protect their children from economic shocks (Robles et al., 2006).

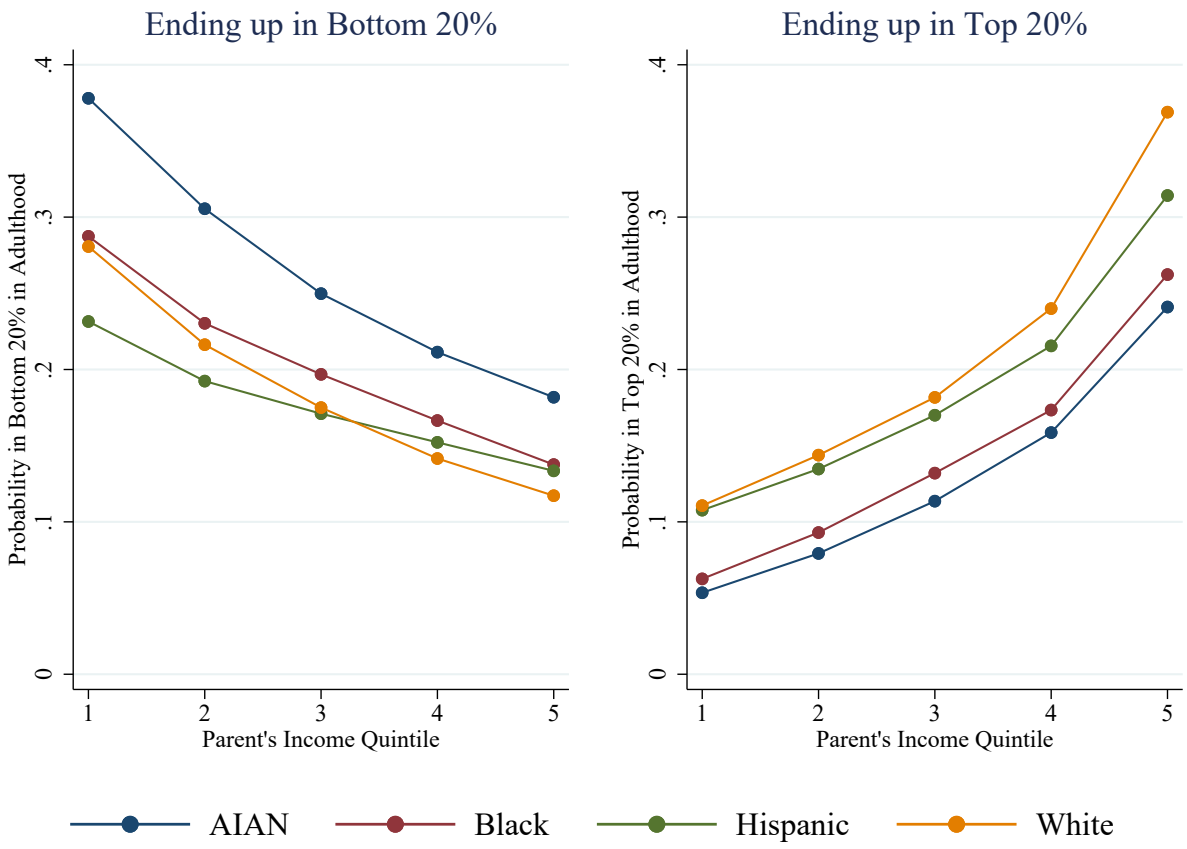


Figure (2) Probability of Being in Quintile of Individual Income Distribution as Adult based on Childhood Parental Income Race.

The same pattern emerges whether adult individual income or household income is used, which suggests that differences in household structure between categories are not the driving factor underlying these main patterns.[4]

I.A Intergenerational Income Mobility by Gender

A potentially puzzling result emerges when one looks at the data for men and women separately, as done in Figure 3. Native women seem to have the largest disparities in inter- generational mobility, while Native men have mobility levels basically equivalent to those of black

[4]Individual income is the income that is earned or acquired by a single person, while household income is the income of all the people in that person's household.

men. This is true for both individual and household income measures, which suggests this is likely not due to difference in marriage or cohabitation patterns.

The degree of upward mobility of black and Hispanic women in this period of time is notable, so the underlying factors that contribute to a different experience for Native women need to be understood. There are potentially many factors differentially affecting Native women, some of which have been discussed in other CICD articles.[5]

