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Exploration of Historic Inequities in Government Funding Programs Towards Native Americans with Contemporary Analysis

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with Contemporary Analysis

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Contents

- I. Executive Summary**
 - a. Overview
 - b. Key Findings and Recommendations
- II. Intro**
 - a. Background on Native American Communities and Government Relations
 - b. Importance of Equity in Government Funding Programs
 - c. Motivation
- III. Literature Review**
 - a. Historical and Contemporary Support
 - i. Native American and Federal Government Relations
 - ii. Statistical Methods
 - b. Alternate Views
- IV. Historical Overview of Government Funding**
 - a. Overview of U.S. Government and Tribal Relations
 - b. Analysis of Past Funding Models
- V. Contemporary State and Challenges of Equitable Funding**
 - a. Contemporary State
 - b. COVID-19 Impact
 - c. Challenges Impacting Equity
- VI. Independent Data Analysis**
 - a. Methodology and Data Sources
 - b. Key Findings
- VII. Policy Implications and Recommendations**
- VIII. Data Quality Issues**
- IX. Conclusion and Future Trajectory**
- X. Works Cited**

I. Executive Summary

A. Overview

Native American communities across the United States have perennially struggled with disparities in government funding, resulting in a wide variety of socio-economic issues. Although ongoing efforts are in place to rectify these disparities there persists substantial gaps in funding allocation. Historical, socioeconomic, and institutional factors have contributed to these inequities, perpetuating a cycle of poverty and marginalization. Despite this, promising examples of successful funding models and large-scale initiatives provide valuable insights and hope for the future. The COVID-19 pandemic, although detrimental to society, introduced more resources to Native Americans than ever before due to supplemental programs. This paper analyzes the historical context, current state, and impact of government funding within Native American communities. Additionally, it highlights the results of COVID-19 and how greatly this issue has changed. Through quantitative, algorithm-centered examination and qualitative research, this work recommends a variety of solutions to properly extend equitable and impactful funding to Native American communities across the country.

A key part of better understanding this issue, and subsequently the recommendations accompanying it, is differentiating between being equal and being equitable. While the definitions are similar, the difference lies in the underlying principles associated with each. Equal means of the same measure, quantity, amount, or number as another (Merriam Webster, “Definition of EQUAL”). On the other hand, equitable refers to dealing fairly and equally with all concerned (Merriam Webster, “Definition of EQUITABLE”). Equality strives to reach sameness, while equity focuses on fairness to address any disparities amongst the people at hand. This differentiation is pivotal in funding Native American communities as they have been

marginalized and mistreated throughout most of United States history. To properly compensate for this, an equitable, rather than just equal, approach must be employed.

B. Key Findings and Recommendations

Upon detailed review, it can be concluded that despite the surge in money provided by COVID-19 supplementals, such as the American Rescue Plan Act (ARPA), government funding programs are still not operating equitably towards Native Americans. Quantitative analysis performed using multiple sources of government funding, including Economic Development Administration (EDA), Small Business Administration (SBA), and other programs, show a negative correlation associated with Native American land and population presence, meaning these individuals receive lower fund amounts. This was found using Python code that performed linear and ridge regressions, as well as a random forest importance feature (McKinney). Each of these tests presented similar results which suggest a lack of equity in the funding. Through examination of reports, such as the *Broken Promises Report* from the U.S. Commission on Civil Rights, case studies, such as that of the Mountain Plains Coalition, government databases, like the Federal Reserve Bank of Minneapolis' Center for Indian Country Development (CICD), and more, it can be firmly stated that equity is lacking in government funding programs. However, there are instances of programs and initiatives that do provide strong levels of equitable financing, which can help shape policy for the future.

It is recommended that the United States' federal government become more proactive with respect to this issue, making it a higher priority. While institutions such as the Bureau of Indian Affairs (BIA) and the Indian Health Service (IHS) offer programs directly tailored to Indigenous communities, there is a lack of reach in broader economic initiatives. By using entities such as Community Development Financial Institutions (CDFIs) that target Native

American communities, more equitable funding can be employed. Additionally, Native American specific programs are underfunded compared to their non-Native American counterparts. The representation of Native Americans in government agencies must also increase to provide proper financing. With a more nuanced focus on these groups, paired with existing initiatives, equity can be reached.

II. Introduction

A. Background on Native American Communities and Government Relations

Looking at the expansive terrain that is United States' history, Native American communities have played an invaluable role and left a lasting impact on the nation. Before European settlers came to this land, indigenous peoples inhabited the country, creating rich cultures, traditions, and systems of governance that have endured the test of time in one way or another. Differences from European culture opened a path for relationships to be built centered around trade, diplomacy, and communal living. Despite this, Native Americans have long-faced oppression, marginalization, and dispossession at the hands of colonial forces and ensuing government actions.

Although Native Americans had inhabited this land for a length of time unknown, when European settlers reached America, the 15th, and each ensuing, century drastically altered the landscape for Native American communities. Through waves of colonization, Native Americans fell victim to widespread displacement, disease, and violence that greatly lessened the population and disrupted long-standing traditions. Early attempts at treaties and negotiations between indigenous peoples and European governments often resulted in more detriment to the communities, taking away land and more.

These issues persisted following the formal creation of the United States and its accompanying government. In the early years of the nation, the agenda was focused on expansion, especially with respect to the economy, religious beliefs, and overall power. This created a hostile relationship between the new American people and the Natives as they were viewed as outsiders. The indigenous way of life was looked down upon and seen as primitive, which led to war, discrimination, and the creation of numerous assimilation policies. These policies, such as the Dawes Act, which broke up Native owned land and sold it to non-native settlers, and Indian Boarding schools, which forcibly took indigenous children from their homes and placed them in schools, caused a great deal of harm (National Archives; Levitt et al.). Native Americans still feel the repercussions from these, and other, long-lasting actions.

B. Importance of Equity in Government Funding

Equity is a pivotal factor when instituting government funding programs as it ensures fairness, promotes social cohesion, and maximizes economic potential. The purpose of many government funding initiatives is to better the state of the country, but this goal cannot be achieved without proper implementation and planning. Instituting equity in the allocation of funds ensures that inequalities can be corrected, enabling groups that have been marginalized or looked over to receive the stimulus needed to grow. While the contemporary state of the United States embodies inclusivity and impartiality, this has not always been the case. Throughout its life, the United States has seen various communities face discrimination, neglect, and misdoing due to their differences. To rectify this, policy implementation must focus on assistance through an equitable framework. By extending extra resources to groups in need, the nation can sustainably grow and foster a healthy environment for all.

