Indian Country Economic Development: Data and Data Gaps

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Over the past three-plus decades, in the modern era of tribal self-determination, U.S. reservations have included some of the poorest and also some of the most dynamic local economies in the United States. Using Census population data, the Ag Census, and odd lots of serendipitously available or jury-rigged datasets, scholars have documented these facts and tentatively identified some of the structural, legal, and policy factors that influence the wealth and growth of modern Indian nations.

Nonetheless, significant gaps in the data on reservation economies impede further progress. Three of the biggest gaps are in the areas of tribal government, reservation business activity, and data on individual reservation residents and households, especially over time (longitudinal or panel data). In this paper, I use my experience in the Federal Reserve Bank of Minneapolis's efforts to gather Indian Country data as a vehicle for discussing both the gaps and the potential for closing them. I conclude that a collaborative effort among tribal leaders, governmental entities, and scholars has the potential to assemble the more complete legal and economic data needed to advance our understanding of Indian Country economies.

Reservation Economic Data and Data Gaps

2012 is the twentieth anniversary of the publication of *Property Rights and Indian Economies*, edited by Terry Anderson. Much of the modern scholarship on tribal economies descends, at least in part, from the pioneering work presented there.

For example, this volume included Cornell and Kalt (1992), "Culture and Institutions as Public Goods: American Indian Economic Development as a Problem of Collective Action." This paper is an early example of the now voluminous work of the Harvard Project on American Indian Economic Development, which has continued to use historical and contemporary data on tribal culture and institutions to explore the role these factors play in shaping reservation economies. The paper's use of U.S. Census data—for example, on the percentage of reservation residents who were employed, receiving public assistance, or held a high school degree—also serves as an early example of relying on U.S. population census data to study reservation economies. Census population data have become perhaps the most widely used source of data for studies of

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reservation economies, as shown in the summary of Indian Country data sources compiled in Table 1.

Property Rights and Indian Economies also included Anderson and Lueck (1992a), "Agricultural Development and Land Tenure in Indian Country." This was an early member of a long line of papers, many by Anderson and his colleagues at Montana State and in the Property and Environment Research Center (PERC), that have explored how formal legal structures and property rights affect reservation economies. By estimating the acreage of some reservations with map-based computer planimetry, Anderson and Lueck also contributed to a tradition of creative but sometimes painstaking measures designed to fill the gaps in reservation data. In this paper and a related contemporaneous paper (Anderson and Lueck 1992b), Anderson and Lueck showed how special-purpose historical and policy documents could be used to create data on aspects of the tribal legal environment, such as the amount of reservation land in trust versus fee-simple status. Both Cornell and Kalt (1992) and Anderson and Lueck (1992a,b) also contributed to the practice of using the Bureau of Indian Affairs (BIA) as a source for data on topics such as employment (Cornell and Kalt) or land tenure and use (Anderson and Lueck).

Demographic data and gaps. Table 1 summarizes the sources of Indian Country data used in over twenty studies since 1992 that have compared economic outcomes across numerous (typically 15 to 100) reservations. I group the data into several categories, starting with Reservation Demographics. As might be expected, the population Census is the source (direct or indirect) for the majority of the variables in this section. In turn, these variables are the most frequently used measures of economic outcomes in studies of reservation economies. In short, Census population data have provided the most widely used metrics by which we have assessed the economic status and development of reservations, with BIA data some distance behind, followed by an assortment of less frequently used sources.

It remains to be seen, however, whether Census population data will remain the workhorse of Indian Country economic research now that the decennial long-form data have been replaced by the American Community Survey (ACS). The ACS provides detailed geographic data only on a rolling average basis, typically over a five-year period for census tracts and other geographies with small population, such as most of the reservations for which data are likely to be released. Some tribes have expressed concern that ACS data for their reservation is not reliable, and so far relatively few scholarly papers on Indian Country economies have been published from ACS data. I expect that ACS data, perhaps with some adjustments and improvements, will prove to be very important to Indian Country scholarship, just as the decennial long-form data have been, but only time will tell.

The less-used sources of data in the first section of Table 1 suggest some of the demographic data scholars lack. Census sources provide data on many characteristics of the overall population on larger reservations. However, as suggested by Evans and Topoleski's (2002) use of BIA administrative reports (and perhaps even more so by the data used in Krepps and Caves 1994),

scholars sometimes want additional cross-tabs for certain characteristics of a reservation's American Indian (or other racial/ethnic subgroup) population. Mushinski and Pickering (2000) study income inequality on reservations by estimating Gini coefficients, whose precise calculation requires data on individual households or persons, from more aggregated Census data on the distribution of households across income ranges. From a research perspective, these studies point to a lack of microdata on American Indian (or other racial/ethnic subgroup) households and individuals living on reservations. Reagan and Gitter (2007) attempt to fill this gap by assuming that the tribal ethnicity of the household head (or spouse) can link individual records in the Census Public Use Microdata Sample (PUMS) to specific reservations (or small groups of reservations) in the record's Public Use Microdata Area (PUMA). Anderson (2009) follows a slight variation of their approach.

In another study, Gitter and Reagan (2002) address a related and even more challenging gap—the lack of longitudinal data on American Indians on reservations. They attempt to study male American Indian respondents to the 1979-90 waves of the National Longitudinal Surveys of Youth (NLSY) who resided on or near reservations. To do so, they use NLSY data on each respondent's county of residence and focus on American Indian males residing "in a county with a reservation." This is a reasonable but still somewhat crude approximation. It also yields only 185 respondents nationwide, which limits the spatial dimension of their analysis to variables defined for only a few very broad regionals (West, Midwest, Northeast, etc.) and precludes detailed cross-reservation comparisons. Thus, more complete demographic and economic microdata on reservation residents, especially in longitudinal form, would fill one gap in our data on reservation economies.

Business and financial data and gaps. The next two categories in Table 1—Reservation Business Sector and Reservation Finance/Credit—provide a few more reservation economy variables but are of interest mainly for showing how few studies have looked at business and financial outcomes on reservations. Cookson's (2012) recent attempt to adapt County Business Patterns data as an outcome measure for reservation-linked businesses (golf courses, in particular) is one of the few studies that attempts to assess reservation business outcomes other than with self-employment information from the population census or the specialized agricultural and forestry data that I have listed in the following section of Table 1.[2] Cookson confronts difficult decisions about how to crosswalk county data to the reservation level. I think it is fair to say that, apart from a few agricultural and forestry sources shown in the fourth section of Table 1 (which are largely drawn from USDA, BIA, or related sources) and some of the gambling business data summarized in section 5, accurate data on the reservation business sector is very unusual. Except for the Home Mortgage Disclosure Act (HMDA) data and the relatively old and regionally

[2] Clearly my assignment of data to categories is to some extent arbitrary, as many data items could be listed under multiple categories. Nonetheless, the categories and assignments in Table 1 seem sufficiently reasonable to demonstrate some broad patterns regarding Indian Country economic data.

aggregated BIA estimates of reservation credit used as outcome variables in Parker (2010), the same seems to be true for financial-sector data on reservation economies.[3] This is another important gap.

Land and government data and gaps. The first five sections of Table 1 contain a mixture of variables used to measure outcomes and variables used as econometric controls (with some used in both capacities). The remaining sections largely display variables used as econometric controls in econometric studies. Sections 6 and 7 summarize two related and critical sets of variables, pertaining, respectively, to tribal land and tribal government. In these sections, the data sources range from familiar (Census, BIA, USDA) to creative/painstaking (ocular planimetry, web searches of media stories, finding and carefully reading numerous official or obscure documents) to unclear (at least to me). The less-familiar sources scholars resort to here again suggest data gaps. In particular, scholars need more convenient and accurate data on the ownership status of reservation land (tribal trust, individual trust, fee simple, etc.). In principle, much of this information is embedded in government records, but in practice it appears to be very difficult to assemble or access.

The same also seems to apply to data on tribal governments. For example, tribal constitutions contain important information about the structure of tribal governments. Although we think of constitutions as readily available public documents, it has been a major undertaking, by Harvard Project scholars and others, to locate, read, and code the provisions of tribal constitutions. Even the question of which reservations have been subject to Public Law 280, and to what degree and in which years, has been addressed multiple times and appears to be still somewhat in play, based on the studies summarized in section 7 of Table 1. I am not aware of any collection of more detailed legal and structural data, such as on tribal zoning or business permitting and regulation.