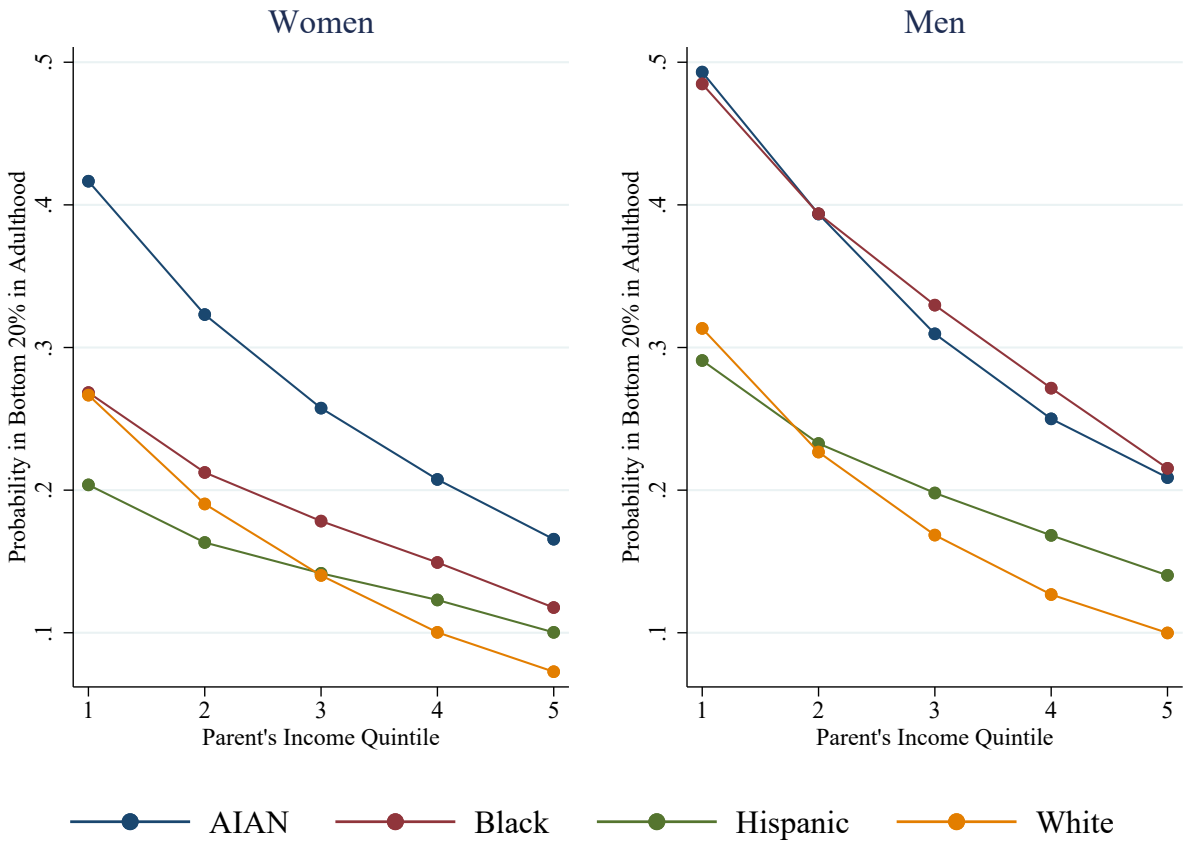


Figure (3) Probability of Being in Quintile of Household Income Distribution as Adult based on Childhood Parental Income Race. .

[5]See Welton (2019) and Todd (2015).

II. Regional Patterns in Intergenerational Mobility in Indian Country

There is significant regional diversity in intergenerational mobility (Chetty et al., 2018). Using the Opportunity Atlas, Figures 4 and Figures 5 identify what this may look like for Native peoples in the United States. The data in Figure 5 does not cover the entire United States. Much of the data for Native peoples is not available in the Atlas (and in gray in the figures) because of the relatively small population sizes in these areas. A further discussion of this data is available in appendix section A.

The patterns from the Atlas are pretty striking: the relative landscape of opportunity in for Native people in the United States looks fundamentally different from that for whites. Consider Figure 4 generated from the Opportunity Atlas. White children with low income parents were far more likely to have higher incomes in adulthood if they grew up in the Midwest, Great Plains, and Mountain regions, and far lower incomes in Arkansas, Missouri, Louisiana, and the eastern areas of Oklahoma. This is the opposite pattern for Native peoples: some of the lowest incomes are among Native people who grew up in the Midwest, Great Plains and Mountain regions, and some of the highest incomes are among Native people who grew up in Oklahoma.

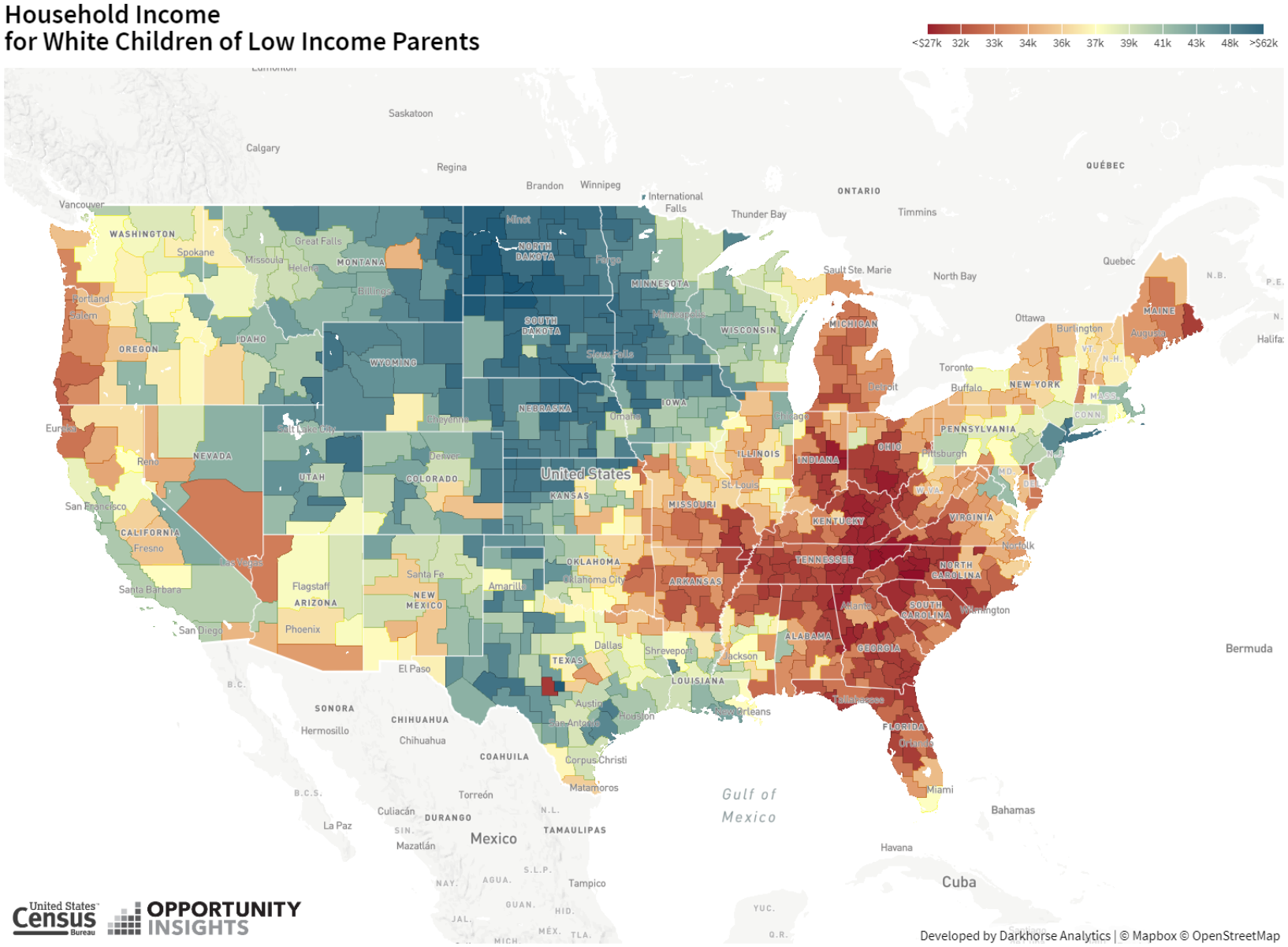


Figure (4) Landscape of Opportunity for White Children– Adult Household Income by Census Tract of Children from Low-Income Parents.

