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Abstract

Over the past century, the public consciousness has created a stereotype of the modern Native American as a poor, hopeless person sustained only by the charity of others. While it is certainly true that American Indians are generally poor compared to the rest of the United States, some Native American populations have grown quite wealthy as this project will demonstrate. This problem is the classic question of development that has vexed economists for years: why did some tribes become rich, when the rest did not?

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The American Indian and Alaskan Native Development Index:

The Progress of and Prospects for Indian Country

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I. Introduction

"After one Fourth of July, Nick, driving home late from town in the big wagon with Joe Garner and his family, passed nine drunken Indians along the road. He remembered there were nine because Joe Garner, driving along in the dusk, pulled up the horses, jumped down into the road and dragged an Indian out of the wheel rut. The Indian had been asleep, face down in the sand. Joe dragged him into bushes and got back up on the wagon-box.
'That makes nine of them,' Joe said, 'just between here and the edge of town.'
'Them Indians,' said Mrs. Garner."

-an excerpt from Ten Indians, a short story by Ernest Hemingway

Over the past century, the public consciousness has created a stereotype of the modern Native American as a poor, hopeless person sustained only by the charity of others. While it is certainly true that American Indians are generally poor compared to the rest of the United States, some Native American populations have grown quite wealthy as this project will demonstrate. This problem is the classic question of development that has vexed economists for years: why did some tribes become rich, when the rest did not?

Before that question can be answered, researchers must first ascertain which tribes are, in fact, the wealthiest today. This project was originally intended as a survey of American Indian economic development in the 20th century. I had intended to chart the progress of different American Indian tribes and reservations over the past 100 years to see which ones had performed the best and which ones had not. However, I was unable to find a comprehensive ranking system to determine which ones were the most developed, and which ones were not.

The primary motivation behind the American Indian and Alaskan Native (AIAN) Development Index is to understand the factors underlying the present condition of Native American economic development. Its specific purpose is to assess the economic

performance of American Indian reservations and Alaskan native villages and identify prospects for future growth. It is intended to provide researchers and policymakers the right information for more effective and efficient solutions to the poverty of the American Indian.

The AIAN Development Index identified three trends among some of most developed tribes that played a role in their success: higher rates of educational attainment, creative land use policies that allowed for ownership and leasing, and innovative, diversified business portfolios.

II. Review of Literature

Most of the research done in the field of reservation economics involves economic history. One of the leading experts in the field of American Indian reservation economics is Terry Anderson. In his book Sovereign Nations or Reservations? An Economic History of American Indians, Anderson identifies the root cause of Indian poverty as poor governance. He argues that institutional frameworks with the right incentives and constraints are the key to reservation economic development and that the history of national economic policy towards American Indians has ignored this feature of economic theory.

Two other economic history papers illustrate the importance of measuring American Indian development. In their paper "Trade, Consumption, and the Native Economy: Lessons From York Factory, Hudson Bay," Ann M. Carlos and Frank D. Lewis provide evidence that traditional Indian stereotypes about consumption were misplaced. In response to rising fur prices in the 18th century Hudson Bay region, Indians consumed more luxury goods and exhibited changes in consumer behavior that valued profit gains over increases in leisure time. The costs of this fundamental change in behavior were largely incurred due to a lack of Indian property rights. These findings are consistent with the reaction of contemporary Europeans and modern consumers to increased wages and counteract the prevailing historical view that 18th century Indians were non-industrious consumers.

Diane J. Peterson contributes further to the study of American Indian economic history with her article "Developing Reservation Economies: Native American Teamsters 1857-1921." She documents how a change in the US federal government's Indian policy

in 1877 provided American Indian entrepreneurs the right to transport supplies between the Indian Department and Indian tribes. Taken together, both papers discount the idea that cultural impediments restrict American Indians from responding to economic incentives and constraints in the same way as non-American Indians.

Still, some researchers have analyzed individual components of American Indian economic development. In the Quarterly Review of Economics and Finance, Michael Hurst finds that the earnings differentials between American Indians (Alaskan natives included) and non-American Indians are largely due to disparities in human capital formation and geographical immobility. Circumstances are somewhat different from Alaskan natives, who may benefit from preferential hiring practices at native corporations. This paper led me to consider some of the sources of geographic immobility, and it influenced the inclusion of several key variables in the AIAN Development Index.

Two contributors to modern American Indian policy are Gary D. Sandefur and Arthur Sakamoto. In "American Indian Household Structure and Income," they concluded that American Indians in 1980 were more likely to live in traditional family households than blacks or whites. As a result, antipoverty social programs designed for single mothers with children will not be nearly as effective for American Indian families, who constitute a larger subset of the total population.

One organization that has contributed heavily to the study of American Indian development is the Harvard Project on American Indian Economic Development at the John F. Kennedy School of Government at Harvard University. They have published many research papers and policy analysis in the field of American Indian development.

Their “Honoring Contributions in the Governance of American Indian Nations” program is an awards program for effective and efficient tribal governance.

Finally, much of the background information for each Native American population can be found in Tiller’s Guide to Indian Country. It is a reference guide that contains the comprehensive set of American Indian reservation and Alaskan Native village economic profiles in the United States. It allows for a more focused study of Indian economic life and easier comparisons across tribes.

III. Data

The data collected for the American Indian and Alaskan Native (AIAN) Development Index came from the US Census Bureau website (www.census.gov). Specifically, the index uses 1999 measures of income, poverty, employment, and education for 424 tribal reservations and villages in the United States. The data set containing all the data used in creation of the Index was the American Fact Finder, Census 2000 American Indian and Alaskan Native Summary File (AIANSF) Sample Data.

The four measures of development were included in the index based upon economic theory. According to Todaro and Smith (2006), developing countries are characterized by lower incomes, lower productivity, and limited scientific and technological research capacities, among other things. For the AIAN Development Index, measures of income, poverty, employment, and education were chosen because they reflect the reality of developed nations and regions.

In addition, other development indices also include these criteria among their indicators. The five development indices that comprise the United Nations Development Program's Human Development Report included income, poverty, employment, and educational attainment measures as part of their selection of development indicators (UNDP).