Within the context of funding for Native American communities, implementing and ensuring equity is the most crucial factor that must be considered. Historical injustices and systemic disparities have deeply impacted Native American tribes and individuals, creating socioeconomic challenges, limited resources, and inadequate infrastructure. These people have faced countless hurdles, including erosion of culture, lack of educational opportunities, and inadequate healthcare services. Implementing an equitable framing in funding methods ensures that tribes across the country are getting the resources they need as they all differ in levels of development. Additionally, it necessitates valuable engagement with tribal leaders and community members to ensure decisions are aligning with the priorities, values, and goals of these people. These attempts at equitable funding cannot just be for the current day, but also long-term investments that foster sustainability and resilience. Through investing equitably in Native American communities, the federal government not only has an opportunity to amend historical wrongdoings, but also an opportunity to invest in the nation's future.

C. Motivation

Throughout my college and high school careers I have had a consistent interest in Native American culture, history, and advocacy issues. I've explored a variety of projects and assignments centered on this issue, all of which have taught me unique things and captivated my interest. Additionally, the Biden Administration has made Native American matters, especially with regards to government funding, a high priority. Building on that, I spent the semester working with the Economic Development Administration (EDA), which is a sub-agency of the Department of Commerce. At EDA, Native American financing has been a high priority within recent years as a result of needed assistance and the emphasis from President Biden. This provided me with a plethora of interaction within the landscape, as well as countless resources

that enabled me to perform my data analysis. My team, the Revolving Loan Fund program, has had struggles with data quality and drawing conclusions because of this, so the opportunity for me to dive headfirst into this project was there.

III. Literature Review

To properly understand the intricate relationship that exists between Native Americans and the federal government, the entire history of the United States needed to be examined. This issue is one that dates to the arrival of European settlers and has only grown in complexity. A variety of books, journals, and articles were explored to gain a historical context, while a contemporary view relied more heavily on reports, think tanks, and case studies. Additionally, this section analyzes alternate views that contradict the findings of this analysis.

A. Historical and Contemporary Support

i. Native American and Federal Government Relations

The relationship between Native Americans and the U.S. Federal Government has been a tumultuous one since the inception of this nation, characterized by tension and power imbalances. Marren Sanders, an attorney with extensive research into this subject, published the work *De Recti De Jure, or De Facto: Another Look at the History of U.S./Tribal Relations*, which provides valuable insight and analysis into the historical mistreatment of Native Americans. Sanders uses works of Joseph Kalt and Joseph William Singer, two other law professionals with much history handling this matter, discussing the scheme of tribal sovereignty. As discussed in this, the relationship between the United States and Native nations has typically been classified by eras outlined by specific policies, in which “each federal policy had profound consequences for tribes... to manage their lands and resources (Sanders).” Sanders notes that at

the beginning of the 17th century, Native Americans were able to freely control their existence and way of life, but that was quickly taken away from them with the arrival of European settlers in the 1800s. The early view of Natives was a poor one as they were considered “savage” and “primitive.” This skewed resource allocation as it was believed “tribes had inferior rights to land (Sanders).” Additionally, Europeans would only attempt to create positive relationships when they were in need and would routinely create unjust treaties or break their word. These misdoings continued for countless years creating a society that not only did not support Native Americans, but actively fought against them.

Vine Deloria’s *American Indian Policy in the 20th Century* furthers the beliefs presented by Sanders, examining more economic centered issues surrounding Native American and government relations. One of the first points Deloria makes is the fact that the complexity of this issue compared to the size of attention it receives is practically inversely related. Despite spanning beyond the creation of the United States, Native American equality on all fronts has been neglected heavily by non-Natives. Deloria also notes that “the preoccupation of legality does not treat law and morality as synonymous,” which he believes is the root of many legal issues relating to this matter. Although law is intended to differentiate between right and wrong, bias and prejudice can sway decisions in the wrong way. Further on in the work, Deloria explores economic development initiatives used in Native American communities, and the findings proved to be rather disappointing. During the 1960s, fueled by progressive ideas and the Civil Rights movement, there was substantial government funding efforts employed to assist Native Americans. One such instance was through an industrial promotion package on reservation land that attempted to bring in factories to stimulate job and revenue growth. While the intention was there, the planning was subpar as limited Native Americans were hired by incoming companies,

minimal return on investment occurred, and garnering interest was a struggle due to much of the applicable land being remote. An analysis into the Pine Ridge Reservation found that 31 of 48 families saw their income stay below a \$3,000 poverty level despite a manufacturing firm entering the area. Another instance can be seen through the Bureau of Indian Affairs' (BIA) Revolving Loan Fund (RLF) during 1970, which requested \$25.3 million, already below anticipated need, and was only provided \$3.3 million (Deloria). Inadequate planning, biased views, and a lack of plan amendments to tailor programs is what Deloria attributes much of these failures to. While this highlights just one period of this issue, the key themes are ones that have been persistent throughout time.

American Indian Policy in the Formative Years: The Indian Trade and Intercourse Acts, 1790-1834, a book written by Francis Paul Prucha, adds to this argument of unfair resource provision while extending a more moderate view on the issue. In this book, Prucha explores more of the legal avenue related to this issue, discussing the institution of “agents” in Indian land to oversee and attempt assimilation, the lack of enforcement of laws and treaties, and the consistent pressures to reduce expenditures related to Native American matters. Prucha also notes that “crimes against the Indians... were so numerous and widespread that their control by judicial means proved impossible (Prucha).” Between legal and federal issues and societal mistreatment, Native Americans have battled many barriers throughout history.

The Broken Promises Report, produced by the U.S. Commission on Civil Rights, proved to be one of the most important works reviewed in this analysis as it gave a contemporary view on this matter with a variety of potential policy avenues. Intended to be an update on a brief produced in 2003, the report found that, “the U.S. government’s conduct and its failure to adhere to its promises pursuant to its treaties it signed have severely curtailed the social and economic

development of Native Americans (U.S. Commission on Civil Rights).” The report notes that Native American programs are chronically underfunded and inefficiently structured, seeing minimal change in resource provision from 2003 to 2018. Policy recommendations intended to rectify this issue ranged from simple requests for increased funding to better data quality intended to create more impactful programs.