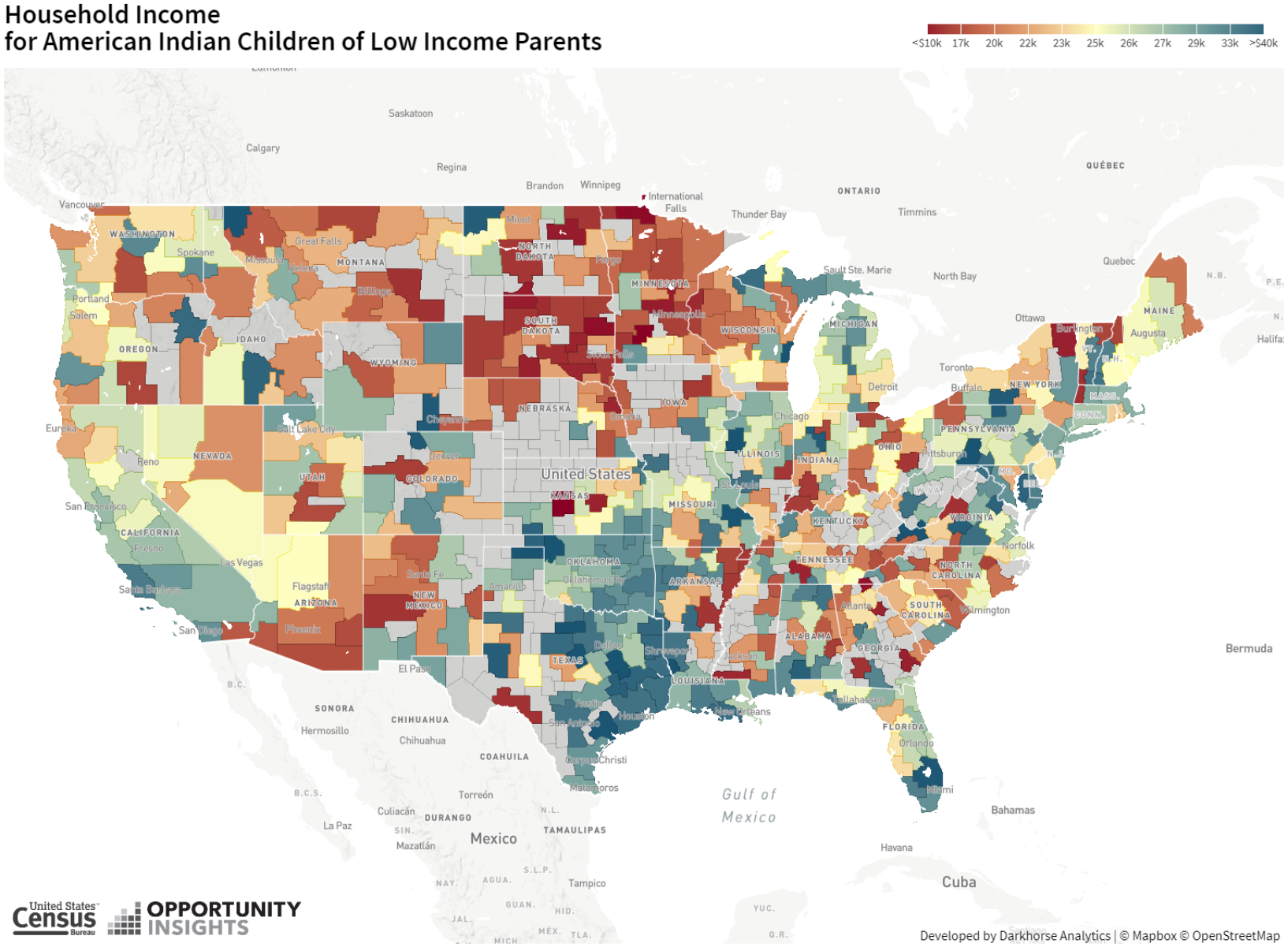


Figure (5) Landscape of Opportunity for Native Children– Adult Household Income by Census Tract of Children from Low-Income Parents.

However, the color scale can be misleading. While the color scale of these figures is informative for comparing *within* a group (i.e., Native American opportunity in Minnesota to Native American in Oklahoma or white Americans in Minnesota to White Americans in Oklahoma), the color scale is misleading across racial groups. For example, the highest income category (in dark blue) in Figure 5 is over $40,000. The lowest income categories (the dark red) are less than $10,000. This income range is non- trivially different from the income range in Figure 4 where the highest income category is over $60,000 and the lowest income category is less than $27,000. For Native peoples, even in the areas with the greatest upward income mobility, their adult income is still significantly lower than for white families.[6]