The English proficiency indicator is noticeably absent from any development index constructed to-date. English proficiency was factored into the index for two reasons. First, it provides an indication of a reservation's prospects for future growth. Hurst attributed the earnings differential between American Indians and non-American

Indians in part to geographic immobility, and tribes with fewer English speakers in their midst will have fewer opportunities to participate in the English-dominated economic life of the country as a whole. As the data shows, this is a serious concern for a select few tribes.

Second, the AIAN Development Index also lacks an educational measure for individuals below the age of 25, and English proficiency provides a view, albeit limited, into the prospects for future human capital formation and growth on the reservations.

A. Income

The measure chosen to represent income in the AIAN Development Index is Income Per Capita. In the AIANSF, it is table PCT:130 Income Per Capita in 1999 (Dollars). Table 1 contains summary data for the income indicator.

TABLE 1
INCOME

Income Descriptive Statistics	
Mean	$12,892
Median	$11,710
Standard Deviation	6032
United States National Benchmark	$21,857

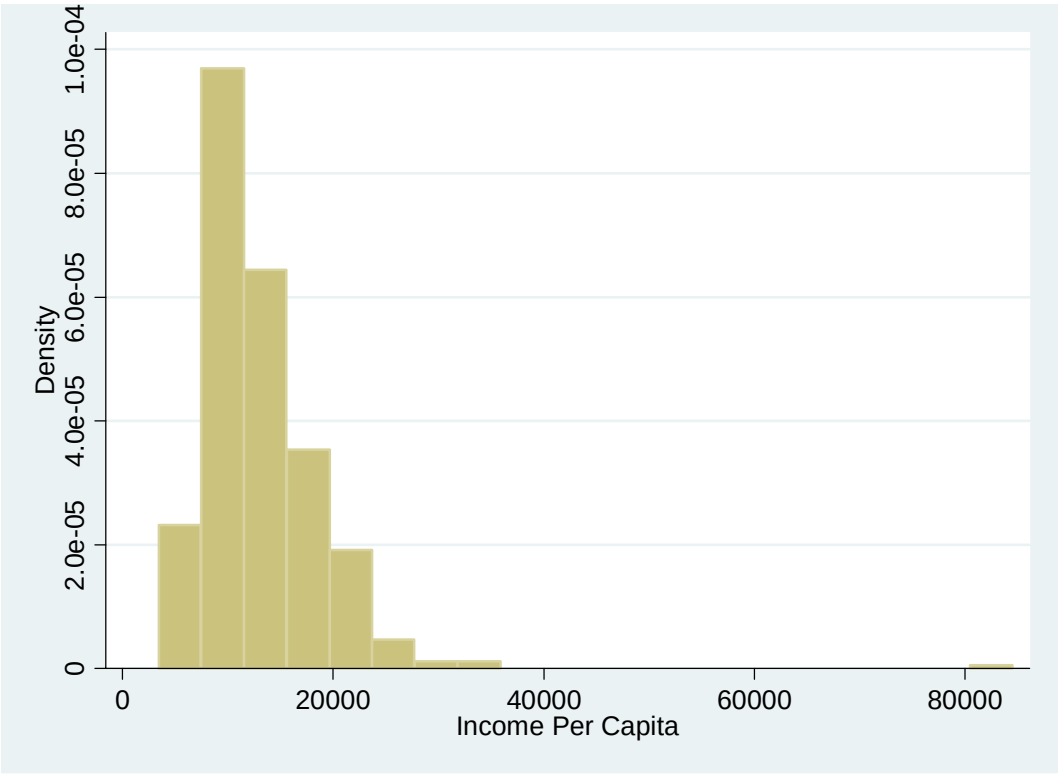
Each of the summary data tables also contains the United States National Benchmark, an average reported by the U.S. Census Bureau that allows for comparison between Indian Country and the rest of the county as a whole. In Table 1, the mean per capita income among Native Americans is substantially lower than the country as a whole.

The tribal reservation with the highest per capita income in 1999 was the Shakopee Mdewakanton Sioux Community and Off-Reservation Trust Land with an impressive per capita tribal income of $84,517. Two tribes in Southern California, the

Barona and Agua Caliente Reservations, boast incomes of $32,313 and $32,059, respectively. Two Alaskan Native villages have incomes slightly under $30,000: the Douglass and the Eklutna. At the other end of the scale, the lowest per capita income tribe in the United States is the Kickapoo Reservation in Texas, with a per capita income of $3,435.

The distribution of income is skewed by the presence of the Shakopee Reservation. Most tribes have incomes slightly less than the mean income of $12,892, as evidenced by Figure 1.

FIGURE 1
INCOME DISTRIBUTION



B. Poverty

The poverty indicator in the AIAN Development Index is table PCT142: Poverty Status in 1999 by sex by age. The US Census Bureau defines poverty in its website

glossary: “Following the Office of Management and Budget's (OMB's) Directive 14, the Census Bureau uses a set of money income thresholds that vary by family size and composition to detect who is poor. If the total income for a family or unrelated individual falls below the relevant poverty threshold, then the family or unrelated individual is classified as being ‘below the poverty level.’” Repeated attempts at accessing the OMB’s Directive 14 proved unsuccessful.

Table 2 summarizes the poverty data.

