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Courting Economic Development

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Disciplines

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Comments

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March 17, 2016

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We show that court enforcement uncertainty hinders economic development using sharp variation in judiciaries across Native American reservations in the United States. Congressional legislation passed in 1953 assigned state courts the authority to resolve civil disputes on a subset of reservations, while tribal courts retained authority on unaffected reservations. Although affected and unaffected reservations had similar economic conditions when the law passed, reservations under state courts experienced significantly greater long-run growth. When we examine the distribution of incomes across reservations, the average difference in development is due to the lower incomes of the most impoverished reservations with tribal courts. We show that the relative under-development of reservations with tribal courts is driven by reservations with the most uncertainty in court enforcement. JEL Codes: K10, N22, O10

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What causes economic growth? Despite centuries of inquiry and decades of empirical research, economists continue to wrestle with this fundamental question. In particular, while it is clear in a general sense that "institutions" are important for development (e.g., North, 1990), identifying the specific mechanisms through which institutions encourage growth is a significant challenge (Sala-i-Martin et al., 2004).

One potentially important institutional determinant of economic performance is the legal system, as countries differ sharply in the extent to which the courts enforce contracts, resolve property disputes, and protect individuals from expropriation by the government. For example, a prominent literature argues that countries with legal origins in civil (rather than common) law have higher levels of administrative procedures in their courts – what Djankov et al. (2003) call "legal formalism." These countries have "...heavier regulation, less secure property rights, more corrupt and less efficient governments, and even less political freedom than do the common law countries." (Glaeser and Shleifer, 2002 pg.1194).

Yet scholars remain skeptical that these studies convincingly show legal institutions or court systems cause economic growth. The primary criticism is that statistical measures of the quality of legal institutions simply proxy for other factors – such as culture, political differences, or historical events – which also have persistent effects on economic development (Glaeser and Shleifer, 2002). For example, even (La Porta et al., 2008) note that "connect[ing] legal origins to aggregate economic growth ... has proved difficult."

This paper addresses this criticism by studying how legal institutions affect economic development across Native American reservations in the United States. The reservation setting avoids many of the confounding explanations from the cross-national setting because – in comparison to countries – reservations are similar geographically, have similar opportunities to trade with the rest of the United States, and have a similar history, particularly with respect to their relation to the U.S. government. In addition, the Native American experience is informative because court systems vary sharply across reservations, in part due to the (external) actions of the U.S. Congress. One such action – Public Law 280 (PL280), passed by Congress in 1953 – transferred jurisdiction over civil and criminal proceedings on a subset of reservations to state courts (U.S. Congress, 1953).[1] On reservations not affected by PL280, these proceedings are handled by tribal courts. As prior work shows, state court jurisdiction is associated with significantly higher reservation income.[2]

We depart from previous work on PL280 by examining heterogeneity in development outcomes among reservations with tribal courts. We find that many reservations with autonomous tribal courts are just as well-off as reservations under state court jurisdiction. Yet the income distribution for tribal

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[1]Public Law 280 stipulated that state courts have *concurrent* jurisdiction with tribal courts on affected reservations. On unaffected reservations, tribal courts have exclusive jurisdiction over civil and criminal proceedings because state courts have no authority. Thus, the distinctive feature of a non-PL280 reservation is the absence of state courts, not the presence of tribal courts. In practice, PL280 transferred court activity almost entirely to state courts (see Table 2b). For this reason and because the exposition is simpler, we will sometimes refer to PL280 reservations as "state court reservations" and non-PL280 reservations as "tribal court reservations."

[2]For example, Brown et al. (2016) find that income per capita is 7-14% greater on reservations with state courts, after differencing out regional differences in economic development.

court reservations has a much longer lower tail, which means that these reservations are more likely to experience extreme poverty. In addition, we show that this lower tail of outcomes can explain the entire average difference in development outcomes across reservations with state and tribal courts.