The National Congress of American Indians (NCAI) and Economic Policy Institute (EPI) also provided contemporary items relating to the importance of tribal sovereignty and self-determination in the landscape of equitable funding and economic development. In the NCAI’s report, *Empowering Tribal Workforce Development: Indian Country’s Policy Recommendations for the Federal Government*, they found that tribal self-determination and self-governance have been the only policy avenues that have ever worked in improving Native American lives. It is advised that the one-size-fits-all approach that most government agencies employ should be discarded as tribes are highly unique and need circumstances that reflect that (National Congress of American Indians). Patrice Kunesh presents *The Power of Self-Determination in Building Sustainable Economies in Indian Country*, which dives into some of the biggest economic shocks faced by Native Americans and how self-determination has allowed for them to persevere. This article presents the belief that outside of the Indian Gaming Regulatory Act, which allows for the creation and operation of casinos on tribal land, there has been minimal done to extend financial equity to Native Americans (Kunesh). Ultimately, these sources provide a strong background on the financial shortcomings of the federal government and how changes can be made to better serve Native communities.

ii. Statistical Methods

Based on prior data exploration endeavors, the analysis for this project began with a linear regression constructed using the Python coding language. A linear regression is “a very straightforward approach for predicting a quantitative response Y on the basis of a single predictor variables X. It assumes that there is approximately a linear relationship between X and Y (James et al.)” The equation, at its most simple level, can often be found in the form:

$$Y = B_0 + B_1X.$$

B_0 indicates the intercept of the model and B_1 indicates the slope. The intercept is the difference between the mean of the dependent variable and the product of the slope and the mean of the independent variables. Each independent variable receives a coefficient, positive or negative, that dictates how the dependent variable is impacted by a one unit increase in the independent variable. By using already collected data, linear regressions can be estimated to explain the relationship between a variety of dependent and independent variables.

Following the implementation of a linear regression, the textbooks *Python for Data Analysis* and *An Introduction to Statistical Learning with Applications in Python* were explored to find additional models and tools. Upon further review, these texts provided the groundwork of ridge regression and random forest models, as well as a scaling tool. Python offers a variety of highly quantitative and statistical tools, which was made even more apparent by these resources.

The ridge regression is similar to a linear regression but implements regularization to help limit the impact of heavily correlated variables, often referred to as shrinking. Using additional coefficients and the parameter lambda, which stands as a penalty term indicating how much shrinkage is being performed, a ridge regression can merge all variable coefficients closer

together (James et al.). In this instance, multiple lambdas were able to be tested in one run of the code and the most fitting one was returned. The rule of coefficients is the same as discussed in a linear regression. By doing this, a better understanding of the relationship between independent variables, such as Estimated Native American Population, and the dependent variable, government funding, was able to be seen.

Additionally, a random forest model was implemented to assess the importance of the variables being explored. By using various decision trees, which is a flowchart-like structure where an internal node represents a feature, in this case a dependent variable, the branch represents a decision rule, and each leaf node represents the outcome, this model can predict the outcome of data. A random forest creates a multitude of decision trees that have each been trained on their own random subset, and then independently has them predict the output. Based on these tests the final prediction is determined by averaging out the results and each feature is assigned an importance level. The importance level does not operate on a set scale, but a larger number indicates the variable has greater explanatory power.

Lastly, a scaling tool was added to regularize the data and limit the impact of outliers and variable range discrepancies. Although the ridge regression implemented regularization, the linear regression and random forest models had none. Due to the high presence of correlated variables and differences in how variables were presented, such as some being population measures while others were percentages, this tool would be able to prevent some noise that was previously present. In this specific instance the tool shifted all variables to have a mean of 0 and a standard deviation of 1.

To understand the importance of use of these models, especially the linear regression, understanding what results are produced is needed. A linear and ridge regression produces

coefficients for each independent variable that indicate how it impacts the dependent variable. For instance, if total population has a coefficient of 10 and the dependent variable is government funding, then if population increases by one then funding increases by 10. Inversely, if total population had a coefficient of -10 then government funding would decrease by 10 following a one-unit increase. Linear regression also produces statistical values that indicate the explanatory power of the model. P-values are a measure that represents the probability of obtaining test results at least as extreme as the observed result, assuming the null hypothesis is true. In this case, the null hypothesis is that Native Americans do not impact government funding. A p-value closer to zero is better. T-statistics are ratios that compare the difference between the sample mean and the population mean to the variability of the sample. A larger t-statistic is better. P-values and t-statistics are produced for each independent variable and indicate whether or not the item is explanatory. R^2 is a statistical measure that represents the proportion of variance in the dependent variable that is predictable from the independent variable. As R^2 increases the model is becoming more accurate and explanatory. R^2 is produced for the entire linear regression model and not for individual variables.

B. Alternate Views

When analyzing such an intricate issue it is important to note the opposing views that accompany the matter. While alternate views may be few, one consistency that was seen revolves around the role of tribal sovereignty. For Native Americans, tribal sovereignty is a key piece of their identity. Being able to preserve culture and tradition while operating under their own jurisdiction has been the focal point for many conflicts amongst Native Americans and non-Natives. This has resulted in the belief that if Native Americans want to retain tribal sovereignty, then they should not receive aid from the federal government, especially not more than what is

already being extended. Evidenced in the *Broken Promises Report*, tribal sovereignty has been one of the largest barriers to accessing government and other funding. Whether the intent was to limit Native American access or rather it be a result of the nuanced laws surrounding tribal governments, there are often issues found in the terms and conditions of financing programs that prevent Native access (Gregg). While the rationale for these actions and beliefs may be understandable, it is not possible to have a strong, prosperous nation if groups of people are to be left out. Factor in the history of marginalization that Native Americans have faced, and this belief can quickly be dismissed. In no way would it be acceptable to not extend additional resources to Native Americans.

IV. Historical Overview of Government Funding

A. Overview of U.S. Government and Tribal Relations

Government funding programs and initiatives have been crucial to the development of Native American communities but have also been the source of contention and exacerbated persistent issues. When analyzing these funding mechanisms and policies, a complex relationship of laws, institutional frameworks, and opinions arises. These issues have often led to the failure of adequately implementing initiatives and addressing the diverse needs of Native American peoples. In addition to funding programs, there has also been a plethora of issues in other government actions and agencies that further the detriment provided by inadequate funding.