Data on tribal government operations (as opposed to structure) seem to be even less available. Cookson (2012) locates some relatively old data on tribal court resources and caseloads, and more could be extracted from other historical documents (such as Brakel 1978 or American Indian Lawyer Training Program 1977). Jorgensen 2004 (on Indian Housing Authorities) and some of the sources on tribal forestry activities in section 4 of Table 1 provide further small snapshots, but Table 1 contains few examples of ongoing regular data on the expenditures, revenues, caseloads, staffing, or other operational measures for tribal governments. The closest examples, perhaps, are the limited data on tribal casino operations (e.g., number of slot machines) summarized in section 5 of the table and, in section 7, Dippel's use (Dippel 2010) of semi-annual U.S. Inspector General reports for data on embezzlement, fraud, and theft of BIA and reservation funds.

[3] Cyree et al. (2004) and Schumacher (2006), which also examine HMDA data for reservations, are omitted because they aggregate across reservations. By contrast, Table 1 summarizes studies that examine multiple individual reservations or individual regional aggregates of reservations.

Other data and gaps. I will discuss the remaining sections of Table 1 only briefly. Some of the gaps these sections point to are not specific to reservation economies. For example the gaps in data about near-reservation areas (section 9) mostly apply to regional economies generally. Much can and will be done to create better spatial data on these geographies, but it will mostly occur whether or not Indian Country scholars assist. However, Indian Country scholars can probably be active and productive by monitoring the enhancements made to regional economic data and data methods and applying them to create more and better data on reservations' nonagricultural, nonforesty resource endowments (section 8). Finally, the studies summarized in section 10 have repeatedly shown how historical data on tribes and reservations can add to our understanding of reservation economies today. Additional important historical data await study, and more will be found, but funding will be needed for scholars and research assistants to insightfully code them into usable, meaningful data.

One final gap—a reliable and convenient means for scholars to archive and share the Indian Country economic datasets they create—applies across Table 1. For example, the data used in Krepps and Caves (1994) could still be useful or worth updating. However, the article barely outlines the sources of the data, stating instead that an appendix available from the authors provides details. One wonders if that appendix is still available and, if so, where and for how much longer. Today, as the papers summarized in Table 1 make clear, Indian Country economists and legal scholars frequently share datasets informally. This clearly enhances our collective efficiency as scholars. But I suspect that a more organized approach would lead to even greater and more sustained research efficiency.

(Reflections on) Some Minneapolis Federal Reserve Bank Work on Narrowing the Gaps

For about 20 years, the Community Development program of the Federal Reserve Bank of Minneapolis has been involved in efforts to increase the flow of investment in Indian Country. Over the past 10 years, we have especially focused on assisting reservation residents and leaders who want to enhance the opportunities on reservations for private businesses and American Indian entrepreneurs. This includes providing technical assistance to the Indian Business Alliances in our District and, notably, a sustained effort to help draft, raise awareness about, and provide training to successfully implement a model tribal law governing the use of non-real-estate property as collateral.[4] This model law, known as the Model Tribal Secured Transaction Act or STA for short, aims to make it easy for tribes to adopt a law that facilitates the use of personal property[5] as collateral for a business or personal loan.

[4] For more information on these efforts, see http://www.minneapolisfed.org/indiancountry/.
[5] Personal property refers to all property other than land or things affixed to land; it includes tangible items such as equipment but also intangibles such as licenses, patents, copyrights, accounts receivable, insurance receivables, and trademarks.

To better understand how tribal STAs and other elements of the reservation business environment contribute to Indian Country economic growth, the Minneapolis Federal Reserve Bank's Community Development Department has also begun to conduct, and contract for, data gathering and research on reservation economies. The four main components of this initiative are as follows:[6]

- Gathering data on tribal STAs and related reservation governance and business environmental data;
- Using that data to understand the associations and perhaps causal links between business environmental factors on reservations and economic outcomes;
- Gathering or creating data on the reservation business sector and analyzing this data;
- Using the large-scale proprietary microdata assets the Federal Reserve System has purchased from vendors in recent years to analyze reservation economies and, where possible, create additional reservation statistics.

Gathering data on STAs and other governance and business environmental factors. One reason the Minneapolis Federal Reserve Bank increased its support for Indian Country economic research was to better understand the impact of the model STAs that the Bank's Community Development Department was supporting. An obvious first step was to gather information on tribal secured transaction laws and related factors, such as the presence of workable lien filing systems and the ability of tribal civil courts to fairly and efficiently adjudicate creditors' claims. Since 2010, the Bank has tried to gather this information for the 100 largest (by American Indian and Alaska Native population) reservations. Our staff members have searched tribal websites, and we contracted with a tribal business consultant to conduct a survey of tribal governments.

On the one hand, we have made significant progress. We have at least basic data concerning the presence or absence of a secured transaction act for close to 70 of the largest reservations. This information has allowed Randall Akee (2012) to perform an initial analysis of the association between tribal STAs and economic outcomes on reservations. We hope to eventually gather this information for almost all of the 100 largest reservations.

On the other hand, progress has been difficult and limited, for several reasons. Much of the relevant information is not available on tribal websites. Tribal legal codes are not always readily available on line. Even when they are, finding all the relevant information about a particular business topic, such as secured lending, can be difficult even for a legal expert. Contacting or surveying tribal officials may not solve the problem. The topic is narrow and technical enough that many tribal government employees are themselves unfamiliar with the relevant portions of the tribal code, and they may not be able to refer an outsider to someone who does know.

[6] A fifth component—coding information in historical documents pertaining to tribal courts and more—may be added if/when the required resources are available.

Tracking down additional details that matter to researchers, such as when a current law was adopted and what preceded it, is often even harder.

Moreover, tribal leaders may be unwilling to provide information about tribal laws to outsiders. We experienced this when our consultant sometimes failed to obtain tribal officials' permission to allow tribal staff to respond to our survey. These negative responses to a survey request are understandable. Tribal staff members are already busy, and the tribe may perceive little benefit from the time it would take to respond.

In some cases, however, our consultant perceived a broader reluctance to share tribal information with outsiders and scholars. This reluctance may be linked to concerns that tribes have been over-researched or, more seriously, that some research projects have, improperly and without consent, taken advantage of tribal members or their tribe. To address these concerns, tribes have been encouraged to establish Institutional Review Boards or Community Advisory Boards to regulate reservation research (Sahota, undated).

As tribes consider regulating reservation research, I think it will be important to carefully determine the scope of the regulation. Many of the most serious issues raised by previous reservation research involve research on individuals, especially with respect to their medical or biological characteristics. One scoping option is to focus tribal research regulation on these most sensitive cases. However, broader regulation has also been discussed, including "all forms of research that happen in an AIAN community" (Sahota, p. 19).

Taken literally, regulating "all forms of research" is probably unworkable. It would subject to bureaucratic review a wide range of activities that are either routine—e.g., high school biology classes—or very intrusive to monitor—e.g., a business owner attempting to reorganize work flow for better productivity, or even someone experimenting with a recipe. I assume that even the broadest practical approach to regulating reservation research would exempt these examples and others like them.

A more realistic and important scope question, therefore, is what extent research on tribal governments will be tightly regulated. Although the issue is far from cut and dry, I am concerned that too much regulation of research on tribal governments could be detrimental to tribal economies and, thereby, to reservation residents and tribal members. Sensible "sunshine" policies that promote disclosure of considerable information about laws, policies, budgets, and operations make governments more accountable to citizens and build investor confidence. Tribal members may wish to carefully consider the potential advantages of government transparency when determining the scope of research regulation on reservations.

Analyzing the STA and related data. The Minneapolis Fed's Community Development Department has contracted with Randall Akee to conduct the initial assessment and econometric analysis of the data it has gathered on tribal STAs and related reservation business environmental factors. His initial findings are available in Akee 2012 and, accordingly, are not discussed at

length here. Basically, he finds a statistical association between tribes that had adopted a STA by 2011-12 and some indicators of economic progress, but also that the association may reflect selection effect, as it disappears when an instrumental variables technique is used. Further work on this project, including the addition of data for more tribes and development of a more comprehensive index of creditors' abilities to enforce collateral agreements, could change these results. The Minneapolis Federal Reserve Bank's future involvement in econometric research on Indian Country economic development will be determined, in part, by a Community Development strategic planning exercise that is currently under way.