Next, we study what contributes to the increased heterogeneity in economic development under autonomous tribal courts. In particular, we evaluate how uncertainty over legal enforcement influences the distribution of incomes across reservations. In our tests, we use the tribal court's civil caseload to proxy for enforcement uncertainty. This measure is theoretically founded because, when legal enforcement is well understood (low enforcement uncertainty), disputing parties are more likely to settle their differences without using the court, resulting in lower caseload.[3]

Consistent with a mechanism whereby legal enforcement uncertainty hinders economic growth, we find that reservations with the busiest (most active) tribal courts have significantly lower per capita income, and that this effect can explain the entire mean income difference between state-court and tribal-court reservations. In fact, using a Komologorov-Smirnov test, we find no difference between the entire distribution of tribal court reservations with low enforcement uncertainty and state court reservations. In this way, our study points to an important mechanism for understanding the legal foundations of development and for improving tribal courts from within: Reducing enforcement uncertainty in the courts can facilitate development and may go a long way to alleviating the persistent underdevelopment of reservations in the United States.

1   Native American Institutions and Development

Native American tribes are nations with limited sovereignty. Their governmental rule is subordinate to the U.S. federal government, but with few exceptions, not subject to state government decisions. A set of three Supreme Court decisions between 1823 and 1832 – called the Marshall Trilogy after Chief Justice John Marshall – established the guiding legal principle that tribes' relationship to the federal government "resembles that of a ward to its guardian (*Cherokee Nation v. Georgia* 1832)." Under this legal framework, a long history of federal legislative interventions has generated a common set of experiences among the many Native American tribes. Although the federal government's attitude toward tribes varied between assimilation and self-determination during this period, most federal legislation tended to make reservations more similar, and this is true even for pro-sovereignty measures. For example, although the Indian Reorganization Act of 1934 was a measure to enhance tribal sovereignty and self determination, the law created a template constitutional form that most reservations followed.

In contrast to most interventions in reservation policy, one of the most crucial pieces of legislative intervention on reservations created stark differences in legal jurisdiction across tribes. Passed by Congress in 1953, Public Law 280 transferred authority to state courts over civil and criminal pro-

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[3]This proxy is a natural outgrowth of the law and economics literature on transaction costs and property rights. In fact, the notion that cases will be less likely to be brought to the court when enforcement is clear is an old idea that dates back to at least the original exposition of "The Coase Theorem" in Coase (1960). In our context, enforcement uncertainty is greater when there are high transaction costs and improperly specified property rights.

ceedings on most reservations in Alaska, California, Minnesota, Nebraska, Oregon, and Wisconsin. State courts would later have jurisdiction in Florida, Iowa, and Washington, while New York gained jurisdiction three years prior to PL280. In passing PL280, Congress sought to transfer the burden of federal court jurisdiction to the states, particularly in regions with greater perceived lawlessness. The transfer of authority to state courts for criminal jurisdiction was the primary consideration behind the law, but "[C]ivil jurisdiction was an afterthought in a measure aimed primarily at bringing law and order to the reservations, added because... it was convenient and cheap (Goldberg-Ambrose, 1997, p. 50)." Table 1 summarizes how PL280 affected the court systems of the largest reservations.

Two aspects of court assignment under PL280 are important for our tests. First, reservations were not systematically assigned to state courts based on their potential for economic development. Parker (2012) and Brown et al. (2016) report that PL280 and non-PL280 reservations had similar levels of credit market activity, human capital, and per capita income around the time PL280 was passed. Rather, most commentators argue that the objective of PL280 was to ultimately assimilate Native Americans into the broader culture. Second, a key difference between state and tribal courts is that state courts appear to provide more predictable (less uncertain) contract enforcement (e.g., Mudd, 1972; Anderson and Parker, 2008). As a consequence, reservations with state courts see significantly more financial and long-term contracting (e.g., Parker, 2012; Cookson, 2014; Brown et al., 2016).