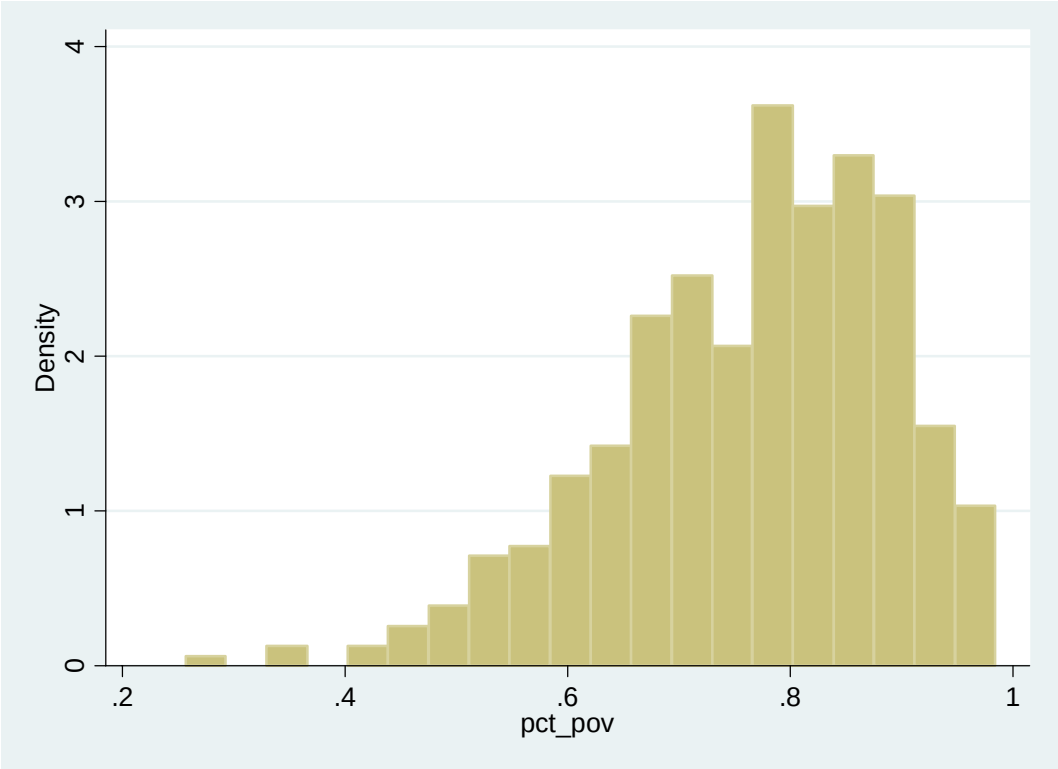
TABLE 2
POVERTY

Poverty Descriptive Statistics	
Mean	76.54
Median	78.12
Standard Deviation	12.49
United States National Benchmark	87.62

Four Alaskan Native villages, and two American Indian reservations, had more than 97% of their population living above the poverty line: the Chilkat, Cantwell, Eklutna, and Nuiqsut villages, the Redwood Valley Rancheria Reservation in California, and the Brighton Reservation in Florida. Alternatively, the Kickapoo Reservation in Texas had the fewest people living above the poverty line at 25.68%.

The distribution of poverty scores shows the majority of tribes close to or above 80% living above the poverty line, with only a few outliers below 40%. The distribution of poverty levels is shown in Figure 2.

FIGURE 2
POVERTY DISTRIBUTION



C. Employment

The employment measure used by the index was the percent of the reservation labor force employed. For the AIAN Development Index, the labor force measure excluded members of the U.S. Armed Forces and those below the age of 16. Table 3 summarizes the employment data.

TABLE 3
EMPLOYMENT

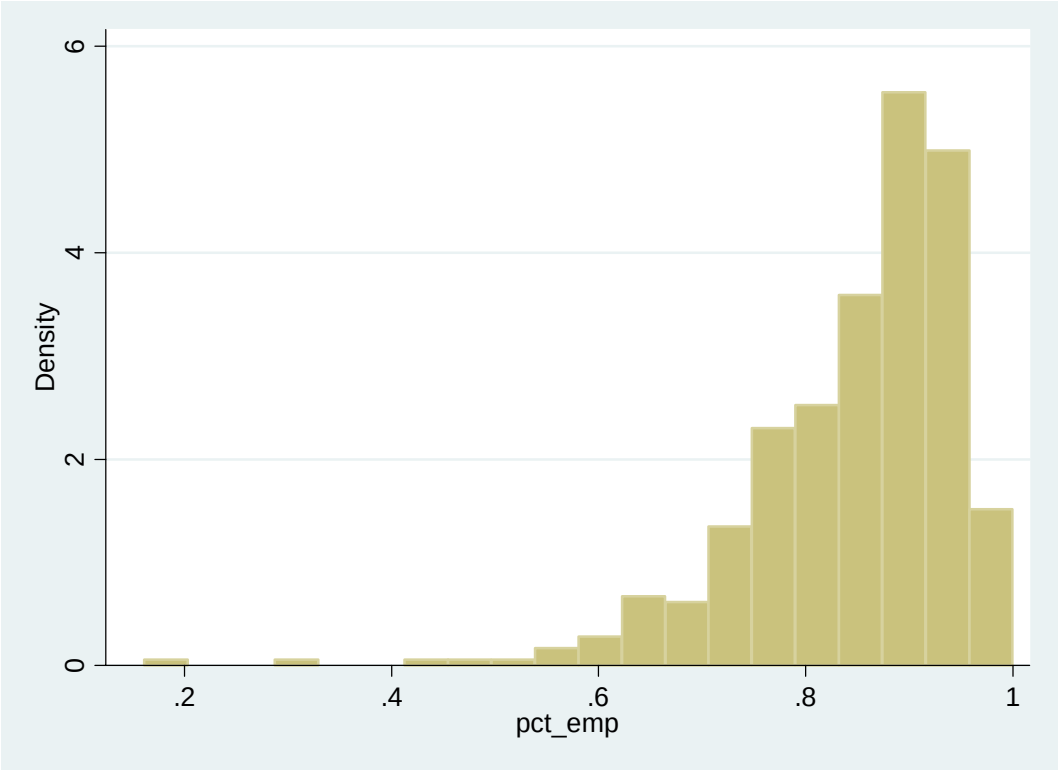
Employment Descriptive Statistics	
Mean	84.83
Median	87.64
Standard Deviation	10.41
United States National Benchmark	94.23

Four reservations reported 100% employment rates: the Iliamna, Levelock, and Kobuk Alaskan Native villages, and the Pauma and Yuima Reservation in California.

Conversely, the Akutan Alaskan Native village had only 16.11% of its civilian labor force employed.

The distribution of employment was skewed to the left, with a few outlier tribes at less than 40% employment. The majority of reservations were near the mean employment rate, as shown in Figure 3.