Gathering/creating and then analyzing data on reservation businesses. Data on reservation businesses is uncommon and much less comprehensive than the data available for businesses at the county level. To address this gap, the main strategy of the Minneapolis Fed's Community Development Department[7] will be to submit a proposal to the Census Bureau to enhance Census Bureau data by confidentially (i.e., within Census facilities with tightly controlled access) geocoding for reservation location the business microdata records in the Business Register, several Economic Censuses, and the Survey of Small Business Owners. An initial proposal was submitted in mid 2011, and the Census Bureau requested further information. A revised proposal outlining a three-year effort to begin in 2013 is nearly ready to be resubmitted. If accepted, the work will also include econometric analysis of the reservation business sector. The primary purpose of this analysis will be to confidentially assess whether Census Bureau procedures for gathering data on reservation businesses can be enhanced. However, the Bureau often permits publication of some of the nonconfidential econometric results.

Private data vendors might also provide useful data on reservation economies. For example, referenceUSA uses public sources (including telephone books) and telephone calls to collect basic but useful data on a wide range of businesses and nonprofits as frequently as once a month. The referenceUSA data are, at least to a limited degree, available at many public libraries, and the company also sells more direct and complete access. Data fields collected may include the name, major products, industry code, employee headcount, sales volume, year established, credit rating, ownership, contact information, and more. Location information, including state, county, ZIP, and street address, is also collected, and latitude and longitude coordinates derived from the addresses. To the degree that these address-based geocoordinates are accurate, standard geographic information system software can overlay reservation shape files to determine whether a business in located on a reservation.

Figure 1 uses this refernceUSA information to map businesses in and within 10 miles of four North Dakota reservations. To my eye, the resulting density of businesses on these four reservations appears low, even relative to many of the equally remote rural areas nearby.

[7] In conjunction with Elton Mykerezi of the Applied Economics Department of the University of Minnesota and Randall Akee of the Economics Department of Tufts University.

However, I am not aware of any formal analysis of reservation business patterns based on referenceUSA data.

Other vendors sell additional data pertinent to research on reservation economies. For example, some vendors compile and sell information based on lien filings associated with collateralized loans (UCC 9 data). In addition to information about the collateral, at least some of these vendors also provide the location of the borrower or lender. Thus, these records could also be geocoded to study collateralized lending on and across reservations and adjacent non-reservation areas. I am not aware that this has been done yet.

Using the Feds' proprietary microdata to analyze reservation economies and publish statistics. In part to improve its monitoring of the recent housing bust and foreclosure crisis and their effects on banks, households, and the economy at large, the Federal Reserve has in recent years acquired access to several proprietary databases containing longitudinal microdata on mortgages, consumer credit histories, and more. The mortgage datasets provide static data associated with the origination of each mortgage as well as longitudinal data associated with payments, interest rate changes, delinquencies, foreclosures, and other transactional and administrative data recorded monthly by the mortgage servicer. These datasets cover a high percentage of the actively serviced mortgages in the U.S. and extend back 10 years or more, although coverage and quality are better in more recent years. The consumer credit dataset, from Equifax, includes about a 5% sample of all of a major credit bureau's U.S. credit histories. The data are provided quarterly and include some basic demographics (notably age, at least for many files) and standard credit history elements, such as the quarterly amount and status of an individual's credit lines and loans, and usually a credit score. The data are organized as a panel (with replacement) from 1999 on.

These datasets do not include racial or ethnic identity information, but they do provide spatial data at the ZIP code area (for mortgages) or census tract/block level (for credit histories). This spatial information supports good to excellent alignment of these datasets with reservation boundaries, and thus the analysis of longitudinal microdata on reservation mortgages or residents. Furthermore, within the Federal Reserve (and with precautions to protect privacy), arrangements can be made to statistically link the mortgage records to HMDA mortgage records, which include racial and ethnic information and more precise location information (census tract). By this means, it may be possible to create, within the Fed, a confidential longitudinal dataset of mortgages specific to American Indians (or other groups) on reservations. The Minneapolis Fed's Community Development Department is just beginning to explore these and other possibilities, and I am not aware of other applications of these data to Indian Country.

Table 2 provides a simple illustration of how the Fed's vendor datasets can be used to compare consumer credit experiences across reservations and nearby off-reservation areas. The table shows the rates of transitioning from one of four credit score categories in the first quarter of 2000 to one of five categories in first quarter of 2012. The four categories in 2000 are (1) credit

score of 620 or less, (2) credit score of 621 to 680, (3) credit score of 681 or more, and (4) credit file but no score (NA). The 2012 categories are the same except that "no file" is added. Table 2 presents these transition rates for three counties, by tracking the credit history of individuals[8] who lived in those counties in the first quarter of 2000 (but may live anywhere in 2012) and were born in or after 1960 (i.e., age 40 or less in 2000). The three counties, all in South Dakota, are Pennington (a nonreservation county overlapping Rapid City), Shannon (all of which is on the Pine Ridge Reservation), and Todd (all of which is on the Rosebud Reservation). In each county's panel, the cell in the <620 row and <620 column shows the fraction of individuals who had scores at or below 620 in 2000 and were still (or again) in that category in 2012. The next four columns of the <620 row show the fraction who transitioned from 620 in 2000 to the other categories in 2012. Similarly, the next three rows show the transition fractions for individuals who were in the other credit score categories in 2000. The rightmost column shows the percentage distribution of all individuals across the four categories for 2000, while the bottom row shows the percentage distribution of all individuals across the five categories for 2012.

The table shows that among the credit files in the reservation counties, 20 to 24 percent had no credit score as of 2000. The corresponding figure in the off-reservation county was 7 percent. By 2012, the percentage with either no score or no file had grown to about a third for individuals who lived in the reservation counties in 2000 but had grown to only 11 percent for those who lived in Pennington County in 2000.[9] The transition probabilities show that, for Pennington and Shannon Counties, about half of individuals with no score in 2000 had either no score or no file in 2012, but this was true for almost two-thirds of the files in Todd County. The relatively high persistence of no-score files in all three counties, along with Pennington County's lower incidence of no-score files in 2000, helps explain why the no-score/no-file status remains much lower in Pennington County in 2012. However, an additional factor behind the higher incidence of no-score/no-file status in the two reservation counties in 2012 is the higher rate at which individuals residing there in 2000 transitioned from having a credit score to lacking a score or a file. For example, 3 of the 9 individuals with a 680+ credit score in 2000 in Shannon County had no file by 2012.

Table 2 shows a general tendency for individuals with low scores in 2000 to migrate towards higher scores by 2012. This probably reflects, in part, the maturing of the individuals through typical prime earning years, from 40 years or less in 2000 to 52 years or less in 2012. Even among those residing in Shannon and Todd Counties in 2000 and having a credit score of 620 or less, half to two-thirds were in a different category by 2012, and the majority of these transitions were upward (as opposed to into the no-score or no-file categories). Most individuals residing in Pennington County in 2000 with middle- or high-ranking credit scores either maintained or

[8] The individuals are identified only with a database-specific ID number.
[9] From the bottom rows of each table, 12% plus 20% for Shannon County and 10% plus 23% for Todd County, versus 4% plus 7% for Pennington County.

improved their ranking by 2012. However, this was less the case in Todd and especially Shannon County, although the cell counts are small for those cases.

Table 2 is presented for illustrative purposes and is not to be taken seriously as research at this point. Still, it provides a simple illustration of how the vendor datasets the Fed has acquired can be used to create longitudinal microdata on reservations.

Concluding Remarks

Over the past 20 years, Indian Country economies have grown (Akee and Taylor 2012). Empirical research on their development has also expanded significantly, through widespread use of Census Bureau population data but also selective use of more specialized sources. Much has been learned, and more will be learned as more population data are released and scholars find and code additional specialized data.

Notwithstanding much progress, our ability to understand the causes of economic growth on reservations has been impaired by some significant data gaps, including limited reservation-specific data on business activity, tribal government structure and operations, and the micro-level behavior of individual consumers, households, and businesses, especially over time. In this paper, I have tried to document those gaps and have described some efforts at narrowing them that I am involved in at the Federal Reserve Bank of Minneapolis.