2 Results

2.1 PL280 and Heterogeneity in Tribal Courts

Although reservations were similar at the time PL280 was passed, there are now stark differences between reservations subject to PL280 and those that are not (Table 2). Consistent with prior work on PL280, we verify that incomes are higher under state court jurisdiction by approximately $2000, both for the mean and median reservation (Anderson and Parker, 2008; Cookson, 2014; Brown et al., 2016).[4] Indeed, a two-sample t-test indicates that this difference is statistically significant at the five percent level ($t = 2.14$).[5]

The difference in average incomes across jurisdictions can be attributed to the substantial heterogeneity among non-PL280 reservations, and in particular, the longer lower tail of outcomes. Table 2a highlights the greater heterogeneity among non-PL280 reservations, which have both a greater standard deviation in per capita incomes ($4523.2 > 3593.0$) and a greater interquartile range ($6618 > 4156$) than PL280 reservations. Examining the distribution more directly, Figure 1 shows the greater heterogeneity is due to a longer lower tail in the tribal court income distribution. Although the income distribution for PL280 reservations first order stochastically dominates the income distri-

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[4]Income data comes from Bureau of Economic Analysis's Local Area Personal Incomes in 2000. We link this county-level income data to the location of the reservation headquarters using Tiller's Guide to Indian Country (Tiller, 1996).

[5]This association has been documented rigorously in the literature in two complementary ways. First, Anderson and Parker (2008) evaluate empirically how state jurisdiction under PL280 led to greater decade-by-decade growth in the latter half of the 20th century. Second, in related work, we net out arbitrary regional differences by using adjacent counties near the reservation as controls in a spatial difference-in-difference design (Brown et al., 2016).

bution for non-PL280 reservations, there is little difference between incomes at the 75th percentile or above.

Turning to differences in court activity, data from the 1985 National American Indian Court Judges Association (NAICJA, 1985) provides evidence that PL280 had a pronounced effect on caseload and court personnel across legal jurisdictions (Table 2b). There is remarkably little activity in tribal courts on PL280 reservations (an average of 1.5 civil cases and zero criminal cases per 10,000 residents) and almost no judges or court personnel are assigned to these tribal courts. Tribal courts not assigned to the jurisdiction of PL280 are much busier. On average, they witness over 50 civil cases and over 200 criminal cases per 10,000 residents. Autonomous tribal courts average over one judge and four court workers per 10,000 residents.

The difference in tribal court activity under PL280 confirms the intuition of prior work that the law meaningfully transferred jurisdiction over disputes to state courts (Anderson and Parker, 2008). [6]The transfer of jurisdiction from tribal courts to state courts is natural because state courts are better equipped to handle more complicated disputes, and also offer clearer enforcement of contracts with appeal to relevant precedent (Parker, 2012).

2.2   Active Tribal Courts and Enforcement Uncertainty

We now use variation in tribal court characteristics to explain the heterogeneity in incomes within the set of reservations unaffected by PL280. Our results help explain why differences in legal jurisdiction have had pronounced effects on development of Native American reservations.

We show that the degree of uncertainty over the enforcement of civil disputes explains much of the variation in incomes across non-PL280 reservations. We investigate this enforcement uncertainty mechanism using the number of civil cases per capita as a proxy for the amount of enforcement uncertainty. This measure is motivated by Coasean bargaining, which has been a longstanding feature of the law and economics literature (Coase, 1960). When the outcome of a potential case is more certain, it is more likely to be settled out of court, reducing aggregate caseload.

In support of the hypothesis that greater enforcement uncertainty hinders economic development, Figure 2 indicates a strong negative relationship between the number of civil cases per capita and per capita income among reservations with autonomous tribal courts. A line of best fit has a slope of -27.4, which implies an increase of 62.1 cases (approximately one standard deviation) is associated with a \$1700 decrease in per captia income.[7] Furthermore, the R-squared in the associated simple linear regression is 0.141, which indicates that civil caseload alone explains a sizable fraction of the variation in reservation incomes.