During the early colonial period, both European and, later, United States government figures relied on the use of treaties and agreements to foster relationships with indigenous people. These agreements typically involved provision of goods and services to Native communities in exchange for land, alliance, and peace. However, these treaties often fell short of

what was promised and resulted in the mistreatment of indigenous peoples for the gain of the federal government (Deloria). Some notable early treaties, such as the Treaty of Fort Stanwix and the Treaty of Fort Wayne, saw food and other resources being exchanged for large sums of land (National Park Service | National Library of Medicine). Whether this was intentional or due to misunderstandings is unsure, but it stands as some of the earliest examples of resource provision to Native Americans. In a similar fashion to funding programs of the modern, these negotiations were not upheld, showing a theme that is more than worth noting. Additionally, as time passed and the United States began to renegotiate treaties, they were changed unilaterally, the shipment of goods and annuities was discontinued, and promises of the undisturbed use and occupation of Indians of reserved lands were broken (Sanders).” Having a lengthened period in which it was acceptable to turn back on treaties or make them unfair to start sets the tone for the trajectory taken by the United States government moving forward.

Following what is often referred to as the Treaty Era, the United States focused on assimilation, termination, and relocation, employing a variety of policies and funding sources intended to change Native American life. The passage of the Indian Trade and Intercourse Act in 1790 and the subsequent amendments during the 19th century inspired these views, as this piece of legislation intended to regulate trade between Native Americans and colonists. By allowing trade between the two groups, the federal government hoped that Native Americans would begin to adopt colonist culture and assimilate (Berger). This regulation was far from fair and often favored colonists, especially during any disputes. This act also established a clear land barrier between Native Americans and non-Natives (Peters et al.). During the eras of termination and relocation, the U.S. government provided various forms of funding which incentivized Native Americans to leave reservations and move to urban societies (ASPE Office of Health Policy).

While the funding was relatively successful in relocating these people, it did not provide much assistance after that. Economic marginalization occurred regularly around this time as many Native Americans did not have the skills nor education necessary to thrive in the economy. Discrimination towards indigenous peoples was also extremely prevalent, providing a barrier for entry in many work areas. Receiving proper healthcare was also an issue during this time as the Indian Health Service saw significantly less funding than other medical counterparts (ASPE Office of Health Policy). Another large program intended to support Native Americans while also eradicating their culture was through Indian boarding schools (Levitt et al.). Overseen by the BIA and often led by various Christian denominations, these schools forcibly took countless Native American children from their homes in hopes of having them adapt to the new American society (The Red Road, “The Red Road: The Issue of Native American Education System Failure”). Regardless of whether the actions were right in themselves, the allocation of funding was not adequate to properly maintain this program. Lack of finances led to overcrowded and under-resourced facilities. Emphasis on vocational training, rather than academic learning, damaged Native American communities, perpetuating cycles of poverty and economic marginalization (The Red Road, “The Red Road: The Issue of Native American Education System Failure”). Although funding was provided for Native American communities, the implementation and equity of them was lacking. Rather than properly assimilating these people, they were left in an even worse position than before, and without a well-known cultural support system around them.

During the mid to late 20th century, due heavily in part to the Civil Rights Era, government actions and funding programs targeted towards Native American communities saw an increase in size and importance. Actions of various activist groups, such as the Red Power

Movement and their sit-in on Alcatraz Island, garnered a lot of needed attention for Native American equality (Blakemore). The implementation of the Indian Self-Determination and Education Assistance Act in 1975 was a major, positive impact as it allowed for tribes to enter contracts and agreements with federal agencies to properly manage programs and services administered by the federal government (University of Alaska – Fairbanks). Funding following this piece of legislation has typically come in the form of grants and is then employed by tribal leaders. The effectiveness of these programs has varied greatly amongst tribes due to geography, access to resources, proximity to other communities, and level of advancement of the tribes. Regardless, changes around this time greatly altered the landscape of funding in Native American communities for the better.

B. Analysis of Past Funding Models

While past government funding efforts have not been as successful or equitable as possible, there are still instances where information can be taken and used for the future. The support of tribal self-governance, evidenced with amendments to the Indian Self-Determination and Education Assistance Acts (ISDEA), has allowed for Native American communities to allocate government funds and oversee programs rather than having to go through the BIA or IHS (University of Alaska - Fairbanks). When working with underprivileged communities it is extremely important to have proper representation, so allowing tribal leaders to control programs bolsters their effectiveness (Native Nations Institute for Leadership, Management, and Policy). Instituting tribal gaming has also benefitted Native American economies and was introduced in 1988. The Indian Gaming Regulatory Act opened the door for tribes to operate casinos on their reservations, some of which have flourished greatly (National Indian Gaming Commission). Another successful instance can be witnessed in the Land Buyback Program, which was a result

of the class-action suit of *Cobell v. Salazar* (U.S. Department of the Interior, “Land Buy-Back Program for Tribal Nations | U.S. Department of the Interior”). The lawsuit provided nearly \$2 billion to be used for the purchase of fractionated land, land that is owned by multiple people with no clear boundaries (U.S. Department of the Interior, “What Is Fractionation? | Indian Affairs”). This funding allowed Native American tribes to reclaim large amounts of land that had been previously unjustly taken from them. It is important to note with all these instances that there are still issues present. The amendments to ISDEA lacked guidance for a population that is less than properly educated on economic development, the tribal gaming efforts are heavily dependent on the location of tribes and does not offer much assistance to individuals not affiliated with a tribe, and the efforts of the Land Buyback Program was only able to accomplish so much land recovery, especially in comparison to what has been taken. These initiatives did stimulate economic growth for Native American communities, which indicates that with more regulation and/or size of funding similar attempts could be beneficial to achieving equity.

V. Contemporary State and Challenges of Equitable Funding

A. Contemporary State

In the modern day, government funding of Native American communities and people has increased in amount and effectiveness. However, the question still stands regarding whether the funding is equitable. Based upon a purely factual analysis looking at policy, funding strategies, firsthand accounts, and more, it can be concluded that there is a lack of equity. There are a variety of government funding sources, ranging from bureaucratic agencies to large-scale grants, each of which presents clear disparities when compared to non-Native American counterparts.