FIGURE 3
EMPLOYMENT DISTRIBUTION



D. Educational Attainment

We used four measures of educational attainment in the AIAN Development Index: high school attainment, college attainment, advanced degrees attainment, and English proficiency. The data for the first three criteria, high school attainment, college

attainment, and advanced degree attainment, came from the AIANSF table PCT64: Sex by Educational Attainment for the population 25 years and older.

i. High School Attainment

The high school attainment criterion measures the percent of reservation adults above age 25 who completed high school or its equivalency without pursuing any further education. The summary data is presented in Table 4.

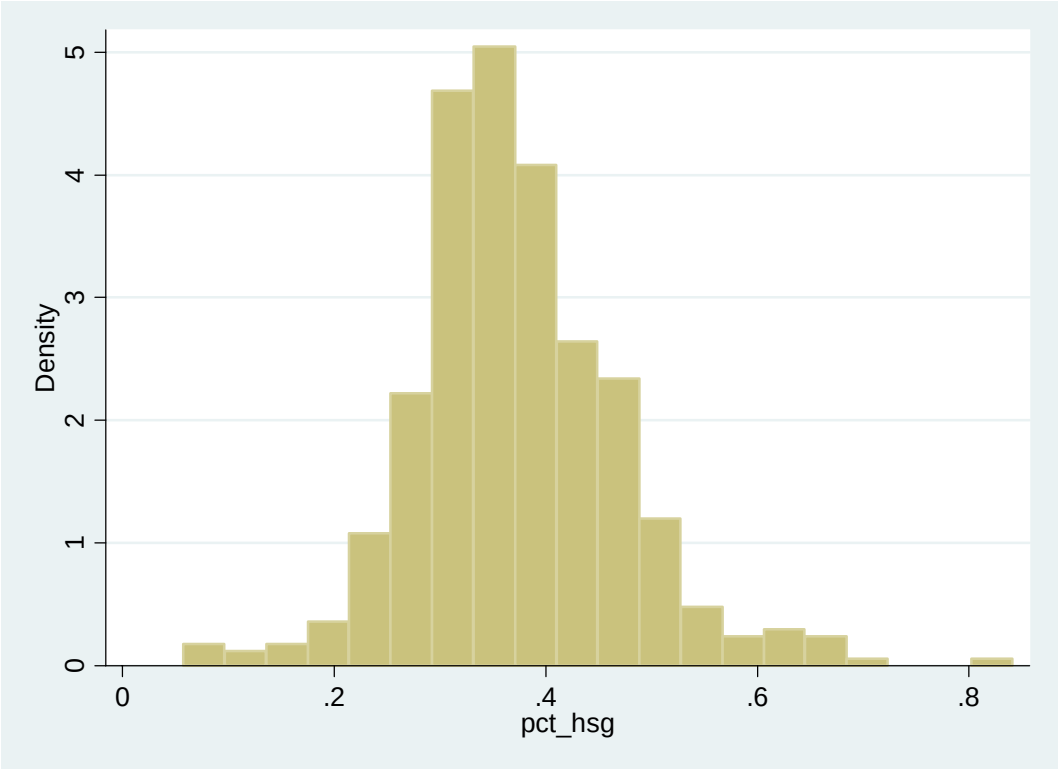
TABLE 4
HIGH SCHOOL ATTAINMENT

High School Attainment Descriptive Statistics	
Mean	37.24
Median	36.20
Standard Deviation	9.75
United States National Benchmark	28.63

Among American Indian and Alaskan Native populations, the Alaskan Native village at Pilot Point, Alaska, stands out as having the highest high school attainment at 84.13%. No other reservation or village scores above 70%.

At the other end of the spectrum, the Kickapoo Reservation in Texas has 5.74% of its reservation population above the age of 25 finish high school without completing further schooling. The Grindstone Rancheria in California and the Duckwater Reservation in Nevada have attainment rates of 7.58% and 7.89%, respectively. The distribution of high school attainment levels is shown in Figure 4.

FIGURE 4
HIGH SCHOOL ATTAINMENT DISTRIBUTION



ii. College Attainment

College attainment is the percent of reservation adults above age 25 who earned a bachelor's degree and pursued no further education. Table 5 summarizes the data.