In these efforts to enhance Indian Country economic data, I have worked either alone or with a small set of colleagues associated with the Bank. I am happy with some of the progress we have made, just as I am impressed with some of the data that other researchers have assembled and used in recent publications on Indian Country economies. Nonetheless, the experience has also made me wonder whether broader collaboration on developing and organizing Indian Country economic data would be more efficient. The time may be right to organize a central repository of the specialized datasets that various Indian Country researchers have assembled and will be assembling. It might also be time to develop a clearer consensus among Indian Country economics researchers regarding the additional, enhanced, or perhaps simply continued (in an era of cutbacks) data collections we should seek from federal agencies, tribal governments, Federal Reserve Banks, private vendors, and others. Along the way, researchers could work together and with tribal leaders to develop research protocols that appropriately protect the privacy and dignity of Native American individuals and business owners without unduly restricting tribal citizens' right to know how their governments function or the conduct of important research on reservation economies.

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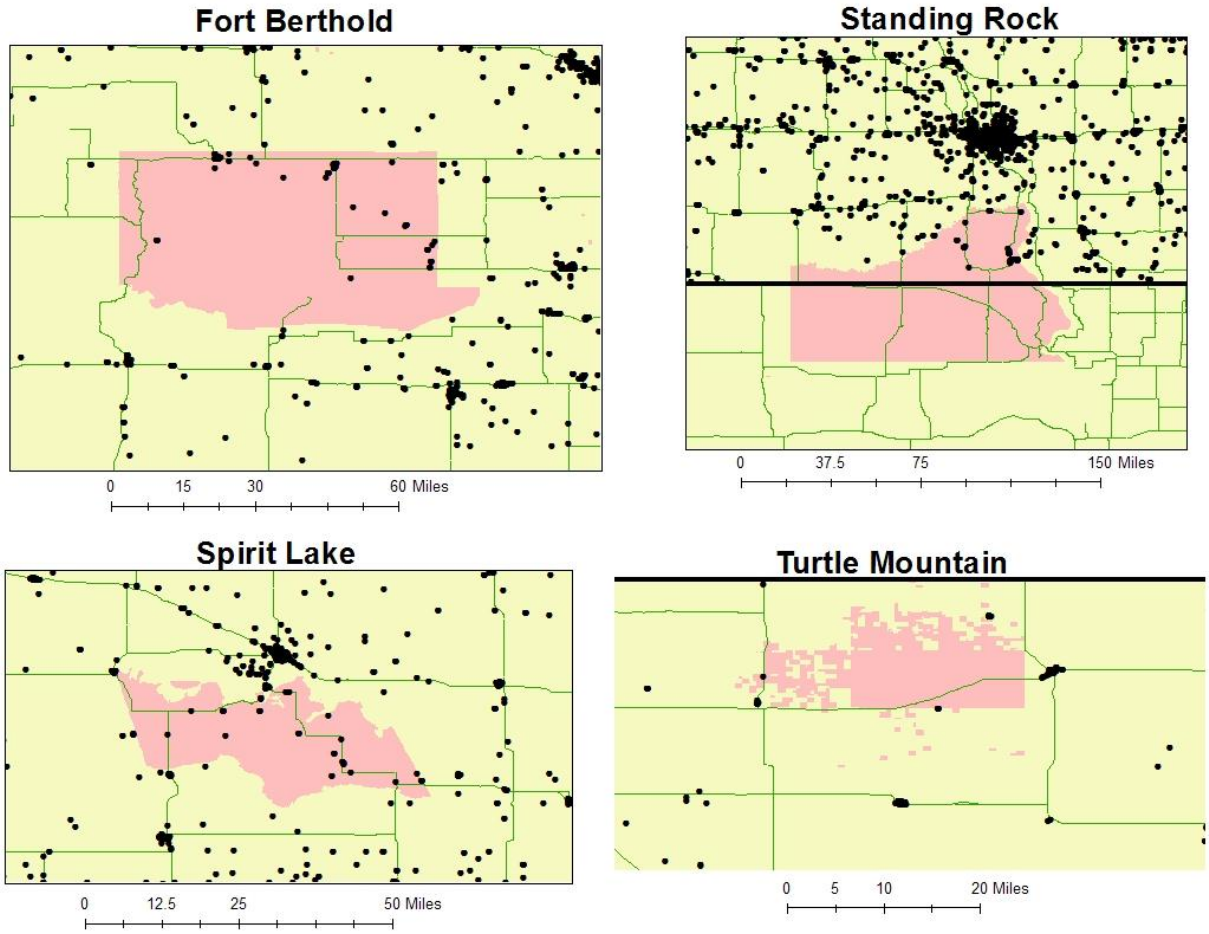
Figure 1: North Dakota businesses in or within ten miles of four North Dakota reservations

(Each black dot represents a business. Reservations shown in rose color. The heavy horizontal line in the Standing Rock (Turtle Mountain) map represents North Dakota's border with South Dakota (Canada).)



Source: referenceUSA data obtained from the Hennepin County Library by Thomas Holmes. Map created by Jacob Wascalus, using ArcGIS software.

Table 1: Summary of Indian Country Data Sources

Row	Study's Data	Study's Data Sources (For detailed references, see the corresponding study.)	Study
2	1. Reservation Demographics		
3	Total population	Decennial census and related reports	Anderson and Lueck 1992b, Anderson and Parker 2008, 2009; Dippel 2010
4	American Indian population	HUD/Urban Institute	Jorgensen 2004
5		Decennial census and related reports	Cookson 2010; Mushinski and Pickering 2000
6	Tribal population	Decennial census and related reports	Cookson 2012
7		Appendix available from authors (still?)	Krepps and Caves 1994
8	Total reservation population in each BIA administrative area (1951-70)	BIA *Annual Reports of Credit and Financing* 1951-70	Parker 2010
9	Tribal population by age groups (<16, 16-64, 65+)	BIA data required under Indian Employment, Training, and Related Services Act of 1992	Evans and Topoleski 2002
10	For individual households with single-race Amer. Indian head or spouse, age of head (along with tribal affiliation of head and spouse, if any, and PUMA)	IPUMS 5% samples of 2000 Census long-form data	Reagan and Gitter 2007
11	Tribal enrollment	BIA data required under Indian Employment, Training, and Related Services Act of 1992	Evans and Topoleski 2002
12	Amer. Indian resident service pop. (# on or near reservation who are eligible for BIA-funded services)	BIA data required under Indian Employment, Training, and Related Services Act of 1992	Evans and Topoleski 2002
13	Population of counties with significant reservation Amer. Indian population	Inter-University Consortium for Political and Social Research, Part 78, 1983 County Data Book	Dimitrova-Grajzl, Grajzl, and Guse 2012
14	Individual Amer. Indian adult male currently resides in county with a reservation	Nat'l. Longitudinal Surveys of Youth, 1979-90 waves	Gitter and Reagan 2002
15	Individual Amer. Indian adult male resided in county with a reservation when age 14	Nat'l. Longitudinal Surveys of Youth, 1979-90 waves	Gitter and Reagan 2002
16	Age of individual adult male, by race, location, etc.	Nat'l. Longitudinal Surveys of Youth, 1979-90 waves	Gitter and Reagan 2002
17	% of population 16+ years old	Decennial census and related reports	Dippel 2010

18	Households or families living in poverty (various definitions)	Decennial census and related reports	Anderson and Lueck 1992b; Jorgensen 2004; Dippel 2010; Cornell and Kalt 2000; Vinje 1996
19	# and % employed but living below poverty	BIA data required under Indian Employment, Training, and Related Services Act of 1992	Evans and Topoleski 2002
20	Adults with income in excess of "BIA minimum"	BIA 1989	Cornell and Kalt 2000
21	Per capita income of American Indians	Decennial census and related reports	Anderson and Parker 2008; Cookson 2006, 2010, 2012; Akee, Jorgensen, and Sunde 2011; Dippel 2010; Mushinski and Pickering 2000
22	Per capita income of all residents	Decennial census and related reports	Dippel 2010
23	Per capita income of all residents, by source (wage and salary, transfers)	Decennial census and related reports	Dippel 2010
24	Average household income of reservation residents	Decennial census and related reports	Dippel 2010
25	Median family income in counties with significant reservation Amer. Indian population	Decennial census and related reports	Dimitrova-Grajzl, Grajzl, and Guse 2012
26	Income inequality among (1) households and (2) families with Amer. Indian head or spouse	Gini coefficient estimated from decennial census data on # of households/families by income ranges and aggregate income of those units in each range	Mushinski and Pickering 2000
27	For individual households with single-race Amer. Indian head, total income and head's tribal ethnicity and PUMA location	IPUMS 5% samples of 1990 and 2000 Census long-form data (see Ruggles et al. 2008)	Anderson 2009
28	For individual households with single-race Amer. Indian head, public assistance income and head's tribal ethnicity and PUMA location	IPUMS 5% samples of 1990 and 2000 Census long-form data (see Ruggles et al. 2008)	Anderson 2009
29	For individual households with single-race Amer. Indian head, earned income and head's tribal ethnicity and PUMA location	IPUMS 5% samples of 1990 and 2000 Census long-form data (see Ruggles et al. 2008)	Anderson 2009
30	For individual children in households with single-race Amer. Indian head, total household income and head's tribal ethnicity and PUMA location	IPUMS 5% samples of 1990 and 2000 Census long-form data (see Ruggles et al. 2008)	Anderson 2009