With respect to bureaucratic agencies in the current day, such as the BIA and Indian Health Service (IHS), there is a lack of proper per capita funding for Native Americans compared to non-Native American agencies. In an interview presented by OPB, Dave Miller, host of the segment Think Out Loud, conversed with Melanie Henshaw, an Indigenous Affairs reporter for Street Roots, where the focus was the amount of funding provided to IHS (DiCarlo). In the interview, Henshaw discusses the stark differences in per capita funding of IHS compared to Medicare, which has about three times the per capita funding, as well as with VHA, Medicaid, and federal prisoner health expenses, which have more than double the per-capita funding (DiCarlo). Additionally, this article linked a federal report presented by the U.S. Department of Health and Human Services, which noted the 2022 budget of IHS was able to fund less than half of what patients needed (ASPE Office of Health Policy). When analyzed by the Tribal Budget Formulation Work Group, “a group of Native health experts that provides guidance to the federal government,” it was determined that even the 50% estimate was low, as they recommended a nearly 700% increase in budget is needed (DiCarlo). Regardless of if the 700% estimation is extreme, there is a clear lack of funding compared to what is needed. Equity is unable to be achieved when the funding needs of an already disadvantaged group does not have access to the resources necessary, and, when the discrepancy is this large, furthers the existing issues.

When examining education and housing programs, this trend continues. Based on a 2015 report from the U.S. Government Accountability Office (GAO) analyzing education in Native American communities, a variety of funding-relating issues were discovered. Based on data from the BIA, around 40% of its regional facility positions, such as architects and engineers, were vacant (U.S. GAO, INDIAN AFFAIRS Further Actions on GAO Recommendations Needed to Address Systemic Management Challenges with Indian Education GAO-15-539T United States

Government Accountability Office). These roles are crucial in interaction with the Bureau of Indian Education (BIE) and having them empty creates an inability to improve schools. GOA also found that BIE had understaffing issues in positions relating to school spending. These staffing issues detrimentally impact the ability for Native American students to properly educated, which ultimately inhibits them from making decisions and careers that would allow for them to overcome the generational marginalization they have experienced. Additionally, another GAO report from 2014 investigated the housing industry for Native Americans and again found a variety of funding-related issues (U.S. GAO, “Native American Housing: Additional Actions Needed to Better Support Tribal Efforts | U.S. GAO”). One major hindrance to building effective housing projects is the remoteness of Indigenous tribes and reservations. Due to the distance from developed societies, there was often a need to bring in resources by helicopter, which was not accounted for when allocating funding for development projects (U.S. GAO, “Native American Housing: Additional Actions Needed to Better Support Tribal Efforts | U.S. GAO”). Costs were found to increase, and projects see delays, when funding was mixed between different federal agencies due to different requirements. The purchasing of homes on trust land must be approved by the BIA, which is often a long and tedious process that leads buyers to increasing interest rates and construction costs (Maher). Additionally, the length of this process discourages lenders, such as banks, from being active on tribal land (Maher). Increasing housing costs and the ease of projects to be enacted further exacerbates issues that have face Native American communities for long periods of time.

In addition to these issues of inadequate planning and funding, there are also major issues present in the ease of access and ability for programs to be used in tandem with each other. Navigating the terms and conditions of loans and grants can be a difficult endeavor for tribal

governments as these entities are much different than a state or county government. This can result in legal language barriers that may prevent tribes from accessing funds. One instance occurred in the initial launch of a recent EDA program. Although the barrier was unintentional and was rectified once the issue was found, this occurrence is not atypical.

Despite these shortcomings, there has been great progress with respect to this matter in the office of the president. The Biden Administration has made Native American financing and programs a high priority, evidence by the revisitation and creation of executive orders. Executive Order 13175 was first introduced by then President Bill Clinton in 2000 to improve tribal consultation in existing and future federal programs. President Biden revisited said order to update tribe interaction policies and stress the need for proper engagement (The White House, “Memorandum on Tribal Consultation and Strengthening Nation-To-Nation Relationships”). In it, he also acknowledges the presence of economic, climate, and racial issues in these communities that cause great detriment. Additionally, President Biden signed in multiple Native American centered orders, such as 14112, which increased funding levels and reformed the stream of communication in government programs. In said order, President Biden discusses the need for the federal government to, “better embrace our trust responsibilities and promote the next era of tribal self-determination (The White House, “FACT SHEET: President Biden Signs Historic Executive Order to Usher in the next Era of Tribal Self-Determination”).” Seeing the government focus on tribal self-determination provides great optimism for the future as it has been clear that emphasizing this has led to the greatest success.

President Biden also appointed Deb Haaland as Secretary of the Interior, making her the first Native American to serve as a cabinet secretary. This appointment was groundbreaking as it has been clear that firsthand experience is crucial to implementing effective programs in Native

American communities. The Department of the Interior directly oversees the Bureau of Indian Affairs, enabling Haaland to interact with these programs easily. Haaland herself has understood what it is like to struggle and rely on government programs as she spent part of her life as a single mother relying on food stamps (U.S. Department of the Interior, “Secretary Deb Haaland”). In addition to these struggles, she has a plethora of work in the political sector, such as working in Congress, making her an ideal individual to have in this position. Haaland has been able to achieve many triumphs in Native American communities and has set a strong tone for the future with actions such as an investigation into Indian Boarding Schools (Heller). With a presidential election incoming, it will be interesting to see what the state of this department may be a year from now. Hopefully it will continue the work done under this administration even if Haaland is no longer present.

Another area that has seen great strides in recent years is the data provided for and about Native Americans through publicly available databases. One such source is the Center for Indian Country Development (CICD) produced by the Minneapolis Fed starting in 2015. The CICD began by focusing on early childhood development, housing, and education as they were originally believed to be the most important areas of assistance (Minneapolis FED). As time went on and research exposed other areas of need, as well as the economic detriment of COVID-19, the program began focusing on addressing persistent economic data gaps in Native American communities. Today, the website has a variety of data, ranging from community profiles to available funding information, reports and other research, and much more, making it the most comprehensive database available (Minneapolis FED). Another extremely beneficial tool, more catered to assisting Native Americans, is the Access to Capital Clearinghouse website presented by the BIA. A result of Executive Order 14112 and launched in 2023, this website offers a one-

stop-shop for tribes to reference available federal funding programs (Bureau of Indian Affairs). Increasing the number of tools and initiatives similar to these is extremely important as it bridges a variety of data gaps surrounding Native Americans and federal funding.