Differences in enforcement uncertainty help us understand why PL280 had polarized effects on reservation development. Panel (a) of Table 3 separates non-PL280 tribes into active and inactive tribal courts (above or below the median of civil cases per capita, respectively), and compares these

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[6]Even though tribal courts had an opportunity to hear cases when sharing concurrent jurisdiction with state courts under PL280, they did not.

[7]This is calculated using the formula for the log-linear form given in Wooldridge (2003): $\%\Delta = exp\left\{\hat{\beta}\right\} - 1$.

outcomes to PL280 reservations. After accounting for uncertainty in contract enforcement, there is no difference in average per capita income between reservations under state-court jurisdiction and reservations with autonomous tribal courts. Both reservations under state courts and reservations with inactive tribal courts have average per capita incomes equal to roughly \$23,500, and the difference in their incomes is not statistically different from zero ($t = -0.167$). In contrast to inactive tribal courts, reservations with active tribal courts have dramatically lower incomes than reservations subject to state court jurisdiction (approximately \$3000, $t = 3.14$).[8]

Graphical evidence strengthens our argument that court enforcement uncertainty explains the divergence in reservation development, not just on average, but across the entire distribution. In Figure 3, we separately plot the distribution of incomes for reservations with state courts, reservations with inactive tribal courts, and reservations with active tribal courts. Not only are the means and medians statistically indistinguishable between state courts and inactive tribal courts, but the distributions are virtually identical. Using a Kolmogorov-Smirnov test, we are unable to reject the null hypothesis that incomes from PL280 reservations and incomes from inactive tribal courts are drawn from the same distribution ($p - value = 0.928$). In contrast, incomes on reservations with active tribal courts are less than the other reservation types at all points along the distribution. The downward shift in the distribution is statistically significant. A Kolmogorov-Smirnov test for the difference in distributions between active tribal court incomes and PL280 (inactive tribal courts) incomes yields a p-value of 0.030 (0.034).[9]

Regression analysis supports our interpretation of these findings by showing that they are not due to scaling, outliers, or population differences. In particular, Table 4 reports the results from OLS regressions of logged per capita income on an indicator for state jurisdiction through PL280, measures of tribal court activity, and in some specifications, logged population. First, we verify that reservations under PL280 average 7 to 9 percent higher incomes than non-PL280 reservations, and that the difference in income is not due to population differences (columns 1 and 2). Second, we show that greater activity in tribal courts is associated with lower levels of development among non-PL280 reservations. A standard deviation increase in tribal court caseload per capita leads to a 5.3 to 7.7 percent decline in per capita income (columns 3 and 4). Consistent with our graphical evidence, the magnitude of this decline is just as large as the effect of PL280 jurisdiction on incomes, even after controlling for population differences. Finally, we combine aspects of these tests to compare incomes across reservations with state courts, inactive tribal courts, and active tribal courts. In specifications that include indicator variables for state courts and inactive tribal courts, we find significantly higher incomes (approximately 10 to 15 percent) relative to reservations with active tribal courts. Consistent with our summary statistics and graphical evidence, the difference between state jurisdiction

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[8]Moreover, active tribal courts have more judges and more personnel than inactive courts (Table 3b). This pattern suggests that the greater enforcement uncertainty does not arise from under-staffing of the court, but enforcement rules and clear adherence to precedent, which have been mechanisms discussed in connection to the gap in outcomes between PL280 and non-PL280 reservations (Parker, 2012).

[9]Jointly, the distribution of income for non-PL280 reservations with active tribal courts is statistically different other reservations (pooling PL280 reservations with inactive tribal courts on non-PL280 reservations) with a Komogorov-Smirnov test p-value of 0.009.

and tribal jurisdiction under an inactive tribal court is negligible (columns 5 and 6). Indeed, as we showed graphically, active tribal courts can explain the entire gap between PL280 and non-PL280 reservations.