31	Labor force participation rate, Amer. Indians	Decennial census and related reports	Anderson and Parker 2009; Akee, Jorgensen, and Sunde 2011
32	Total labor force	BIA data required under Indian Employment, Training, and Related Services Act of 1992	Evans and Topoleski 2002
33	# of people not available for work	BIA data required under Indian Employment, Training, and Related Services Act of 1992	Evans and Topoleski 2002
34	Unemployment rate, Amer. Indians	Decennial census and related reports	Anderson and Parker 2009; Akee, Jorgensen, and Sunde 2011
35		Appendix available from authors (still?)	Krepps and Caves 1994
36	Unemployment rate, total reservation population (various definitions)	BIA 1987, 1993	Jorgensen 2000, 2004; Dippel 2010; Cornell and Kalt 2000
37		BIA data required under Indian Employment, Training, and Related Services Act of 1992	Evans and Topoleski 2002
38	# employed	BIA data required under Indian Employment, Training, and Related Services Act of 1992	Evans and Topoleski 2002
39	% of workforce employed	BIA	Cornell and Kalt 1992
40		Decennial census and related reports	Cornell and Kalt 2000
41	% of adults employed full-time	Decennial census and related reports	Dippel 2010
42	% of Amer. Indian workers working full-time	Decennial census and related reports	Mushinski and Pickering 2000
43	Individual Amer. Indian adult male employed	Nat'l. Longitudinal Surveys of Youth, 1979-90 waves	Gitter and Reagan 2002
44	Individual Amer. Indian adult male unemployed	Nat'l. Longitudinal Surveys of Youth, 1979-90 waves	Gitter and Reagan 2002
45	Individual Amer. Indian adult male unable to work	Nat'l. Longitudinal Surveys of Youth, 1979-90 waves	Gitter and Reagan 2002
46	Individual Amer. Indian adult male keeping house	Nat'l. Longitudinal Surveys of Youth, 1979-90 waves	Gitter and Reagan 2002
47	% "employed in enterprises"	Decennial census and related reports	Cornell and Kalt 1992
48	% Amer. Indians employed in non-government sector	HUD/Urban Institute	Jorgensen 2004
49	% of adults employed in health care	Decennial census and related reports	Cookson 2006
50	% of adults employed in public administration	Decennial census and related reports	Cookson 2006
51	% of workers employed in tribal businesses	Decennial census and related reports	Jorgensen 2000

52	% of Amer. Indian workers in managerial or professional jobs	Decennial census and related reports	Mushinski and Pickering 2000
53	% of Amer. Indian workers in manufacturing jobs	Decennial census and related reports	Mushinski and Pickering 2000
54	% of workers employed in government	Decennial census and related reports	Vinje 1996
55	% of workers employed in private employment	Decennial census and related reports	Vinje 1996
56	% of workers employed in agriculture	Decennial census and related reports	Vinje 1996
57	% of workers employed in forestry	Decennial census and related reports	Vinje 1996
58	% of workers employed in mining	Decennial census and related reports	Vinje 1996
59	% of workers employed in construction	Decennial census and related reports	Vinje 1996
60	% of workers employed in services	Decennial census and related reports	Vinje 1996
61	% of workers employed in manufacturing	Decennial census and related reports	Vinje 1996
62	# of tribally employed forestry operations workers	BIA Division of Forestry	Jorgensen 2000
63	# of forestry workers	BIA Division of Forestry	Jorgensen 2000
64	# of skilled forestry workers working on the reservation for the BIA	Appendix available from authors (still?)	Krepps and Caves 1994
65	# of skilled forestry workers working on the reservation for tribes/tribal contractors	Appendix available from authors (still?)	Krepps and Caves 1994
66	# of low-skilled forestry, seasonal, or clerical/support workers working on the reservation for the BIA	Appendix available from authors (still?)	Krepps and Caves 1994
67	# of low-skilled forestry, seasonal, or clerical/support workers working on the reservation for tribes/tribal contractors	Appendix available from authors (still?)	Krepps and Caves 1994
68	# of tribal employees in forestry	Appendix available from authors (still?)	Krepps and Caves 1994
69	# of tribal plus BIA employees on reservation	Appendix available from authors (still?)	Krepps and Caves 1994
70	# of highly skilled tribal forestry workers	Appendix available from authors (still?)	Krepps and Caves 1994
71	% of tribal workers employed in businesses owned by tribal members in 1980	Appendix available from authors (still?)	Krepps and Caves 1994
72	% receiving public assistance	Decennial census and related reports	Cornell and Kalt 1992

73	% of adults with H.S. degree	Decennial census and related reports	Cornell and Kalt 1992, Cookson 2006; Akee, Jorgensen, and Sunde 2011; Dippel 2010; Cornell and Kalt 2000
74	% of Amer. Indian adults with H.S. degree	Decennial census and related reports	Anderson and Parker 2008; Vinje 1996 (25 and older)
75	% of tribal adults with H.S. degree	Appendix available from authors (still?)	Krepps and Caves 1994
76	H.S. degree attained or not, for single-race American Indian household head whose tribal ethnicity and PUMA status are also known	IPUMS 5% samples of 1990 and 2000 Census long-form data (see Ruggles et al. 2008)	Anderson 2009
77	% of 25+ year olds with 4-year college degree	Decennial census and related reports	Jorgensen 2004; Dippel 2010
78	Individual adult male's highest grade completed, by race	Nat'l. Longitudinal Surveys of Youth, 1979-90 waves	Gitter and Reagan 2002
79	For individual households with single-race Amer. Indian head or spouse, highest grade completed by head (along with tribal affiliation of head and spouse, if any, and PUMA)	IPUMS 5% samples of 2000 Census long-form data	Reagan and Gitter 2007
80	Individual adult male's AFQT score (or score missing), by race	Nat'l. Longitudinal Surveys of Youth, 1979-90 waves	Gitter and Reagan 2002
81	% of populations with English as first language	Decennial census and related reports	Dippel 2010
82	% of Amer. Indians who know a second language	Decennial census and related reports	Cookson 2006
83	% of population 5+ years old speaking Native language at home	Decennial census and related reports	Jorgensen 2004
84	% of 5-17 year olds speaking Native language at home	Decennial census and related reports	Jorgensen 2000, 2004
85	% of population 18+ years old speaking Native language at home	Decennial census and related reports	Jorgensen 2000, 2004
86	% of Amer. Indian population in household where no adults communicate "very well" in English	Decennial census and related reports	Jorgensen 2000
87	Total population of reservation census tract	Decennial census and related reports	Schumacher 2006
88	Minority population of reservation census tract	Decennial census and related reports	Schumacher 2006
89	% Amer. Indian homes without plumbing	Decennial census and related reports	Akee, Jorgensen, and Sunde 2011
90	Travel time to work	Decennial census and related reports	Dippel 2010