B. Impact of COVID-19

While the COVID-19 pandemic was a tragic event that sees its detrimental effects still doing damage today, the supplemental funding programs it extended have introduced more money than ever before to Native American communities. Supplemental programs, such as the American Rescue Plan (ARPA) or Coronavirus Aid, Relief, and Economic Security (CARES) Acts, were implemented to stimulate economic activity and growth following the stagnation of COVID-19. These programs paired with the agenda of the Biden Administration resulted in mass amounts of funding provided to Native Americans across the country. Executive Order 14112 of 2023 highlights this commitment as well as some of the investments that were made, such as \$32 billion provided by ARPA which is “the largest direct federal investment in Tribal Nations in history (The White House, “FACT SHEET: President Biden Signs Historic Executive Order to Usher in the next Era of Tribal Self-Determination”).” While the funding amounts were better than ever, measuring the impact of them is hard considering how recent the programs were implemented. Resources documenting and analyzing this are currently ongoing or just being started.

One report that did analyze this relationship is *Understanding Tribal Nations Experiences Accessing Federal Grants* by the U.S. Department of Agriculture (USDA). Through data analysis and consultation of various tribal governments and members, the report was able to gauge the sentiments surrounding COVID supplemental programs. As evidenced by other reports discussing this matter, “several Tribal members shared the sentiment that “this is a once-in-a-

lifetime amount of money” (U.S. Department of Agriculture).” However, the amount of funding seems to be the only positive when analyzing the grant and loan application process. It was found that only the wealthiest tribes, those that tend to already have an established, thriving economy, were the ones able to achieve grant success. These tribes not only have the workforce capacity to devote time to grant research, but they also have the funds available to hire grant writers and other outside support. While a Discovery Sprint, a customer experience “research method to capture high-level priority customer pain points”, was conducted to receive feedback from tribes and communities, the scope was lacking, leaving out quantitative research, data analysis, and more (U.S. Department of Agriculture). The implementation of many COVID supplementals was not performed in the best way to support Native Americans. Additionally, the feedback process for these grants was not adequate either as it left a variety of holes in what was collected. The article notes that “the Federal government must increase its collective understanding of the burdens and barriers to access for Tribal Nations,” which aligns with consistent, historical findings (U.S. Department of Agriculture). Only so much can be accomplished with such apparent and repeated shortcomings.

To better gauge the impact of these investments non-quantitative research was needed. With reporting lacking, first-hand consultation was the next step. Carolee Wenderoth is the Tribal Engagement Coordinator at EDA and was able to provide valuable insight into the current state of government funding. She noted that the increased level of funding was extremely beneficial to tribes and communities. These funds bridged the gap that had been created by underfunded programs and enabled Native Americans to accomplish projects that they otherwise wouldn’t have been able to. Rather than postponing plans that would originally have been left until necessities had been covered, tribes were able to focus on infrastructure and other development

that required high financing. Despite these benefits, it should be noted that the large increase in funding also created a variety of issues in these communities. One of the biggest struggles for Native Americans is workforce capacity and development. Many tribes are understaffed or improperly staffed, which makes the execution of government programs rather difficult. For large tribes that do not struggle with this, the funding did mainly good. However, for the tribes that do not have that luxury, they were often left in the dark. Government programs are not often tailored to Native American tribes making it a struggle to properly apply and find them.

Additionally, there was a focus on getting money out as fast as possible for these agencies which left little to no technical assistance available. With much of these funds being disbursed by now, many tribes are left in a state of confusion without the proper workforce or assistance tools to continue to move forward. While there are negatives, there are a lot of positives that can be taken from the implementation of COVID-19 supplementals. With the addition of better guidance and easier rules and restrictions there is a strong foundation here for future policy trajectory.

C. Challenges Impacting Equity

In Native American businesses and their development, many barriers can be found, such as access to capital, revenue generation, and technical assistance. Access to traditional sources of capital, like bank loans, has been a consistent issue for Native American business owners due to insufficient credit history, lack of collateral, and geographic isolation (LaPlante and Wheeler).

When this occurs, it is the government's responsibility to provide programs to bridge this gap, but in Native American communities these programs tend to fall short. When applying for government loans and grants there is often a complex set of eligibility criteria and nuanced language to accompany it. Due to the lack of education present in indigenous communities, these factors deter many business owners from accessing capital intended for them. Additionally, many

government funding programs have limited to no technical guidance once funds are dispersed. For many Native American business owners grants such as these are the first they have encountered, indicating they may need extra help when getting started. Regardless of how much funding is offered to Native American communities, and whether it is equitable or not, there are going to be issues if knowledge or guidance to have these funds properly used is lacking. Inadequate management and allocation further the lack of equity present in these government funding programs.

VI. Independent Data Analysis

Utilizing the Python coding language in the Jupyter Notebook platform, an analysis of EDA RLF, SBA 504 and Paycheck Protection Program (PPP), and CDFI Rapid Relief Program (RRP) funding was able to be performed. The code analyzed three separate data sets by using a linear regression, ridge regression, and random forest models to calculate the relationship between the aforementioned funds and Native American population size and Native American land presence.

A. Methodology and Data Sources

To begin analyzing the intended data, it first needed to be properly collected and cleaned. I started by gathering data from EDA, accessing the RLF portfolio loan list (PLL), which gives various pieces of information on grantees who have received RLF funding. The most important piece of information from this list was the address of borrowers. Using supplemental Python code, I was able to input said addresses to access corresponding ZIP codes if not present. ZIP codes then enabled me to access county level FIPS codes, numbers which uniquely identify geographic areas, through a ZIP to FIPS crosswalk as many government and other databases use

these to classify areas. Following the collection of FIPS codes I proceeded to access demographic and other descriptive data for each geographic area of an RLF grantee. For this I accessed Argonne National Labs' National Economic Resilience Data Explorer (NERDE) 1.0 as the tool had been created in partnership with EDA. Some of the variables taken from here include, but are not limited to, estimated population and unemployment rate. These variables are from the Census Bureau on a county level. Additionally, a prior project had been done at EDA that indicated whether or not there was Native American land present in a FIPS area which I implemented using a binary variable where 1 indicates that land is present and 0 indicates no land is present. In addition to EDA RLF funding amounts collect from the PLL data, funding information from SBA's 504, SBA's PPP, and CDFI Fund's RRP databases was collected and connected to EDA grantees using FIPS codes.