II.A Intergenerational Income Mobility and Tribal Lands

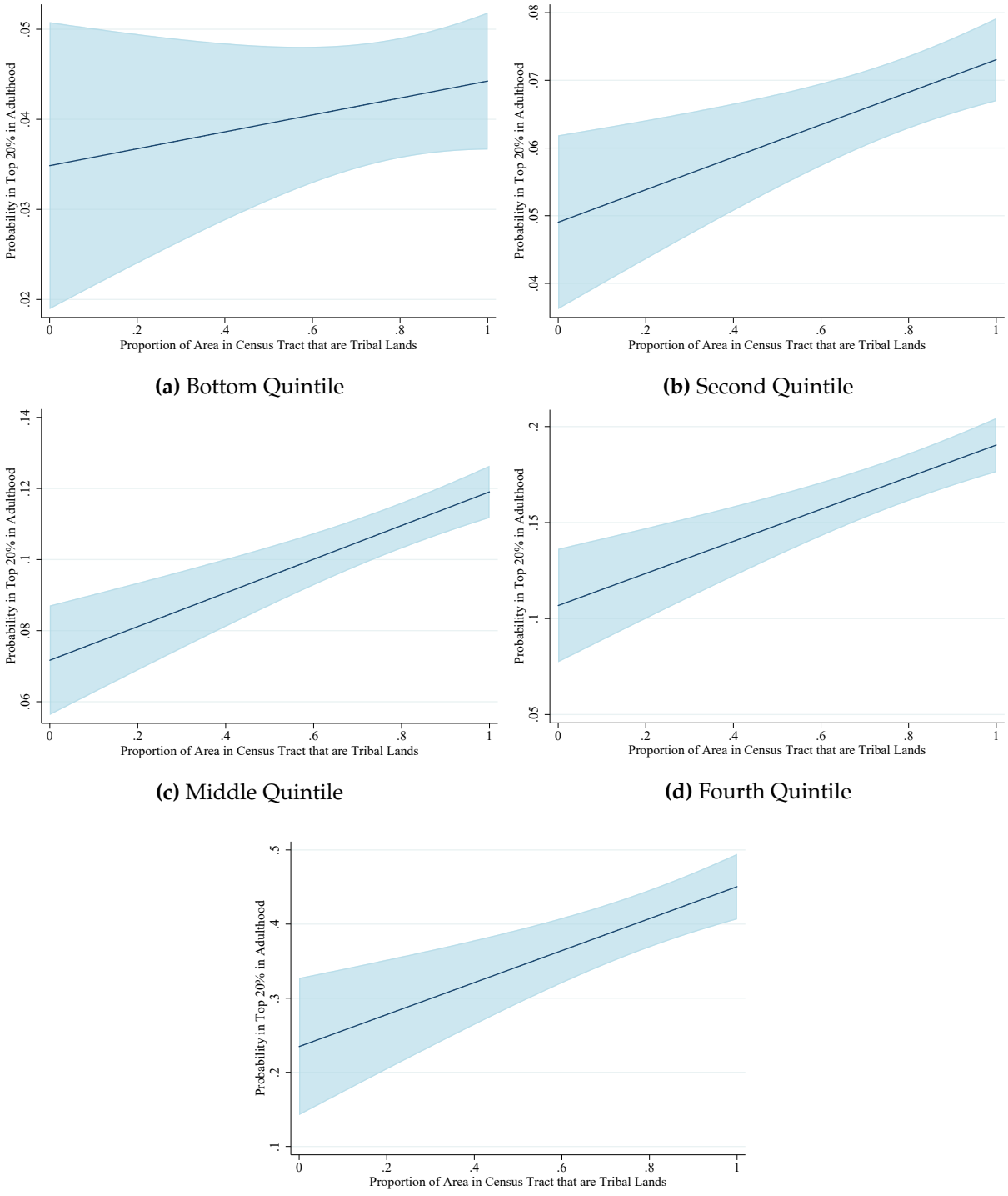
To get a rough sense of what factors may be related to the heterogeneity in income mobility among Native communities, I downloaded the census tract level data by race, restricted the sample to only census tracts that have large enough Native populations to have statistics for Native peoples, and merged in an indicator of whether or not the tract includes a reservation or tribal statistical area and the percentage of overlap of a tract with a tribal area.[7] In Figure 6, I approximate the relationship between the proportion of a census tract's area that is included as a reservation or a tribal statistical area and the probability of reaching the top 20 percent of the household income distribution as an adult for Native people who grew up in that census tract. I do this for the five possible childhood family income quintiles. Across all childhood income quintiles, the percentage of a census tract that is accounted for by reservation/tribal land is *positively* associated with the probability of a Native child reaching the top 20 percent of the income distribution.

In other words, Native children who grow up in Census tracts that are more highly affiliated with tribal lands have greater upward income mobility.

While the results presented in Figure 6 are of note, I caution against drawing strong conclusions about intergenerational income mobility and tribal lands without further research and careful consideration of the context. The unit of observation in Figure 6 is the census tract and

[6]The exception to this is that Native Americans that grew up in some regions of Texas, Oklahoma, and Louisiana, are much more likely to meet their white counterparts on an equal income footing partially because white Americans in these regions have lower income than whites in the rest of the United States.

[7]Table A3 lists the reservations within the sample, and the number of census tracts in each reservation.



(a) Bottom Quintile

(b) Second Quintile

(c) Middle Quintile

(d) Fourth Quintile

(e) Top Quintile

Figure (6) Probability of Reaching the Top 20 Percent of the Income Distribution by Childhood Family Income Quintile.

a small number of tribally governed areas account for a large number of the tracts. For example, two tribally affiliated areas account for almost 30 percent of the tribally associated census tracts. Figure A1 shows the resulting correlations if I treat all non-tribally associated areas as one observation and each differential tribally associated area as one observation. Given that arguments could be made about the most appropriate way to treat the data, I invite other researchers to take up an examination of the place-based factors associated with increased upward income mobility for Native peoples.

III. Data Cautions and Thoughts on Moving Forward

The data in the Opportunity Atlas is not perfect for answering questions related to Native intergenerational income mobility for at least four reasons. First, the data are problematic in the same way virtually all government data on Native peoples are — being a Native person in the United States is not well approximated by single race classifications. The data publicly available in the Atlas classify the race of children using the information those children report as adults in recent Censuses or the American Community survey. The data group all individuals who report multiple races into an "other" category. This choice in data construction is non-trivial for the Native population. Native peoples who report multiple races are almost equal in population to those who report one race: accounting to the 2010 Census, with 5.2 million people in the United States identified as American Indian and Alaska Native, either alone or in combination with other races, with 2.9 million reporting a single race and another 2.3 million reporting multiple races (Norris et al., 2012). The current construction of the Atlas potentially excludes nearly half of the Native population. An additional complication with racial classification is that there is a non-trivial proportion of reporting fluidity among those identifying an American Indian or Alaska Native race between Censuses (Liebler et al., 2016). While reporting fluidity is not a problem in and of itself, it may exclude (or include) different individuals in the sample depending on the Census year used to define a person's race.

A related issue is that the racial classification of "American Indian or Alaska Native" is likely not the classification of concern for Native peoples and tribal governments. The data includes no information on tribal membership, affiliation, or ancestry. Arguably, for this data to be useful to tribal decision making or other policy, these political classifications are much

more important than "race." Given these complications with the racial classifications in the Atlas, I encourage the reader to remember that any results produced using the current data from the Opportunity Atlas (including those presented here) are for a very specific group of Native peoples and the results may not generalize to all Native peoples and may not be the statistics of most interest to tribes themselves.