91	Share of reservation's tribal members living on res.	Calculated from decennial census data	Dippel 2010
92	% of reservation population that has always lived on the reservation	?	Cornell and Kalt 2000
93	Crime rate in counties with significant reservation Amer. Indian population	Inter-University Consortium for Political and Social Research, Part 78, 1983 County Data Book	Dimitrova-Grajzl, Grajzl, and Guse 2012
94	# of crimes in county of reservation, 1981	Inter-University Consortium for Political and Social Research, Part 78, 1983 County Data Book	Dimitrova-Grajzl, Grajzl, and Guse 2012
95	# of property crimes in county of reservation, 1981	Inter-University Consortium for Political and Social Research, Part 78, 1983 County Data Book	Dimitrova-Grajzl, Grajzl, and Guse 2012
96	Age, for single-race American Indian household head whose tribal ethnicity and PUMA status are also known	IPUMS 5% samples of 1990 and 2000 Census long-form data (see Ruggles et al. 2008)	Anderson 2009
97	For individual households with single-race Amer. Indian head or spouse, sex of head (along with tribal affiliation of head and spouse, if any, and PUMA)	IPUMS 5% samples of 2000 Census long-form data	Reagan and Gitter 2007
98	Sex, for single-race American Indian household head whose tribal ethnicity and PUMA status are also known	IPUMS 5% samples of 1990 and 2000 Census long-form data (see Ruggles et al. 2008)	Anderson 2009
99	Resident in an MSA or not, for single-race American Indian household head whose tribal ethnicity and PUMA status are also known	IPUMS 5% samples of 1990 and 2000 Census long-form data (see Ruggles et al. 2008)	Anderson 2009
100	For individual households with single-race Amer. Indian head or spouse, disability status of head (along with tribal affiliation of head and spouse, if any, and PUMA)	IPUMS 5% samples of 2000 Census long-form data	Reagan and Gitter 2007
101	Disabled or not, for single-race American Indian household head whose tribal ethnicity and PUMA status are also known	IPUMS 5% samples of 1990 and 2000 Census long-form data (see Ruggles et al. 2008)	Anderson 2009
102	For individual households with single-race Amer. Indian head or spouse, married spouse present (along with tribal affiliation of head and spouse, if any, and PUMA)	IPUMS 5% samples of 2000 Census long-form data	Reagan and Gitter 2007
103	Marital status, for single-race American Indian household head whose tribal ethnicity and PUMA status are also known	IPUMS 5% samples of 1990 and 2000 Census long-form data (see Ruggles et al. 2008)	Anderson 2009
104			
105	2. Reservation Business Sector		

106	# of golf courses in reservation's primary county	BEA County Business Patterns	Cookson 2012
107	# of golf courses in reservation's main ZIP code area	?	Cookson 2012
108	Employment in golf courses in reservation's primary county	BEA County Business Patterns	Cookson 2012
109	# of hotels in reservation's primary county	BEA County Business Patterns	Cookson 2012
110	# of Accommodation establishments in reservation's primary county	BEA County Business Patterns	Cookson 2012
111	# of real estate establishments in reservation's primary county	BEA County Business Patterns	Cookson 2012
112	# of barber shops in reservation's primary county	BEA County Business Patterns	Cookson 2012
113	# of beauty salons in reservation's primary county	BEA County Business Patterns	Cookson 2012
114	# of musical or artistic business establishments in reservation's primary county	BEA County Business Patterns	Cookson 2012
115			
116	3. Reservation Finance/Credit		
117	Tribe nonperforming on loan from BIA (as of 1982)	BIA (1986)	Akee, Jorgensen, and Sunde 2011; Jorgensen 2000, 2004
118	$ of credit extended to reservation Indians by private and customary lenders (1951-70), by BIA administrative area	BIA *Annual Reports of Credit and Financing* 1951-70	Parker 2010
119	$ of BIA credit extended to reservation Indians unable to fund elsewhere (1951-70), by BIA administrative area	BIA *Annual Reports of Credit and Financing* 1951-70	Parker 2010
120	Mortgage approved by lender rejected by borrower (includes race of borrower)	Home Mortgage Disclosure Act dataset	Parker 2010
121	Mortgage application denied by lender (includes race of borrower)	Home Mortgage Disclosure Act dataset	Parker 2010
122	Mortgage application leads to mortgage origination (includes race of borrower)	Home Mortgage Disclosure Act dataset	Parker 2010
123	Mortgage lien status (1st, 2nd, none)	Home Mortgage Disclosure Act dataset	Parker 2010
124	Purpose of mortgage (home purchase or home improvement)	Home Mortgage Disclosure Act dataset	Parker 2010
125	Amount of mortgage loan	Home Mortgage Disclosure Act dataset	Parker 2010

126	Type of mortgage (conventional, FHA, VA, FSA/RHA)	Home Mortgage Disclosure Act dataset	Parker 2010
127	Mortgage applicant's income	Home Mortgage Disclosure Act dataset	Parker 2010
128	Mortgaged property is a manufactured home	Home Mortgage Disclosure Act dataset	Parker 2010
129	Mortgage applicant(s) gender	Home Mortgage Disclosure Act dataset	Parker 2010
130	Mortgage applicant intends to live in the property	Home Mortgage Disclosure Act dataset	Parker 2010
131	HOEPA Mortgage	Home Mortgage Disclosure Act dataset	Parker 2010
132			
133	4. Reservation and Related Ag/Forestry Activities		
134	Reservation farmland in trust status	BIA Natural Resources Information System	Anderson and Lueck 1992a,b
135	High-quality reservation farmland in trust status	BIA Natural Resources Information System	Anderson and Lueck 1992b
136	Land quality (ag suitability index)	U.N. FAO Global Agro-Ecological Zones project and Census geographic files	Dippel 2010
137	Land quality (ruggedness)	U.N. FAO Global Agro-Ecological Zones project and Census geographic files	Dippel 2010
138	Reservation farmland in individual trust status	BIA Natural Resources Information System	Anderson and Lueck 1992b
139	Reservation farmland in individual trust status and operated by American Indians	BIA Natural Resources Information System	Anderson and Lueck 1992a,b
140	Value of ag output on trust land	BIA Natural Resources Information System	Anderson and Lueck 1992a,b
141	Value of ag output per acre in a reservation county	USDA Census of Agriculture	Anderson and Lueck 1992a,b
142	Value of ag output per acre of reservation fee-simple land	Calculated as the sum over counties of (Value of ag output per acre in a reservation county)*(Fraction of reservation within that county)	Anderson and Lueck 1992a,b
143	Value of ag output on reservation	Calculated as (Value of ag output on trust land) plus (Fee simple land area on reservation)*(Value of ag output per acre of reservation fee-simple land)	Anderson and Lueck 1992a
144	Average farm size in reservation county	USDA Census of Agriculture	Anderson and Lueck 1992a,b
145	Price tribe receives for a timber bundle (by year)	BIA Area Annual Report, Branch of Forestry	Jorgensen 2000
146	Price received per board foot of timber	Appendix available from authors (still?)	Krepps and Caves 1994
147	Tribe's total timber sales (by year)	BIA Area Annual Report, Branch of Forestry	Jorgensen 2000
148	Board ft. of timber harvested from tribal land	Appendix available from authors (still?)	Krepps and Caves 1994

149	Timber sold by allottee owners (by year)	BIA Area Annual Report, Branch of Forestry	Jorgensen 2000
150	% of tribe's timber sold to tribal entities (by year)	BIA Area Annual Report, Branch of Forestry	Jorgensen 2000
151	Average size of tribal timber lots sold (by year)	BIA Area Annual Report, Branch of Forestry	Jorgensen 2000
152		Appendix available from authors (still?)	Krepps and Caves 1994
153	Total growing stock of timber trees	BIA Division of Forestry	Jorgensen 2000
154		Appendix available from authors (still?)	Krepps and Caves 1994
155	Board ft. of timber in trees no longer growing	Appendix available from authors (still?)	Krepps and Caves 1994
156	% of harvested timberland owned by tribal allottees	Appendix available from authors (still?)	Krepps and Caves 1994
157	% of timber harvested by American Indians (by year)	Appendix available from authors (still?)	Krepps and Caves 1994
158	Tribe owns its own sawmill	Appendix available from authors (still?)	Krepps and Caves 1994
159			
160	5. Reservation Gambling Operations		
161	# of slot machines in tribal casinos	Gambling-oriented websites; *Tiller's Guide to Indian Country*	Anderson and Parker 2008, Cookson 2006
162		?	Parker 2010
163		Gambling-oriented websites; *Tiller's Guide to Indian Country*; Bourie 2000	Cookson 2010
164	Tribal casino present in year XXXX	BIA and National Indian Gaming Commission (to identify gaming tribes); for opening dates, combination of BIA data on gaming compacts, websearch of newspaper articles and tribal sites, and discussions with tribal and casino officials	Evans and Topoleski 2002
165		Lexis-Nexis search of newspaper articles	Anderson and Parker 2008
166		Gambling-oriented websites and Tiller's Guide to Indian Country	Cookson 2006
167		Gambling-oriented websites; Tiller's Guide to Indian Country; Bourie 2000	Cookson 2010
168		?	Akee, Jorgensen, and Sunde 2011; Cookson 2012 (source perhaps Cookson 2010?)