Following this data collection, I began the programming portion of the analysis. Based on prior coursework at the College of the Holy Cross, such as Econometrics, and consultation with Professor Farhad Mohsin of the Computer Science department, it became clear that a linear regression would be the best fit. Using the textbooks *Python for Data Analysis* and *An Introduction to Statistical Learning with Applications in Python*, I was able to create a program that imported all my data from Excel and then ran the linear regression based on user selected variables. Unfortunately, the statistical significance of the results was lacking which caused me to expand upon the data being examined.

With the lack of statistical significance, I began to investigate additional data and coding models that could be implemented that would lead to stronger connections. First, I removed all funding data from non-EDA sources as there was not much crossover between grantees. I then went back to the PLL data and added "other funding", which indicates additional funding that

was secured as part of EDA RLF grants, as well as job creation and job retention. Outside of this, thanks to consultation with coworkers, I began exploring risk indicator databases to draw additional connections. After exploration, I added in the CDC's Social Vulnerability Index (SVI) as well as Census Bureau's Community Resilience Estimates (CRE). The SVI tool ranked counties using a percentile measure, with a number closer to 100 meaning greater risk, while the CRE tool indicated how many of the set risk indicators were present in a county. After these data changes I went back to the aforementioned textbooks to examine additional coding items. I found that adding a ridge regression, which is a regularized linear regression, and a random forest, a model that uses decision trees to predict outcomes and assign importance to variables, would be beneficial. Additionally, based on the wide range of data being used I also implemented a scaling tool to minimize the impact of large variables, such as the funding amounts. Once this was complete, I was able to run my Excel data again, this time with better results. The original data set was also run through these new tests to better understand the changes that occurred.

Despite the increased statistical significance of results there was still more room for improvement. After further consultation with Professor Mohsin, it was deemed that amending all population variables less total population to be percentages rather than amounts was the next step. This was a rather simple adjustment as I was able to divide each indicator by total population in Excel. No changes to the code were made at this time, so I ran the new data set once again. Following this set of tests, I determined that no further progress or changes could be made to increase the accuracy.

B. Key Findings

As the data and code began to become more complex, the correlations and results produced saw increases in its explanatory power, with each test being better than the last.

When examining the first data set, which analyzed multiple sources of funding, it can be concluded that there was no definitive answer to the correlation between funding amount and Native American communities. This was measured by two separate variables; one being estimated Native American population and one being a binary variable indicating Native American land presence. The initial linear regression saw the binary land indicator take on a positive coefficient while the estimated Native American population presented a negative coefficient, both of which can be seen in Table 1. In this instance, the land indicator had a larger coefficient than the population estimate and when added together it can be concluded that Native American land in a lending area increases the amount of funding received. However, neither variable was statistically significant indicating that this relationship is most likely not causal. In the second test of this data, the ridge regression presented the same variable correlations, land presence as positive and population estimate as positive, but different values. This time when the two variables were added the Native American population estimate was larger, indicating that more individuals of this group in a lending area leads to more funding. When examining the random forest model, the Native American population variable was given higher importance than the land indicator, meaning the ridge regression results are likely more accurate. Based on the variety of results and low statistical significance, no definitive answer was able to be made about the relationship between Native American presence and fundings amounts.

Table 1

	Linear Regression (LR) Coefficient	Ridge Regression Coefficient	Random Forest Importance	LR T-Statistic	LR P-Value
Native American Population Estimate	- 56,651	- 72,301	0.0474	+ 1.738	0.2061
Native American Land Presence Indicator	+ 58,761	+ 58,836	0.0177	- 1.265	0.0824

With respect to the second data, which examined EDA RLF and outside, private funding, and jobs created, it can be concluded that Native American communities are likely to receive less funding from EDA and other investors while also experiencing less success in the job market. Both the linear and ridge regressions presented the Native American population estimate with a positive coefficient and the land indicator variable with a negative coefficient, seen below in Table 2. When examining EDA funding in this instance, the population estimate was not statistically significant while the land indicator was highly statistically significant. Additionally, when adding the two variables together the land indicator was much larger, causing the decrease in funding. When examining the random forest model, both variables had similar importance, indicating that adding the coefficients together is likely appropriate to find the total results of the variables. Examining outside funding sources for grantees it can also be deemed that Native Americans receive less funding as both variables presented a negative coefficient, although not statistically significant. This result supports the belief that Native Americans struggle to secure tradition means of capital, like bank loans. Jobs created also saw both variables receive a

negative correlation, evidenced in Table 3 below, indicating lower levels of job creation for Native Americans.

Table 2 - EDA RLF FUNDING

	Linear Regression (LR) Coefficient	Ridge Regression Coefficient	Random Forest Importance	LR T-Statistic	LR P-Value
Native American Population Estimate	+ 3,727	+ 1,044	0.0256	+ 1.493	0.0136
Native American Land Presence Indicator	- 3,860	- 3,024	0.0289	- 2.989	0.00028

Table 3 - JOBS CREATED

	Linear Regression (LR) Coefficient	Ridge Regression Coefficient	Random Forest Importance	LR T-Statistic	LR P-Value
Native American Population Estimate	- 0.2	- 0.459	0.0167	- 0.47	0.0638
Native American Land Presence Indicator	- 0.358	- 0.335	0.0274	- 1.628	0.0104

Finally, the third data set, which examined the correlation between just EDA RLF funding with population variables adjusted to be percentages, presented the most statistically

significant results without contradicting results. Both Native American indicators, population estimate and land indicator, presented negative coefficients, while population estimate was highly statistically significant, shown in Table 4. Additionally, the ridge regression also resulted in negative coefficients and the random forest model indicated strong importance for both variables. Looking at these results it can be deemed that Native Americans will receive lower amounts of EDA RLF funding.