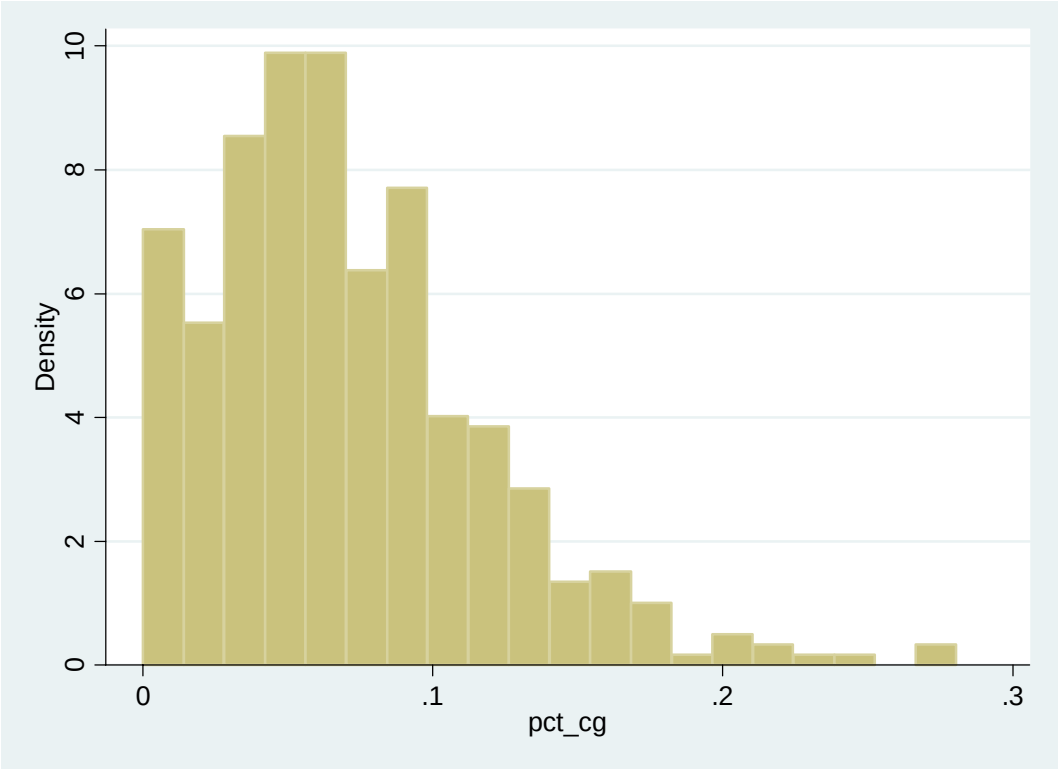
TABLE 5
COLLEGE ATTAINMENT

College Attainment Descriptive Statistics	
Mean	7.00
Median	6.28
Standard Deviation	4.79
United States National Benchmark	15.54

Two Alaskan Native populations, Eklutna and Douglass, have the highest levels of college attainment, with over 27% of their reservation adults above 25 earning bachelor's

degrees without pursuing advanced degrees. 27 tribes and villages had no members of their population earn bachelor's degrees, as shown in Figure 5.

FIGURE 5
COLLEGE ATTAINMENT DISTRIBUTION



iii. Advanced Degree Attainment

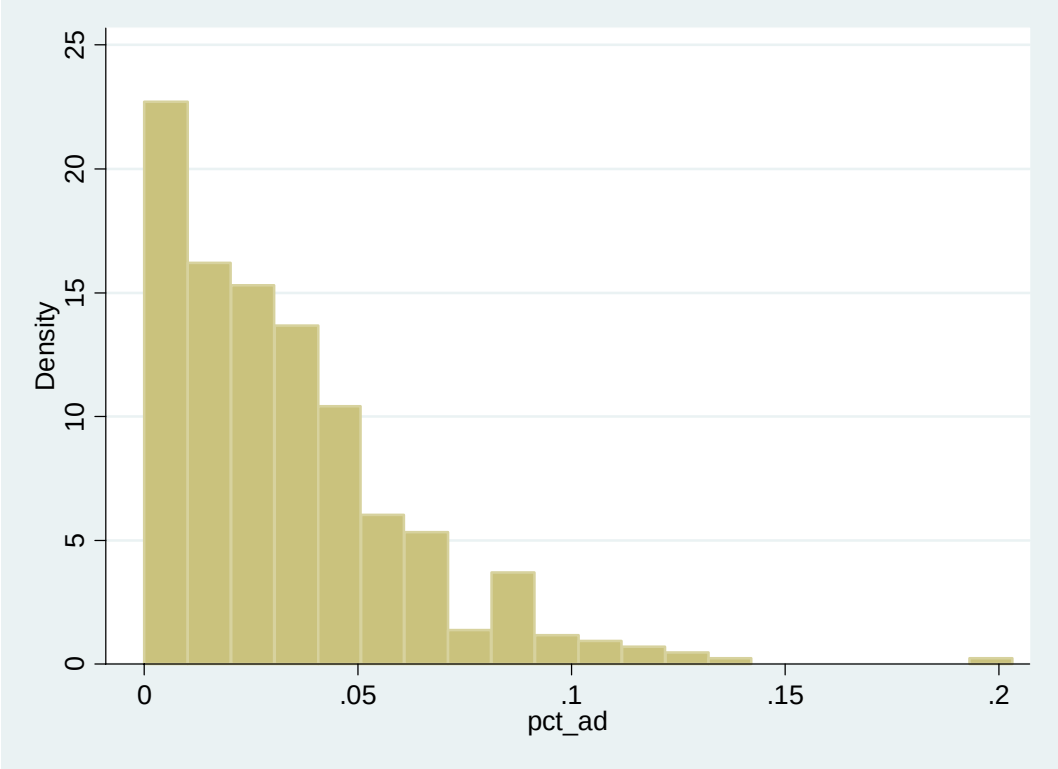
The advanced degree attainment criterion measures the percent of reservation adults above age 25 who have earned masters, professional, or doctoral degrees. Table 6 summarizes the data.

TABLE 6
ADVANCED DEGREE ATTAINMENT

Advanced Degree Attainment Descriptive Statistics	
Mean	3.23
Median	2.74
Standard Deviation	2.83
United States National Benchmark	8.86

The reservation with the highest percentage of advanced degrees is the Onondaga Reservation in New York, at 20.32%; every other tribe and village has an advanced degree attainment of less than14%. 69 tribes had no members earn advanced degrees. The distribution of advanced degrees is show in Figure 6.

FIGURE 6
ADVANCED DEGREE ATTAINMENT DISTRIBUTION



iv. English Proficiency

The English proficiency criterion measures the percent of reservation population above the age of 5 who speak only English at home, or another language at home and English "well" or "very well". Data for this indicator was obtained from AIANSF table PCT38: Age by language spoken at home by ability to speak English for the population 5 years and older and is summarized in Table 7.

TABLE 7
ENGLISH PROFICIENCY

English Proficiency Descriptive Statistics	
Mean	97.45
Median	98.94
Standard Deviation	4.38
United States National Benchmark	95.81

Unsurprisingly, 103, or almost one-quarter, of the reservations and villages had 100% English proficiency among the population five years and older in 1999. At the same time, the Torres-Martinez Reservation in California had an English proficiency rate of 46.5%, and both the Kickapoo Reservation in Texas and the Tuntutuliak Alaskan Native village scored slightly below 70%.

IV. Results

We used principal component factor analysis to create the AIAN Development Index. The main objective of principal component factor analysis is to select components that explain as much of the variance among the different dimensions as possible (Afifi). Using covariance matrices, the factor analysis technique extracts a common factor from the set of given variables (Afifi).

After the first factor has been removed, the process is then repeated. The proportion of the variance explained by each underlying component decreases each time this process is repeated. The components that explain the highest proportion of the variance are preferred; therefore, they are reported in Table 8. The numerical values within the table are referred to as the 'loadings', which indicate the relative strength of each variable in the analysis.