3   Discussion

We show that judicial uncertainty is an important constraint on economic development. Our evidence comes from studying the distribution of long run development outcomes in the wake of congressional legislation, Public Law 280, which gave states judicial authority on a subset of Native American reservations. Previous studies have documented higher per capita incomes on reservations subject to PL280. Our new findings show that the difference in averages across legal jurisdiction is due to a longer lower tail of economic activity among non-PL280 reservations. The dispersion in outcomes among non-PL280 reservations is explained by variation in court enforcement uncertainty, providing novel insight into how legal institutions affect growth.

Our findings point to an important question: What aspects of the real economy are affected by judicial uncertainty? Although we expect future research will clarify the specific channels, some have already begun to investigate these mechanisms. Among the most promising angles, uncertain contract enforcement can discourage sunk cost investment and stymie credit market development (Cookson, 2014; Brown et al., 2016). Indeed, there is emerging evidence that greater credit provision arising from better contracting regimes can lead to better economic performance (Ponticelli, 2013). This conjecture is supported anecdotally, "[Reservations] have a lack of access to capital that has stunted economic growth." (Chairman of the Senate Committee on Reservation Unemployment, Byron Dorgan (2010)) Further understanding these channels will refine efforts to ignite development on reservations and beyond.

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Figure 1: The Distribution of Per Capita Income Across Reservations by Jurisdiction Type: State Courts Versus Tribal Courts

Note: These empirical cumulative distribution functions (CDFs) present the cross-reservation distributions of year 2000 per capita income by jurisdiction type (state court jurisdiction under PL280, and tribal court only jurisdiction for non-PL280 reservations). The one-sided Komolgorov-Smirnov p-value equals 0.0617, which indicates that the distribution of income for reservations with autonomous tribal courts is shifted to the left relative to the distribution of income for reservations subject to state courts under Public Law 280.
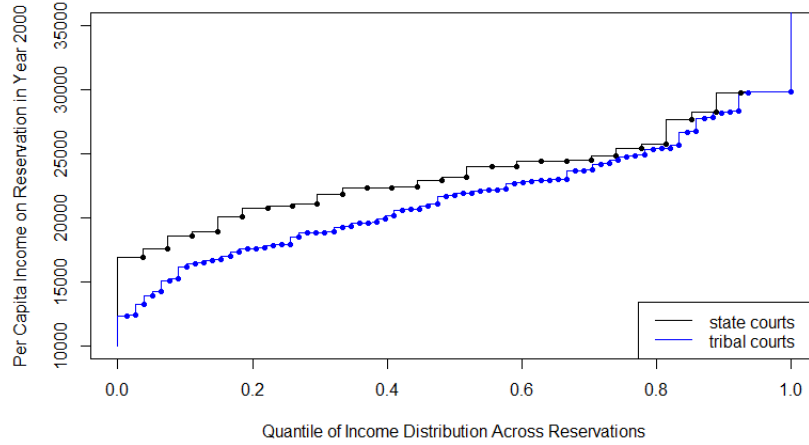

Figure 2: Scatter Plot of Per Capita Income and Court Activity

Note: This scatter plot portrays the relationship between per capita income and the amount of civil court activity on the reservation, restricting attention to only non-PL280 reservations where tribal courts have full authority.
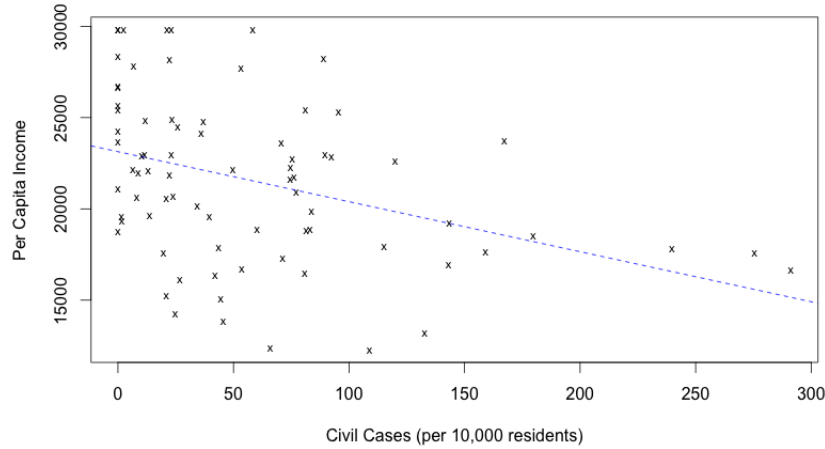