Table 4

	Linear Regression (LR) Coefficient	Ridge Regression Coefficient	Random Forest Importance	LR T-Statistic	LR P-Value
Native American Population Estimate	- 4,505	- 4,537	0.0195	- 2.79	0.00053
Native American Land Presence Indicator	- 292.39	- 366	0.0292	- 0.229	0.0819

Ultimately, when looking at these three tests and what is presented consistently in each, it can be concluded that Native Americans receive lower levels of EDA RLF and supplemental private funding required as part of this program. It is important to note that this discrepancy may not be intentional, nor causal as other factors play into the allotment of funds at EDA. The changes in statistical significance, especially for the land indicator variable, indicates that there may be better measures to quantify this connection. Based on data alone this conclusion of less funding for Native Americans can be made.

VII. Policy Implications and Recommendations

When diving into the policy implications and subsequent recommendations surrounding the matter of government financing for Native Americans there arises two main areas, that of technical assistance and resource availability, that can be amended to increase equity.

Technical assistance is a major issue in the landscape of government financing despite being in such a technologically focused era. Aside from the Capital Clearinghouse tool found on the Bureau of Indian Affairs' website, there are very few tools available online for Native Americans looking to access government programs. Even this tool has some issues as it only gives access to resources rather than any guidance to go with it. As evidenced by what occurred with COVID supplementals and other research, Native American tribes often struggle with workforce development and capacity. They often do not have the people or time to search through websites and read through extensive terms to apply for grants. By creating more simplistic websites that can be filtered based on tribal criteria, Native Americans would be able to access more government programs. The Capital Clearinghouse website is a strong starting point that should be expanded upon moving forward. Additionally, the federal government should increase the grant writing resources available. Many tribes do not have the funds to hire professional grant writers which provides another huge barrier to grant access. By implementing Native American grant writers as a program, whether it be a full-time or contracted position, this burden can be lifted. This could be instituted in the Bureau of Indian Affairs to start, in which their services can be requested, or it could be a more regionalized effort in which states with high tribal presence receive a grant writer. It is also advised that project consultation and guidance is increased when grants are given. With so many Native American tribes being behind the average U.S. community there is can be a struggle starting, implementing, and continuing a program

started through government funding. By increasing the number of checkpoints there are the funds allotted can be more successful moving forward. The biggest caveat to all of this is ensuring tribal consultation. By interacting with Native Americans and receiving their feedback there will be increased trust in a relationship that has lacked such.

Resource provision must also be increased to ensure government funding is operating as equitably as possible. While the COVID supplemental programs introduced unseen amounts of money to Native American communities, those funds have either reached or will reach their lifetime in the coming years. This level of funding had unprecedented benefits and highlighted the clear lack of adequate funding for programs in the past. While it is not advised to extend COVID level finances moving forward, as that was an uncharted territory, increasing the level of funding for agencies such as the Bureau of Indian Affairs or Indian Health Service is of utmost importance. These entities are still severely underfunded, especially when looking at it from a per capita level. In addition to increased funding, there should also be an increase in Native American specific programs. While not intentional, it has been proven time and time again that having tribes apply for programs catered to state and local governments results in barriers to access. Due to different legal standards the requirements and regulations surrounding tribes are much different. In order to overcome this, implementing identical tribal specific programs to existing ones would enable more access to funding. For example, as EDA embarks into increased Native American financing the RLF program could implement regulations specific to tribes. Increasing the number of resources available to Native Americans would greatly help to rectify the marginalization and oppression they have faced, but it must be done with proper accompanying technical assistance.

VIII. Data Quality Issues

One very important thing to note is the plethora of data quality issues surrounding this matter. This problem is mainly a result of tribal sovereignty as Native tribes can be hesitant to offer records and other data to government entities. As discussed earlier, there are very few databases with tribe specific data and even when there is some it is often lacking. Additionally, there are some data quality issues with EDA's RLF program that may have also posed a barrier during this analysis. While certain grantee data is available, such as who is receiving a loan and for how much or where the entity resides, that is as granular as it gets. Using Native American population estimates, and the land indicator variables were the most accurate available but may not be indicative of whether they are receiving funding. Many reports covering racial and ethnic disparities, such as *Racial and ethnic disparities in the United States* from the Economic Policy Institute, would have little to no coverage on Native Americans. For example, this report showed a variety of charts detailing items such as financial and educational statistics and claimed to showcase five racial/ethnic groups in most of the charts, one of which was Native Americans (Economic Policy Institute). However, only 8 of the 26 charts even mention this group, which is less than not just the majority that was claimed, but less than even a third of the items presented. While it cannot be determined if this was intentional or not, this highlights the persistent difficulties of accessing Native American specific data. Additionally, it was difficult to access other government databases to examine other funding programs. Either the data needed to be requested or accessed using security clearances or it did not prove to have much overlap with the EDA portfolio being examined. Despite this, the results are still consistent with a variety of published findings and common beliefs surrounding the realm of Native American financing.

IX. Conclusion and Future Trajectory

A. Conclusion

In conclusion, the current level of government funding extended to Native Americans as well as the barriers that surround these programs are not at an equitable level. When considering the countless years of marginalization and oppression that these people have faced, a few years of increased funding due to a pandemic are not nearly adequate to rectify the issues that have been created. Dating back to even before the creation of the United States, Native Americans were horribly mistreated by European settlers. This theme persisted for many years to come and has left many Native Americans behind the average American from a financial, educational, and social perspective. When considering the indelible impact that Native Americans had in fostering the young nation, they should receive treatment that acknowledges such. Moving forward it is recommended that the federal government increases available technical assistance and resource provision to extend equity to Native Americans. While government programs may not be at the standard they should be, there is a plethora of positivity surrounding this issue. The strides that the Biden Administration and Deb Haaland have been able to make in just four years is unprecedented. While it is unsure whether they will still be in office a year from now with an election fast approaching, the standards and path that they set will have a lasting impact. Native American communities are closer to reaching equity in the government funding landscape than ever before and it can be expected that this gap will continue to close.

B. Future Trajectory

While this semester comes to a close, I am extremely fortunate that my time at EDA will not be. Starting June 3rd of this year, I will be returning to the agency to complete a summer internship. With Native American financing being such a high priority within EDA I will have ample opportunity to continue this work and make new connections. My hope is to find a better indication of who is benefiting from the grants being made. With more time to perform data

analysis, gather firsthand experience and accounts, and consult with professionals on the matter I believe this project has much room to evolve and produce more impactful results.

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