The second reason the data from Atlas are not perfect for answering questions related to Native intergenerational income mobility is that data are not available for large number of census tracts due to the small number of Native peoples in raised within them. This implies that any comparisons across tracts (for example, tribally affiliated tracts to non-tribally affiliated tracts) may not generalize to comparisons between tribally affiliated tracts and all census tracts within the United States.

The third reason the census track level data in the Opportunity Atlas data are not perfect is that there is random noise added. While this is good for protecting confidentiality, it is bad for correlation analysis. The random noise implies that any correlations estimated between variables will be biased towards zero. For example, these data may tell us that casinos are not related to intergenerational mobility even if they are related in reality or the data may suggest the relationship is weaker than it actually is. This implies the correlations presented here between tribal lands and intergenerational income mobility are likely stronger than my estimates suggest. Thus, understanding the roots of this regional heterogeneity may be difficult using the public data from the Opportunity Atlas.

Finally, census tracts are not the ideal geography in which to understand intergenerational mobility in Native America. For example, the Opportunity Atlas does not make data available by reservation or tribal area, nor the concurrent, non-tribally associated census blocks. Comparing census blocks on either side of jurisdictional borders could give insight into the significance of legal and cultural institutions for the intergenerational income mobility of Native peoples. Data on either side of jurisdictional boarders could also be used to ask other important questions of interest to Native Nations. More data could be released to assist Nations in constructing tribal policy and lobbying for broader systemic change.

III.A Moving Forward

The statistics presented above present more questions than answers and have significant limitations. The slippery income staircases that Native peoples may be facing needs to be better understood, particularly within an appropriate historical and social context. However, there are examples of communities where Native American children from low-income families are much more likely to reach the top of the income than others. The lived experiences of these and other Native communities would offer useful lessons, and perhaps the Opportunity Atlas can be a tool that helps foster this conversation.

The preliminary correlational analysis presented here suggests that census tracts that are more tightly associated with a reservation or tribal statistical area seem to be correlated with greater upward income mobility for Native peoples. I often hear non-Native policy makers and researchers argue that Native people need to leave the reservation to find opportunity. Yet, from the sample of communities in this data, it seems that children born in tribal affiliated census tracts seem to have greater opportunity for upward income mobility relative to those born in other census tracts. While much more research and better data is necessary before making any strong conclusions, it is possible that the land of opportunity for Native peoples is tribal land.

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A. Data Description

The two primary data sources used in this sample are available from the Opportunity Insights website[8] Both sets of data are generated using matched census and administrative data that covers nearly the entire U.S. population and follows children from the 1978-83 birth cohorts. All were born in the United States or were authorized immigrants who came to the U.S. in childhood and whose parents were also U.S. citizens or authorized immigrants. The core data used came from the Census in 2000 and 2010 and data from federal income tax returns in 1989, 1994, 1995, and 1998-2015. Race is assigned to children using the information they report in the 2010 Census short form (if the child did not appear in the 2010 census they use the 2000 census and if they do not appear there, they use the ACS). Race and ethnicity categories are aggregated into a Hispanic ethnicity category and a set of non-Hispanic races: white, black, Asian, American Indian or Alaskan Native, and other. Individuals who report multiple races are put in the other category. This particular choice in constructing the data is potentially important for the Native population since the largest share of individuals who report multiple races report an "American Indian" ancestry (Cohn, 2015). In addition, those Native peoples who report multiple races are almost equal in population to those who report one race: accounting to the 2010 Census, 5.2 million people in the United States identified as American Indian and Alaska Native, either alone or in combination with other races, with 2.9 million reporting a single race and 2.3 million reporting multiple races (Norris et al., 2012). In addition, there is a non-trivial proportion of reporting fluidity among those identifying an American Indian or Alaska native race between Censuses (Liebler et al., 2016). Given these complications with notions of race in Native America, I encourage the reader to remember that the results of the Opportunity Atlas (and those presented here) may only be relevant for a specific group of Native peoples and may not generalize to the whole population.

The first data source used from the Opportunity Insights website is "table_2-3.csv" labeled "National Child and Parent Income Transition Matrices by Race and Gender" which replicates the results of Table 1 of Chetty et al. (2018). This data is used in Figures 1 to 3 and Table A1 are generated. This sample includes the full U.S population that could be matched population

[8]See `https://opportunityinsights.org/`. Last accessed March 12, 2019.

available through the matching process (roughly 94 percent of the sample frame). The second data source from the Opportunity Insights website is labeled "All Outcomes by Census Tract, Race, Gender and Parental Income Percentile" and was generated from Chetty et al. (2018). Since this data is available by census tract, race, gender and parental income percentile, the sample sizes in some categories were too small to obtain reasonable estimates for. Given Native population sizes, this has a significant impact on the number of census tract included in the Atlas with Native data. This is particularly important for the Native population given its size. Specifically, out of the 73,735 Census tracts in the sample, only 1,735 have sufficient numbers of Native people to be included in the sample. To get a sense of how different these tracts are from the average tracks, I report some basic statistics for white Americans in both tracts without and without sufficient numbers of Native people to be included in the sample in Table A2. The sample sizes in these tables are smaller than the total sample size of tracts (73,735 for all tracts and 1,735 with Native data). Since some census tracts with large Native populations have very small white populations, there are some census tracts that have data for Native people but not for white people and visa versa. Table A2 restricts the sample of tracts to only tracts that have data for both, hence the smaller sample sizes.

Another limitation of this data is that there has been "a small amount of random noise" added to the data to protect confidentiality. This implies that any correlations estimated will be biased towards zero. How biased will depend on the degree of noise added to the data: the noise is typically one-tenth the standard error of the estimate itself.[9].

For more information about this data and its construction, I encourage the reader to see Chetty et al. (2018) and Chetty et al. (2018).