TABLE 8
PRINCIPAL COMPONENTS FACTOR ANALYSIS RESULTS
Development Components

	Components	
Dimension	**1**	**2**
Income	0.7731	0.1097
Poverty	0.7136	0.4029
Employment	0.6310	0.1669
High School Attainment	-0.2451	0.8064
College Attainment	0.7787	-0.2947
Advanced Degree Attainment	0.6808	-0.3193
English Proficiency	0.3417	0.4882
Percent of Variance Explained	39.31	18.28

In this paper, the purpose of principal component factor analysis is to determine the values for weighting each development indicator and provide a final score for each tribal reservation and village. We can call this index a "development" index because the conditions that we expect to see in developed countries are the variables with the highest factor loading values. According to development theory, we should expect to see developed countries have higher incomes, higher productivity, and technical capacity, among other considerations (Todaro). The indicators selected provide a rough approximation of those general categories. Therefore, reservations or villages who score the highest in these individual measures of development will also score the highest on the development index as a whole.

The negative factor on high school attainment was unexpected. The existence of an extreme outlier may be to blame. 84% of the adult population in the Alaskan Native village at Pilot Point graduate high school without continuing in their education, the highest value of high school attainment of any tribe or village in the survey. At the same time, the per capita income at Pilot Point is $12,627, less than the mean per capita income of Indian County as a whole, and the village reported no college graduates or advanced degree earners.

The actual weights for the index were given in the predicted values for component 1 and are shown in Table 9.

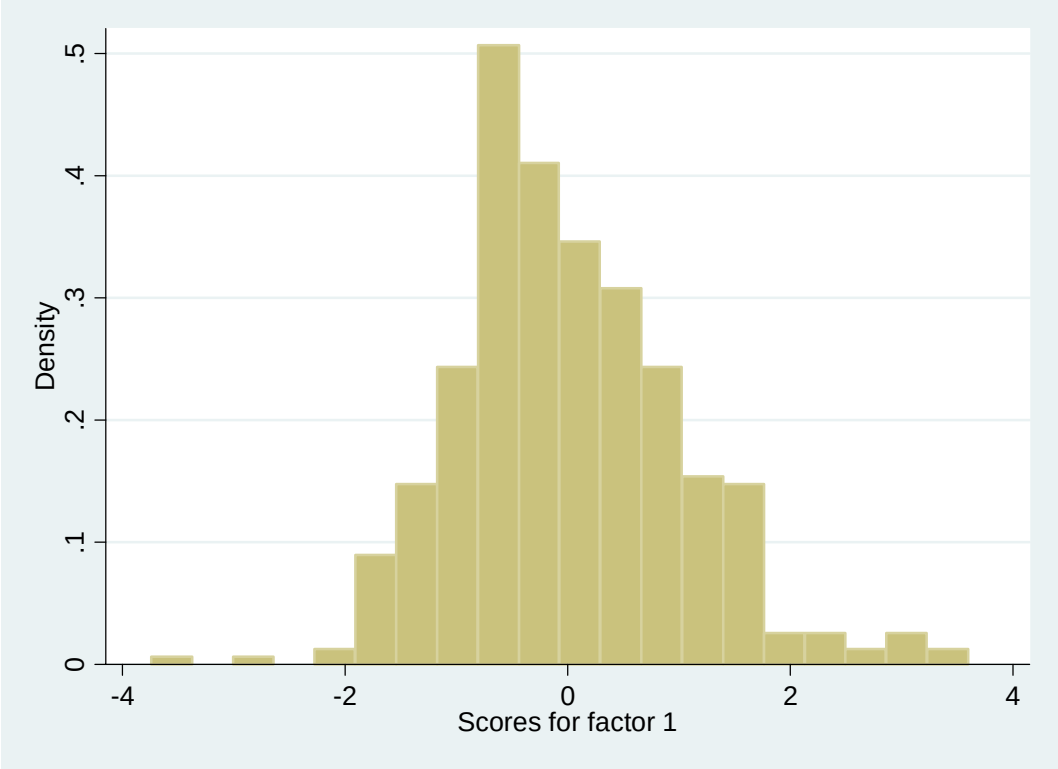
TABLE 9
FACTOR ANALYSIS PREDICTED VALUES
Development Weights

	Components	
Dimension	**1**	**2**
Income	0.2810	0.0857
Poverty	0.2594	0.3149
Employment	0.2293	0.1305

High School Attainment	-0.0891	0.6302
College Attainment	0.2830	-0.2303
Advanced Degree Attainment	0.2474	-0.2495
English Proficiency	0.1242	0.3815

Using these weights and the data collected from the U.S. Census Bureau, we could then assign each tribe a score on the index. The distribution of index scores is shown in Figure 7:

FIGURE 7
DEVELOPMENT SCORES DISTRIBUTION



The index scores were then translated into percentage terms. The summary statistics are briefly summarized in Table 10.

TABLE 10
INDEX SCORES SUMMARY

Mean Index Score	50.00
United States National Benchmark	96.93

To interpret this benchmark score, the United States as a nation would score in the 96th percentile if it were a tribe of its own in the index.

The La Jolla Reservation, with an index score of 50.00, is a good example of an average American Indian tribe. Located in Pauma Valley, California, they have a per capita income of $11,960. 84% of the tribe lives above the poverty line, and 86% is employed. 35% graduate high school without continuing their education further, 8% will earn as much as a bachelor's degree, and less than 1% will finish their education with an advanced degree. Nearly 99% are proficient in English.

However, the educational system appears better than the numbers suggest. According to Tiller's Handbook, "The county's extensive educational system includes 38 colleges and universities and five community college districts (Tillers)." Efforts are now underway to diversify the tribe's business ventures away from seasonal tourism and entertainment industries into bottled-water manufacturing and energy production. They are also in the process of creating an economic development oversight organization (Tillers). Despite currently living below the national standard of living, the La Jolla people appear to be taking advantage of ample opportunities for development.