169		Communication (?) from Wm. N. Evans	Anderson 2009
170	Tribe contracts for outside casino management	National Indian Gaming Commission	Cookson 2006
171	Tribal bingo operation as of 1987	BIA 1987	Jorgensen 2000
172	Tribal gambling operation during 1990-2000	Taylor and Kalt 2005	Dippel 2010
173	Tribe has land eligible for tribal casino in 2+ states	Census Bureau	Cookson 2010
174			
175	6. Reservation Land		
176	Total reservation area	Ocular planimetry applied to maps	Anderson and Lueck 1992a,b
177		?	Dippel 2010
178		Decennial census and related reports	Anderson and Parker 2008; Cookson 2006, 2010, 2012; Mushinski and Pickering 2000
179	Tribal trust land area	BIA Natural Resources Information System	Anderson and Lueck 1992b
180		BIA; Real estate divisions of regional offices	Anderson and Parker 2008, Cookson 2006
181	Typical size of individual trust land allotments on reservation	National Congress of American Indians (1968), "Heirship: A Short Report."	Anderson and Lueck 1992a,b
182	Fee-simple land area on reservation	Calculated as total area less trust land area	Anderson and Lueck 1992a,b; Anderson and Parker 2008, Cookson 2006
183		?	Parker 2010
184		Anderson and Parker 2006	Cookson 2010
185	% reservation land under private title	?	Cornell and Kalt 2000
186	% reservation land in individual trust status	?	Parker 2010
187	Fraction of reservation within a county	Ocular planimetry applied to maps	Anderson and Lueck 1992b
188			
189	7. Reservation Laws and Governance		
190	P.L. 280 applies	Federal and state laws	Anderson and Parker 2008, Cookson 2006, 2012; Parker 2010

191	County has a mandatory P.L. 280 reservation with significant Amer. Indian population	Goldberg et al. (2008); U.S. Code Title 18, Sec. 1162	Dimitrova-Grajzl, Grajzl, and Guse 2012
192	County has an optional P.L. 280 reservation with significant Amer. Indian population	Goldberg et al. (2008); U.S. Code Title 18, Sec. 1162	Dimitrova-Grajzl, Grajzl, and Guse 2012
193	State court jurisdiction (based on P.L. 280)	Modifications of Anderson and Parker 2008	Cookson 2010, 2012
194	Directly elected chief executive	Tribal constitutions and amendments (20th century)	Akee, Jorgensen, and Sunde 2011; Jorgensen 2000; Cornell and Kalt 2000
195	Term length of tribal leader	Harvard Project on American Indian Economic Development constitutional archive and related reports	Jorgensen 2000, 2004
196	Tribal political system is presidential, parliamentary, or direct democracy	Harvard Project on American Indian Economic Development constitutional archive and related reports	Jorgensen 2000, 2004; Cornell and Kalt 2000
197	Staggered elections for tribal council	Tribal constitutions and amendments (20th century)	Akee, Jorgensen, and Sunde 2011
198	Year modern constitution adopted	Tribal constitutions and amendments (20th century)	Akee, Jorgensen, and Sunde 2011
199	U.S. president was Republican in year modern constitution was adopted	Tribal constitutions and amendments (20th century)	Akee, Jorgensen, and Sunde 2011
200	Constitution or other institutions provide for (1) independent, (2) council-controlled, or (3) no judiciary	Tribal constitutions and amendments (20th century); Harvard Project on American Indian Economic Development constitutional archive and related reports	Akee, Jorgensen, and Sunde 2011; Jorgensen 2000, 2004; Cornell and Kalt 2000
201	Tribal court resources	NAICIA 1985	Cookson 2012
202	Tribal court caseload	NAICIA 1985	Cookson 2012
203	Indian Housing Authority admin. capacity score	HUD/Urban Institute	Jorgensen 2004
204	Turnover of Indian Housing Authority Exec. Dirs. 1984-93	HUD/Urban Institute	Jorgensen 2004
205	# of units managed by Indian Housing Authority 1993	HUD/Urban Institute	Jorgensen 2004
206	Age of Indian Housing Authority	HUD/Urban Institute	Jorgensen 2004
207	Value of tenant accounts receivable, Indian Housing Authority	HUD/Urban Institute	Jorgensen 2004
208	Blood quantum required for tribal membership	Harvard Project on American Indian Economic Development constitutional archive and related reports	Jorgensen 2000

209	Media reports of political conflicts on res.	Key word search of ProQuest Newspaper Digest	Dippel 2010
210	Media reports of all reservation government topics	Key word search of ProQuest Newspaper Digest	Dippel 2010
211	Per capita receipt of funds from BIA	BIA Greenbook	Dippel 2010
212	Amount of embezzlement, fraud, or theft of BIA and reservation funds annually	Office of the Inspector General, semi-annual reports to Congress	Dippel 2010
213	Governmental barriers to reservation to off-reservation trade in capital, labor, technology goods	?	Cornell and Kalt 2000
214	Indigenous (historical) political organization matches form of modern tribal constitution	?	Cornell and Kalt 2000
215	1977 local gov't. expenditure on police, in county with significant reservation Amer. Indian pop.	Inter-University Consortium for Political and Social Research, Part 78, 1983 County Data Book	Dimitrova-Grajzl, Grajzl, and Guse 2012
216	1977 local gov't. expenditure on highways, in county with significant reservation Amer. Indian pop.	Inter-University Consortium for Political and Social Research, Part 78, 1983 County Data Book	Dimitrova-Grajzl, Grajzl, and Guse 2012
217	Date tribe began managing forestry activities	Appendix available from authors (still?)	Krepps and Caves 1994
218			
219	8. Reservation NonAg, NonForestry Resources		
220			
221	Distance to nearest metro area (various definitions)	Calculated from Census population data and Internet mapping tools	Anderson and Parker 2008; Cookson 2006, 2010, 2012; Dippel 2010;
222		HUD/Urban Institute	Jorgensen 2004
223	Reservation located in an MSA	Decennial census and related reports	Reagan and Gitter 2007
224	Member of Council of Energy Resources Tribes	Council of Energy Resources Tribes	Anderson and Parker 2008; Dippel 2010
225	Natural amenity endowment	Calculated from USDA county data	Anderson and Parker 2008, Cookson 2006
226	Good resource endowment	?	Cornell and Kalt 2000
227	Average temperature	?	Cookson 2012
228	# of months with below-freezing low temperatures	?	Cookson 2012
229			

230	9. Characteristics of Nearby Off-Reservation Areas		
231	Amer. Indian population of reservation's county and counties adjacent to reservation	?	Cookson 2012
232	Population of reservation's primary county, total and by age groups	Decennial census and related reports	Evans and Topoleski 2002
233	Population density of adjacent counties	Decennial census and related reports	Anderson and Parker 2008; Cookson 2010, 2012
234	Population density of adjacent counties in 1950	U.S. Census 1950	Parker 2010
235	Population and pop. density of reservation's state	Decennial census and related reports	Cookson 2012
236	Population and pop. density of nearest metro	Decennial census and related reports	Cookson 2012
237	Per capita income in reservation or adjacent counties (various weightings)	Decennial census and related reports	Anderson and Parker 2008; Cookson 2006, 2010, 2012; Dippel 2010; Cornell and Kalt 2000
238		BEA Regional Economic Information System	Evans and Topoleski 2002
239	Per capita income in reservation's state	Decennial census and related reports	Cookson 2010, 2012
240	Per capita income of nearest metro area	Decennial census and related reports	Cookson 2010
241	Poverty rate in adjacent counties	Decennial census and related reports	Cornell and Kalt 2000
242	Unemployment rate of reservation's county	Nat'l. Longitudinal Surveys of Youth, 1979-90 waves	Gitter and Reagan 2002
243	# of jobs covered by unemployment insurance in reservation's primary county	BEA Regional Economic Information System	Evans and Topoleski 2002
244	Average wage of jobs covered by unemployment insurance in reservation's primary county	BEA Regional Economic Information System	Evans and Topoleski 2002
245	Population within 100 miles of tribal bingo hall	Decennial census and EPA Landview program	Jorgensen 2000
246	Population within 50 and 50-100 miles of tribal casino	?	Evans and Topoleski 2002
247	Median income of population within 100 miles of tribal bingo hall	Decennial census and EPA Landview program	Jorgensen 2000
248	Lottery present in nearby state	Personal communication from Charles Strutt, Executive Director, Multi-State Lottery Association	Jorgensen 2000
249	Non-Indian race track betting allowed in reservation's state	American Gaming Association, Industry Information: Fact Sheets--General Information	Cookson 2010