[9]See "Codebook for Table 4: All Outcomes by Census Tract, Race, Gender and Parental Income Percentile", Opportunity Atlas, `https://opportunityinsights.org/wp-content/uploads/2018/10/Codebook-for-Table-4.pdf`. Access March 12, 2018

B. Additional Descriptive

Table (A1) National Level Probabilities Income Mobility by Race

	AIAN	Black	Hispanic	White
Both Genders				
A.Child Individual Income				
Prob(Child in Q1 | Parent in Q1)	0.378	0.287	0.231	0.281
Prob(Child in Q5 | Parent in Q1)	0.054	0.063	0.108	0.111
Prob(Child in Q1 | Parent in Q5)	0.182	0.138	0.133	0.117
Prob(Child in Q5 | Parent in Q5)	0.241	0.262	0.314	0.369
B.Child Household Income				
Prob(Child in Q1 | Parent in Q1)	0.455	0.373	0.248	0.290
Prob(Child in Q5 | Parent in Q1)	0.033	0.025	0.071	0.106
Prob(Child in Q1 | Parent in Q5)	0.188	0.167	0.120	0.086
Prob(Child in Q5 | Parent in Q5)	0.230	0.180	0.306	0.411
Observations	165,000	2,750,000	2,615,000	13,490,000
Female				
A.Child Individual Income				
Prob(Child in Q1 | Parent in Q1)	0.366	0.205	0.228	0.303
Prob(Child in Q5 | Parent in Q1)	0.033	0.052	0.067	0.072
Prob(Child in Q1 | Parent in Q5)	0.203	0.110	0.151	0.149
Prob(Child in Q5 | Parent in Q5)	0.191	0.254	0.254	0.282
B.Child Household Income				
Prob(Child in Q1 | Parent in Q1)	0.417	0.268	0.204	0.267
Prob(Child in Q5 | Parent in Q1)	0.035	0.026	0.076	0.115
Prob(Child in Q1 | Parent in Q5)	0.166	0.118	0.100 0.073	
Prob(Child in Q5 | Parent in Q5)	0.246	0.185	0.324	0.430
Observations	81,500	1,402,000	1,303,000	6,599,000
Male				
Prob(Child in Q1 | Parent in Q1))	0.390	0.375	0.235	0.259
Prob(Child in Q5 | Parent in Q1)	0.074	0.074	0.148	0.148
Prob(Child in Q1 | Parent in Q5)	0.162	0.164	0.116	0.086
Prob(Child in Q5 | Parent in Q5)	0.287	0.270	0.375	0.452
B.Child Household Income				

Table (A2) Average Outcomes of White Americans in Census Tracts that have a large Enough American Indian population to be Included in the Opportunity Atlas

	In Sample	Not In Sample	Difference
Mean pctile rank in the national distribution	0.510	0.550	
of household income in 2014-2015	(0.065)	(0.080)	
			0.040***
Fraction incarcerated on April 1st, 2010	0.014	0.010	
	(0.014)	(0.014)	
			-0.004***
Fraction of children who file	0.517	0.524	
tax returns as married in 2015	(0.086)	(0.086)	
			0.007**
Fraction of children living in one	0.200	0.192	
of their childhood tracts in adulthood	(0.072)	(0.075)	
			-0.008***
Fraction of children living in one	0.611	0.639	
of their childhood CZs in adulthood	(0.132)	(0.117)	
			0.029***
Fraction of children w/ parents	0.517	0.378	
below median income	(0.171)	(0.193)	
			-0.137***
Observations	1610	65773	67980

Notes: The standard deviations are in parenthesis. Significance stars: $p < 0.05$ *, $p < 0.01$ **, $p < 0.001$ ***.

Table (A3) Reservations Included in Estimates for Figure 6

Census Tribal Statistical Area Name	Number of Census Tracts
No Reservation or Tribal Statistical Area	725
Acoma Pueblo and Off-Reservation Trust Land	3
Akhiok ANVSA	1
Akiachak ANVSA	1
Akutan ANVSA	1
Alabama-Coushatta Reservation and Off-Reservation Trust Land	1
Alatna ANVSA	1
Aleknagik ANVSA	1
Allegany Reservation	1
Ambler ANVSA	1
Anaktuvuk Pass ANVSA	1
Angoon ANVSA	1
Aniak ANVSA	1
Annette Island Reserve	1
Anvik ANVSA	1
Apache Choctaw SDTSA	2
Arctic Village ANVSA	1
Atka ANVSA	1
Bad River Reservation	2
Barona Reservation	1
Barrow ANVSA	1
Battle Mountain Reservation	1
Bay Mills Reservation and Off-Reservation Trust Land	2
Berry Creek Rancheria and Off-Reservation Trust Land	1
Bethel ANVSA	1
Big Pine Reservation	1
Bishop Reservation	1
Blackfeet Indian Reservation and Off-Reservation Trust Land	4
Bois Forte Reservation	1
Brevig Mission ANVSA	1
Brighton Reservation	1
Caddo-Wichita-Delaware OTSA	8
Campbell Ranch	1
Campo Indian Reservation	1
Carson Colony	1
Catawba Reservation	1
Cattaraugus Reservation	2
Celilo Village	1
Chehalis Reservation and Off-Reservation Trust Land	1
Chemehuevi Reservation	1
Cherokee OTSA	129
Cheyenne River Reservation and Off-Reservation Trust Land	3
Cheyenne-Arapaho OTSA	22
Chickahominy SDTSA	1
Chickasaw OTSA	56
Chignik ANVSA	1
Chistochina ANVSA	1
Choctaw OTSA	53
Citizen Potawatomi Nation-Absentee Shawnee OTSA	28
Cocopah Reservation	1
Coeur d'Alene Reservation	1
Coharie SDTSA	1
Colorado River Indian Reservation	2
Colville Reservation and Off-Reservation Trust Land	3