Twelve reservations or villages scored above the United States National Benchmark. They are listed in Table 11:

TABLE 11
AIAN DEVELOPMENT INDEX SCORES

Highest Index Scores	Score
Douglass ANVSA, AK	99.98
Eklutna ANVSA, AK	99.95
Shakopee Mdewakanton Sioux Community, MN	99.93
Onondaga Reservation, NY	99.92
Samish TDSA, WA	99.90
Agua Caliente Reservation, CA	99.79
Oneida Reservation, WI	99.59
Port Madison Reservation, WA	99.40
Swinomish Reservation, WA	99.32
Iliamna ANVSA, AK	99.25
Ramapough SDAISA, NJ	98.90
Galena ANVSA, AK	98.64

The highest scoring Native American population in the country is the Douglass (Douglas) Indian Association in Juneau, Alaska. Douglass natives have the highest per capita income of any Alaskan Native village, at $29,871. 90% of the population lives above poverty, and 95% are employed. 19% graduate high school without furthering their education, but 28% will earn a bachelor's degree. This finding indicates that more Douglass high school graduates will earn a bachelor's degree than not continue onto college in the first place. 13% also earn advanced college degrees, a relatively high mark for their reservation and villages surveyed, and nearly 99% speak English proficiently.

Douglass is a tribe embedded within the city of Juneau, and members of the tribe compose nearly 16% of the city's population (Tillers). The ANVSA label stands for "Alaskan Native Village Statistical Area"; each ANVSA is a mutually-exclusive boundary drawn by the US Census Bureau for counting purposes.

Like the Douglass population, the Eklutna village is also located near a large city – Anchorage – and has a higher level of college attainment than high school attainment.

The per capita income is slightly lower at $29,375, and 94% of the population is employed. Major infrastructure projects are currently underway in the village (Tillers).

As mentioned earlier, the Shakopee people have the highest per-capita income, $84,517, of any tribe or village in the United States. The other development indicator figures are not as impressive, however. 80% live above the poverty line, and 92% are employed. 46% of the population in 1999 graduated high school, but only 3% finished college and only 2% earned an advanced degree that year.

The main source of economic growth for the Shakopee has been casino gambling (Tillers). They appear to have been one of the first tribes in Minnesota to introduce high-stakes gaming in the 1980s and have used gaming profits to invest in small businesses and public infrastructure projects (Tillers). The Shakopee are also active in banking and philanthropic activities with both Indian and non-Indian organizations (Tillers).

The Onondaga reservation in Nedrow, NY, has a relatively lower per capita income, $15,425, than the previous ones described, but they have lower levels of poverty (92% live above the poverty line) and unemployment (95% employed). In addition, their level of advanced degree attainment far exceeds any other reservation, with 20% of the adult population earning masters, professional, or doctoral degrees. The Onondaga are most noted for their insistence on self-determination and have consistently opposed both state and federal policy changes throughout the past 200 years (Tillers).

The Samish people of Anacortes, Washington, have a much higher per capita income of $27,054. They too have 92% of their population living above the poverty line and 96% employed. They have no officially recognized homeland, and their designation "TDSA", or Tribal Designated Statistical Area, is analogous to the ANVSA boundaries

drawn for Alaskan Natives. Their economy is heavily dependent on the tourism industry (Tiller).

Like the Shakopee, the Agua Caliente of Southern California also became wealthy by casino gaming. They have a per capita income of $23,059, 89% of the population lives above the poverty line, and 94% are employed. The reservation has also achieved financial success by leasing their lands to local governments and other interested parties (Tillers).

The Oneida reservation near Green Bay, Wisconsin, has gained financial stability by spreading their commercial holdings across a wide array of industries: gaming, hotel management, agriculture, and property leasing (Tillers). The tribal per capita income is $25,689, 95% of the population is above the poverty line, and 97% is employed.

The Port Madison settlement near Seattle, Washington, has a tribal per capita income of $22,691. 93% of the population is above the poverty line, and 94% is employed. The educational attainment levels are 23%, 21%, and 9%, respectively. The tribe's English proficiency level is near 99%. Port Madison relies on three general kinds of businesses for its growth: fishing, gambling, and leasing trust lands.

The Swinomish are another Seattle area tribe with a per capita income of $25,318. Only 87% of their population is above poverty, and 91% are employed, both relatively low numbers for their standing in the index. They have educational attainment levels of 22, 19, and 10 percent, respectively, with an English proficiency score of 99%. The Swinomish received an "Honoring Nations" award from the Harvard Project on American Indian Economic Development in 2000 for their land use partnership with Skagit County. The governments coordinate zoning, permits, and land use policies and

procedures. The reservation earns most of its income through its use of natural resources (fishing, farm, and timber operations), gaming, and small retail operations (Tillers).

The Ramapough reservation in New Jersey is recognized by the state, not the federal government; thus, the acronym SDAISA stands for "State Designated American Indian Statistical Area". The per capita income at Ramapough is $26,434, 95% live above the poverty level, and employment is above 96%. The educational attainment levels are 13, 18, and 5 per cent, respectively. 98% of the population speaks English proficiently.

Two rural Alaskan Native villages, the Iliamna and the Galena, round out the twelve Native American populations who scored higher than the United States National Benchmark average. The Iliamna village in Aliamna, Alaska, has a per capita income of $19,741. 97% of its people live above poverty, and 100% of its labor force is employed, one of the four 100% employment levels in Indian Country. Its economic development is based on the commercial salmon fishing and tourism industries (Tillers).

The other rural Alaska Native village, Galena, is considered to be the regional center of commercial activity in western Alaska (Tillers). The Galena people have a per capita income of $22,143. 90% of its population lives above poverty, and 91% are employed. Their educational attainment levels are 27, 21, and 8 percent, respectively. 100% of Galena's natives speak English proficiently. In 2002, Galena was awarded an "Honoring Nations" award for creating the Youkaana Development Cooperation, a non-profit organization whose purpose is to address environmental concerns and employment opportunities (Tillers).