250	Non-Indian for-profit electronic gambling devices allowed in reservation's state	American Gaming Association, Industry Information: Fact Sheets--General Information	Cookson 2010
251	Distance to nearest other tribal bingo hall	BIA 1987, Rand McNally Tripmaker	Jorgensen 2000
252	Distance from Nevada casinos	Rand McNally Tripmaker	Jorgensen 2000
253	Casino present in nearby county other than reservation's primary county	?	Cookson 2012
254	% of adjacent county population belonging to various religious organizations (Judeo-Christian, Baptist, Catholic, Lutheran, Mormon)	Bradley et al. (1992)	Jorgensen 2000
255	# of Judeo-Christian churches in reservation's state	Assn. of Religious Data Archives (1990)	Cookson 2010
256	Price received per timber bundle in nearest national forest (for bundles comparable to tribe's sales)	U.S. Forest Service Automated Timber Sales Accounting System	Jorgensen 2000
257		Appendix available from authors (still?)	Krepps and Caves 1994
258	Average size of tribal timber lots sold (by year) in nearest national forest	Appendix available from authors (still?)	Krepps and Caves 1994
259	# of golf courses in adjacent counties	BEA County Business Patterns	Cookson 2012
260	Natural amenity endowment of adjacent county	USDA	Cookson 2012
261	Mortgage in adjacent county approved by lender rejected by borrower (includes race of borrower)	Home Mortgage Disclosure Act dataset	Parker 2010
262	Mortgage application in adjacent county denied by lender (includes race of borrower)	Home Mortgage Disclosure Act dataset	Parker 2010
263	Mortgage application in adjacent county leads to mortgage origination (includes race of borrower)	Home Mortgage Disclosure Act dataset	Parker 2010
264	Quality of courts in reservation's state(s), as perceived by businesses	U.S. Chamber of Commerce	Parker 2010
265			
266	10. Tribal Historical Data (pre-1951)		
267	Traditional agricultural practices	U.S. Dept. of Commerce (1974), "Federal and State Indian Reservations and Indian Trust Areas"	Anderson and Lueck 1992b
268	Tribe lived in reservation area pre-reservation	U.S. Dept. of Commerce (1974), "Federal and State Indian Reservations and Indian Trust Areas"	Anderson and Lueck 1992b

269	Amer. Indian population of reservation in 1950	BIA reports, U.S. National Archives	Parker 2010
270	Average age of reservation population in 1900	U.S. Census; IPUMS	Akee, Jorgensen, and Sunde 2011
271	% male, reservation population in 1900	U.S. Census; IPUMS	Akee, Jorgensen, and Sunde 2011
272	% married, reservation population in 1900	U.S. Census; IPUMS	Akee, Jorgensen, and Sunde 2011
273	% in labor force, reservation population 1900	U.S. Census; IPUMS	Akee, Jorgensen, and Sunde 2011
274	Average occupational-income score, reservation population 1900	U.S. Census; IPUMS	Akee, Jorgensen, and Sunde 2011
275	% "white blood" on reservation, from % of Amer. Indian intermarriage with non-Indians as of 1900	U.S. Census; IPUMS	Akee, Jorgensen, and Sunde 2011
276	% full-blood Amer. Indian in 1930, in county with significant reservation Amer. Indian pop. today	U.S. Census (1937), "The Indian Population of the United States and Alaska, 1930," Table 53	Dimitrova-Grajzl, Grajzl, and Guse 2012
277	% non-English-speaking Amer. Indian in 1930, in county with significant reservation Amer. Indian pop. today	U.S. Census (1937), "The Indian Population of the United States and Alaska, 1930," Table 53	Dimitrova-Grajzl, Grajzl, and Guse 2012
278	% of pop. 25+ with H.S. degree, as of 1950, in county with significant reservation Amer. Indian pop. today	Inter-University Consortium for Political and Social Research, Part 78, 1983 County Data Book	Dimitrova-Grajzl, Grajzl, and Guse 2012
279	Games of chance played by Amer. Indian nations in the early 1900s	Culin 1992	Jorgensen 2000; Cookson 2010
280	Health status of tribal members 1890-1901 (mainly height)	Jantz 1995, from Boas	Dippel 2010
281	Tribes on reservation were politically (1) integrated or (2) autonomous before reservation was formed	Murdock (1967) Ethnographic Atlas	Dippel 2010
282	Multiple local bands were combined when reservation formed	Tribal websites; studies of individual reservations; on-line database of U.S.-Native American treaties	Dippel 2010
283	% of food traditionally sourced from (1) ag, (2) fishing, (3) hunting, (4) gathering	Murdock (1967) Ethnographic Atlas	Dippel 2010
284	Pre-reservation social structure was (1) egalitarian, (2) wealth-based, (3) hereditary	Murdock (1967) Ethnographic Atlas	Dippel 2010

285	Average value of mine output per sq. km. of tribal homeland, 1860-70-80, for (1) gold, (2) silver and copper, (3) coal, (4) precious metals, (5) all metals	Digitization of tribal maps in National Atlas of the U.S. (1970) and Smithsonian Handbook of Native Americans (1981) and mining maps in 1880 Census	Dippel 2010
286	% of individual Native American's formative years (0-19) during the X years leading up to reservation formation (for various values of X)	Computed from data in Jantz 1995 (which is based on Boas's ethnographic work)	Dippel 2010
287	% freemen (?)	?	Dippel 2010
288	Tribe historically practiced reciprocity in distribution of food and chattels between communities	Jorgensen (1980)	Mushinski and Pickering 2000
289	Tribe historically practiced gifts of food and chattels between communities	Jorgensen (1980)	Mushinski and Pickering 2000
290	Tribe historically was (1) settled year around, (2) migratory, (3) neither	Jorgensen (1980)	Mushinski and Pickering 2000
291	Tribe historically had hierarchical kinship	Jorgensen (1980)	Mushinski and Pickering 2000
292	Tribe historically had no kinship units	Jorgensen (1980)	Mushinski and Pickering 2000
293	Tribe historically had descent as (1) patrilineal, (2) matrilineal, (3) bilateral	Jorgensen (1980)	Mushinski and Pickering 2000
294	Tribe historically had hierarchical system of subordinate political statuses	Jorgensen (1980)	Mushinski and Pickering 2000
295	Per capita income of reservation American Indians in 1940	Files of the BIA Statistician, U.S. National Archives	Parker 2010

Table 2: Transition Rates among Credit Score Categories for Two Reservation Counties and One Non-Reservation County (Pennington) in South Dakota, 2000-2012

Panel 1

Pennington County N= 1291		Credit score category in 2012					
		<620	621-680	>680	No score	No File	% in Row in 2000
Credit score category in 2000	<620	0.44	0.21	0.23	0.04	0.07	29%
	621-680	0.18	0.22	0.49	0.04	0.05	23%
	>680	0.05	0.08	0.83	0.02	0.03	41%
	No score	0.25	0.13	0.09	0.14	0.38	7%
% in Col. in 2012		21%	15%	52%	4%	7%	

Panel 2

Shannon County N=89		Credit score category in 2012					
		<620	621-680	>680	No score	No File	% in Row in 2000
Credit score category in 2000	<620	0.33	0.24	0.14	0.12	0.16	55%
	621-680	0.15	0.23	0.38	0.15	0.08	15%
	>680	0.11	0.22	0.33	0.00	0.33	10%
	No score	0.33	0.06	0.11	0.17	0.33	20%
% in Col. in 2012		28%	20%	19%	12%	20%	

Panel 3

Todd County N=71		Credit score category in 2012					
		<620	621-680	>680	No score	No File	% in Row in 2000
Credit score category in 2000	<620	0.52	0.15	0.12	0.06	0.15	46%
	621-680	0.36	0.07	0.29	0.07	0.21	20%
	>680	0.00	0.14	0.71	0.00	0.14	10%
	No score	0.35	0.00	0.00	0.24	0.41	24%
% in Col. in 2012		39%	10%	18%	10%	23%	

(Source: FRBNY Consumer Credit Panel/Equifax)