Continued on next page

Table A3 – continued from previous page

Census Tribal Statistical Area Name	Number of Census Tracts
Coos, Lower Umpqua, and Siuslaw Reservation and Off-Reservation Trust Land	2
Coushatta Reservation and Off-Reservation Trust Land	1
Coyote Valley Reservation	1
Craig ANVSA	1
Creek OTSA	160
Crow Creek Reservation	2
Crow Reservation and Off-Reservation Trust Land	6
Dillingham ANVSA	1
Dot Lake ANVSA	1
Douglas ANVSA	1
Duck Valley Reservation	1
Eastern Cherokee Reservation	3
Eastern Shawnee OTSA	2
Echota Cherokee SDTSA	8
Elk Valley Rancheria and Off-Reservation Trust Land	1
Elko Colony	1
Evansville ANVSA	1
Fallon Paiute-Shoshone Colony and Off-Reservation Trust Land	3
Flandreau Reservation	1
Flathead Reservation	6
Fond du Lac Reservation and Off-Reservation Trust Land	4
Forest County Potawatomi Community and Off-Reservation Trust Land	1
Fort Apache Reservation	4
Fort Belknap Reservation and Off-Reservation Trust Land	2
Fort Berthold Reservation	5
Fort Hall Reservation and Off-Reservation Trust Land	2
Fort McDowell Yavapai Nation Reservation	1
Fort Mojave Reservation and Off-Reservation Trust Land	1
Fort Peck Indian Reservation and Off-Reservation Trust Land	3
Fort Yuma Indian Reservation	1
Gila River Indian Reservation	3
Grand Ronde Community and Off-Reservation Trust Land	2
Grand Traverse Reservation and Off-Reservation Trust Land	1
Haliwa-Saponi SDTSA	2
Havasupai Reservation	1
Ho-Chunk Nation Reservation and Off-Reservation Trust Land	4
Hoh Indian Reservation	1
Hollywood Reservation	1
Hoopa Valley Reservation	1
Hopi Reservation and Off-Reservation Trust Land	5
Houlton Maliseet Reservation and Off-Reservation Trust Land	2
Hualapai Indian Reservation and Off-Reservation Trust Land	1
Hydaburg ANVSA	1
Iowa (KS-NE) Reservation and Off-Reservation Trust Land	1
Iowa OTSA	3
Isabella Reservation	2
Isleta Pueblo	2
Jemez Pueblo	2
Jicarilla Apache Nation Reservation and Off-Reservation Trust Land	3
Karuk Reservation and Off-Reservation Trust Land	1
Kaw OTSA	3
Kaw/Ponca joint-use OTSA	6
Kenaitze ANVSA	3
Ketchikan ANVSA	3
Kickapoo (KS) Reservation	1

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Table A3 – continued from previous page

Census Tribal Statistical Area Name	Number of Census Tracts
Kickapoo OTSA	3
Kiowa-Comanche-Apache-Fort Sill Apache OTSA	23
Klamath Reservation	2
Kotzebue ANVSA	1
L'Anse Reservation and Off-Reservation Trust Land	3
La Jolla Reservation	1
Lac Courte Oreilles Reservation and Off-Reservation Trust Land	2
Lac du Flambeau Reservation	1
Laguna Pueblo and Off-Reservation Trust Land	2
Lake Traverse Reservation and Off-Reservation Trust Land	6
Leech Lake Reservation and Off-Reservation Trust Land	6
Little Traverse Bay Reservation and Off-Reservation Trust Land	2
Los Coyotes Reservation	1
Lower Brule Reservation and Off-Reservation Trust Land	1
Lower Elwha Reservation and Off-Reservation Trust Land	2
Lower Sioux Indian Community	1
Lumbee SDTSA	49
Lummi Reservation	1
MOWA Choctaw (state) Reservation	2
Makah Indian Reservation	1
Maricopa (Ak Chin) Indian Reservation	1
Mashantucket Pequot Reservation and Off-Reservation Trust Land	1
Mechoopda TDSA	1
Menominee Reservation and Off-Reservation Trust Land	3
Mescalero Reservation	1
Miami OTSA	1
Mille Lacs Reservation and Off-Reservation Trust Land	2
Mississippi Choctaw Reservation	9
Mooretown Rancheria and Off-Reservation Trust Land	1
Morongo Reservation and Off-Reservation Trust Land	1
Muckleshoot Reservation and Off-Reservation Trust Land	2
Nanwalek ANVSA	1
Navajo Nation Reservation and Off-Reservation Trust Land	45
Nez Perce Reservation	2
Nisqually Reservation	1
Nome ANVSA	1
Nooksack Reservation and Off-Reservation Trust Land	1
Northern Cheyenne Indian Reservation and Off-Reservation Trust Land	1
Ohkay Owingeh	1
Omaha Reservation	1
Oneida (WI) Reservation and Off-Reservation Trust Land	7
Osage Reservation	10
Otoe-Missouria OTSA	2
Ottawa OTSA	4
Paiute (UT) Reservation	2
Pascua Pueblo Yaqui Reservation	1
Pawnee OTSA	4
Pee Dee SDTSA	1
Penobscot Reservation and Off-Reservation Trust Land	1
Pine Ridge Reservation	3
Pinoleville Rancheria	1
Pleasant Point Reservation	1
Poarch Creek Reservation and Off-Reservation Trust Land	2
Ponca (NE) Trust Land	1
Ponca OTSA	1

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Table A3 – continued from previous page

Census Tribal Statistical Area Name	Number of Census Tracts
Port Gamble Reservation	1
Port Madison Reservation	1
Prairie Band of Potawatomi Nation Reservation	1
Prairie Island Indian Community and Off-Reservation Trust Land	1
Pueblo de Cochiti	1
Puyallup Reservation and Off-Reservation Trust Land	7
Pyramid Lake Paiute Reservation	1
Quinault Reservation	1
Red Cliff Reservation and Off-Reservation Trust Land	1
Red Lake Reservation	1
Reno-Sparks Indian Colony	2
Rincon Reservation	1
Rocky Boy's Reservation and Off-Reservation Trust Land	1
Rohnerville Rancheria	1
Rosebud Indian Reservation and Off-Reservation Trust Land	4
Sac and Fox OTSA	9
Sac and Fox/Meskwaki Settlement	3
Salt River Reservation	1
San Carlos Reservation	2
San Felipe Pueblo	1
San Pasqual Reservation	1
Sandia Pueblo	1
Santa Clara Pueblo	1
Santa Rosa Rancheria	1
Santo Domingo Pueblo	1
Sault Sainte Marie Reservation and Off-Reservation Trust Land	5
Seminole OTSA	8
Shakopee Mdewakanton Sioux Community and Off-Reservation Trust Land	1
Sherwood Valley Rancheria and Off-Reservation Trust Land	1
Siletz Reservation and Off-Reservation Trust Land	1
Sitka ANVSA	2
Skokomish Reservation	1
Sokaogon Chippewa Community and Off-Reservation Trust Land	1
Southern Ute Reservation	2
Spirit Lake Reservation	2
Spokane Reservation and Off-Reservation Trust Land	1
Squaxin Island Reservation and Off-Reservation Trust Land	1
St. Regis Mohawk Reservation	1
Standing Rock Reservation	4
Susanville Indian Rancheria and Off-Reservation Trust Land	1
Swinomish Reservation and Off-Reservation Trust Land	1
Taos Pueblo and Off-Reservation Trust Land	1
Tohono O'odham Nation Reservation and Off-Reservation Trust Land	5
Tonawanda Reservation	1
Tonkawa OTSA	1
Trinidad Rancheria and Off-Reservation Trust Land	1
Tulalip Reservation and Off-Reservation Trust Land	3
Tule River Reservation and Off-Reservation Trust Land	1
Turtle Mountain Reservation and Off-Reservation Trust Land	3
Tuscarora Nation Reservation	1
Uintah and Ouray Reservation and Off-Reservation Trust Land	1
Umatilla Reservation	1
United Houma Nation SDTSA	14
Upper Sioux Community and Off-Reservation Trust Land	1
Ute Mountain Reservation and Off-Reservation Trust Land	1