At the opposite end of the spectrum, the lowest scoring tribe in the nation is the Kickapoo Reservation in Eagle Pass, Texas. The Kickapoo tribe has a per capita income of $3,435, and 25.6% of its population lives above the poverty line. Only 30.5% of its civilian labor force is employed, and 5.7% of Kickapoo's adults will graduate high school. Only 69% of the population speak English proficiently; the tribe likely continues to speak their native Algonquian tongue (Tillers).

During the past century, the Kickapoo seasonally migrated between the United States and Mexico (Tillers). In the spring and summer, tribal members work as farm labor across the Southwest and Midwestern states before returning to Mexico every winter for their native ceremonial season (Tillers). In 1983, the Kickapoo were formally recognized by the federal government; they purchased 125 acres of land along the Rio Grande the following year (Tillers). The tribe also operates the only legal gambling operation in Texas and was considering other business ventures in 2005, like a laundromat and smoke shop (Tillers). Like the La Jolla people, the Kickapoo appear to be discovering the means for further economic development despite their current impoverished state.

VI. Conclusion

Using the individual development indicators, we can draw several conclusions about the comparative economic status of American Indians and Alaskan Natives. On average, the per capita income of Indian Country is roughly 60% the per capita income of the United States as a whole. Almost 24% of the Native American population lives below the poverty line, compared with a national average of less than 13%. Unemployment on American Indian reservations and Alaskan Native villages is just under 16%, in sharp contrast to a national unemployment average of less than 6%.

With regard to educational attainment, Native Americans lag behind their American counterparts considerably. 37% of American Indian and Alaskan Native adults graduate high school but do not attend any college; the national average is close to 28%. Where 16% of the adults in the United States obtain a bachelor's degree without further schooling, only 7% of the native population completes their education to that level. Finally, only 3% of the American Indians in the United States earn advanced college degrees, in contrast to 9% of Americans overall. The lack of English-speaking ability is as an obstacle that only a few tribes must overcome, but it does remain an obstacle nonetheless.

However, the situation is not entirely bleak. Some tribes have grown exceedingly wealthy, to the point where twelve score higher than the national average on the AIAN Development Index. While no one explanation is sufficient to describe why all twelve become wealthy, I have identified three trends among the twelve tribes that contributed to their development: high rates of educational attainment, creative land use policies that allow for ownership and resale, and innovation and diversification of business interests.

Three of the top twelve tribes, Douglass, Eklutna, and Ramapough, have more high school graduates go on to earn a bachelor's degree than end their schooling after grade 12. Two additional tribes, Port Madison and Swinomish, has nearly as many high school graduates finish college as end their education at grade 12. This high level of educational attainment builds the store of human capital necessary for American Indian tribes to become more developed over time.

Four tribes in the top twelve, Swinomish, Agua Caliente, Oneida, and Port Madison, all earn income by the leasing of their trust lands to local governments, businesses, and other organizations. This implies preset policies of land ownership, a key ingredient to reservation economic development identified by Anderson.

Finally, the path to financial success for many American Indian tribes is paved with profits from casino gambling. But for tribes like the Shakopee, they did not succeed simply because they introduced high-stakes gaming in their state, but because they were among the first to introduce high-stakes gaming in their state. They innovated, and then they diversified their business holdings across a variety of industries. A similar narrative can be told for the Agua Caliente, the Oneida, and Port Madison reservations.

While negative stereotypes may abound for American Indians as a whole, the true picture is much more complicated. Where some tribes became very wealthy, others remained relatively quite poor. Even though one overarching principle cannot answer the question of development entirely, several trends can be identified that assisted in the development of the American Indian.

Recent news indicates that some American Indian tribes have already moved forward with economic expansions that coincide with these findings. According to the

Wall-Street Journal, the Hualapai tribe of Eagle Point, Arizona, opened a 30 plus million dollar Skyway, “a horseshoe-shaped, glass-bottom platform” that juts out 70 feet over the edge of the Grand Canyon, in March 2007 to attract tourists to its sliver of the Canyon (Yost). The Skyway is only the first part of a five phase master plan that includes a commercial airport, hotels, restaurants, and a casino gaming resort (Yost). While success in such a unique venture is never guaranteed, it is promising to see a low-income tribe (per capita income: $8,147) like the Hualapai innovating and diversifying their economic base.

VII. Further Research

I would have preferred to include three more indicators in the AIAN Development Index: health, capital investment, and government expenditures. In particular, I was interested in infant mortality data as a measure of health status, but I was unable to locate anything resembling that particular variable in the Census Bureau's American Fact Finder.

I considered using casino profits as a proxy for capital investment, given that Shakopee, Agua Caliente, and others use profits from their gaming operations to invest in public infrastructure and loans to other tribal reservations (Tillers). However, data from the National Indian Gaming Commission was made available only in the aggregate and did not include a breakdown by reservation. According to an email from NIGC, casino profits by reservation are "considered proprietary, confidential information and pursuant to 25 USC 2716, is exempt from disclosure."

Some form of government expenditures per tribe would also be useful to include in the index. The inclusion of government expenditures might change the surprising coefficient on the high school attainment factor. If government expenditures reward a high school diploma, but not further study, then those programs may be creating a disincentive to higher education.

It would be of great interest to incorporate some sort of property rights indicator into the AIAN Development Index, but I am not sure how to quantify such an abstraction. Perhaps one of the papers in the Harvard Project publication list could be of service. One of the key assumptions made by the AIAN Development Index is the importance of English proficiency to the development of Native American reservations. Further

research that confirms, rejects, or revises this key assumption is crucial in establishing the importance of specific language skills to the growth of Indian Country.

Further research into American Indian reservation economics is not only limited to variables in the AIAN Development Index. The index would also benefit greatly from a site visit to some of the tribal reservations, especially the highest and lowest performing ones, and official information or documentation from the economic development offices that some tribes and villages maintain.

In general, more work needs to be done on Indian policy in general. The implications of the index likely differ among local, state, and federal governments. To determine the effects of past Indian policies, a series of development indices could be created to span the history of the reservation and evaluate which tribes and villages have done better or worse over the years.

Finally, it would be interesting to compare the "Honoring Nations" award given by the Harvard Project with the results of the Development Index and see the relationship between the two measures of reservation achievement.

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