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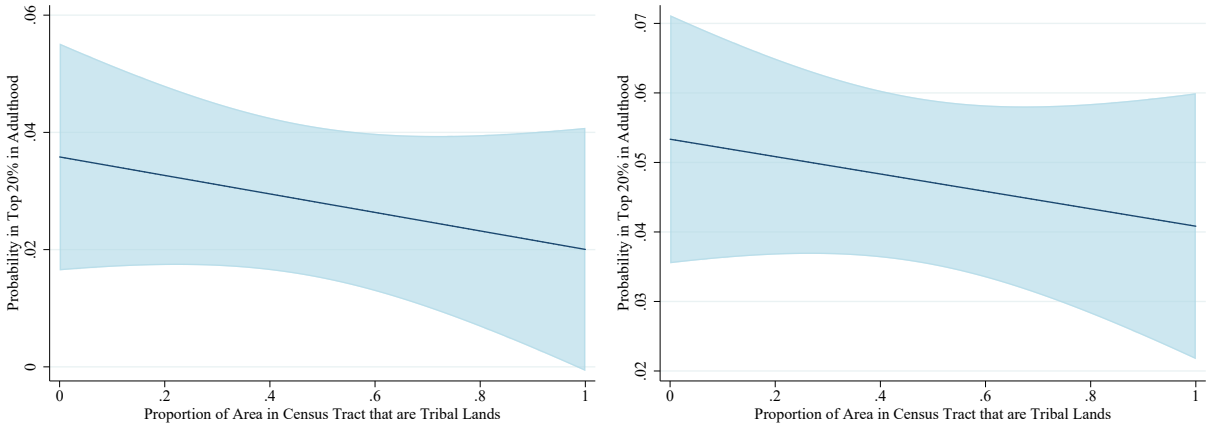
Table A3 – continued from previous page

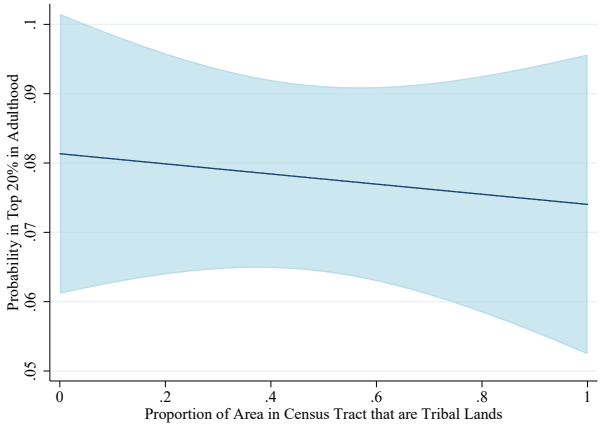
Census Tribal Statistical Area Name	Number of Census Tracts
Viejas Reservation	1
Waccamaw Siouan SDTSA	4
Walker River Reservation	1
Warm Springs Reservation and Off-Reservation Trust Land	1
Washoe Ranches Trust Land	1
White Earth Reservation and Off-Reservation Trust Land	4
Wind River Reservation and Off-Reservation Trust Land	4
Winnebago Reservation and Off-Reservation Trust Land	1
Wrangell ANVSA	1
Yakama Nation Reservation and Off-Reservation Trust Land	6
Yankton Reservation	2
Ysleta del Sur Pueblo and Off-Reservation Trust Land	1
Zuni Reservation and Off-Reservation Trust Land	2

Notes: Tribal statistical area names are on the left. The number of census tracts overlapping the tribal statistical area is last column.

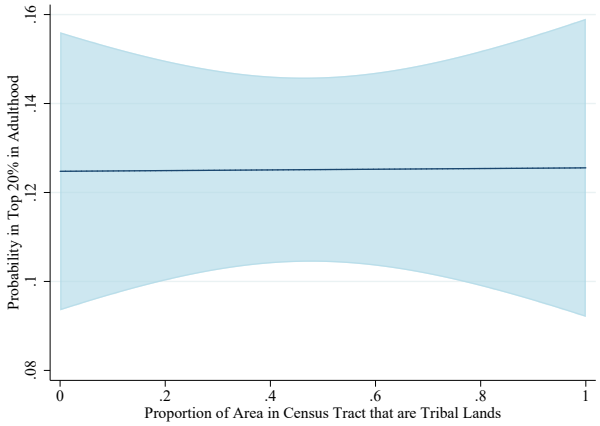


(a) Bottom Quintile

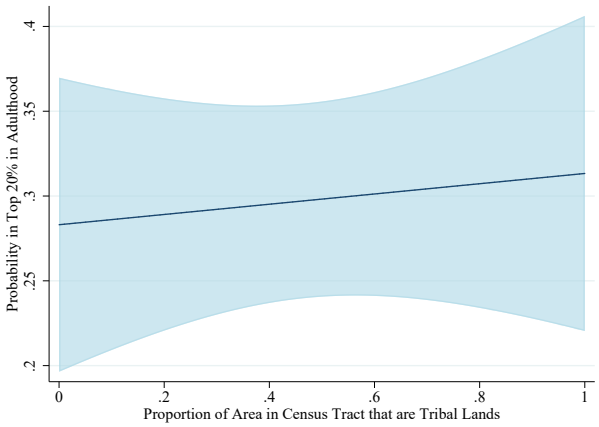
(b) Second Quintile



(c) Middle Quintile



(d) Fourth Quintile



(e) Top Quintile

Figure (A1) Probability of Reaching the Top 20 Percent of the Income Distribution by Childhood Family Income Quintile Where all Non-Reservation Census are Treated as One Observation and All Tribal Areas are Treated as One Observation .