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Figure 3: The Distribution of Per Capita Income Across Reservations by Jurisdiction Type: State Courts Versus Tribal Courts

Note: These empirical cumulative distribution functions (CDFs) present the cross-reservation distributions of year 2000 per capita income by jurisdiction type, similar to Figure 1 except that active tribal courts (i.e., those hearing greater than the median of civil cases per capita in 1985) are split into a separate category from non-active tribal courts. Kolmogorov-Smirnov tests indicate that active tribal courts are shifted to the left relative to state courts (p-value 0.030) as well as inactive tribal courts (p-value 0.034), but that there is no statistical difference between the income distributions of reservations with state courts in comparison to reservations with inactive tribal courts.
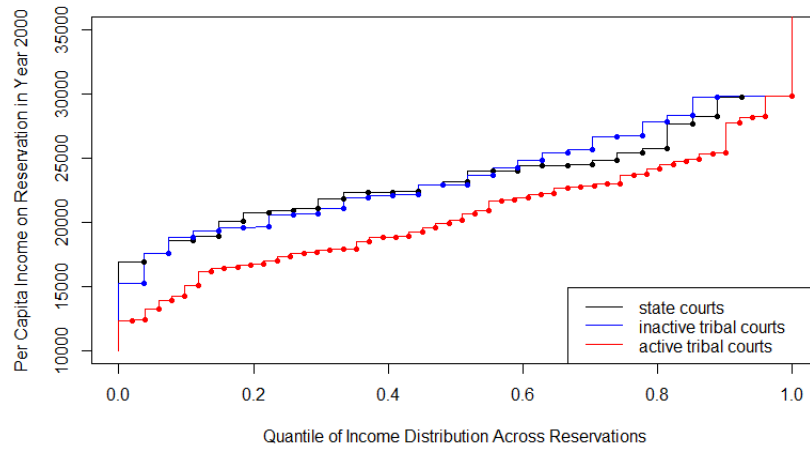
Table 1: Civil Jurisdiction by State Courts and Tribal Courts

Note: This table presents the nature of the variation in state versus tribal court jurisdiction in our sample, the names of exempted or retroceded reservations, and detail on the nature of civil jurisdiction over contracts through PL280 or other regulations. Details from this table were taken from Cookson (2010), which assembled information from an assortment of legal resources (Johnson and Paschal, 1992; Getches et al., 1998; Jimenez and Song, 1998; Melton and Gardiner, 2006).

State	Civil Jurisdiction of Contracts	Exemptions or Retrocessions	# Reservations (tribal courts, state courts)
Alaska	State Courts, mandatory state		(0, 0)
Arizona	Tribal Courts, except for pollution		(9, 0)
California	State Courts, mandatory state		(0, 7)
Colorado	Tribal Courts		(2, 0)
Florida	State Courts, Optional State		(0, 2)
Iowa	State Courts, Optional State		(0, 1)
Idaho	Tribal Courts		(3, 0)
Kansas	Tribal Courts		(2, 0)
Maine	Tribal Courts		(2, 0)
Michigan	Tribal Courts		(4, 0)
Minnesota	State Courts, mandatory state	Red Lake, Boise Forte	(2, 5)
Mississsippi	Tribal Courts		(1, 0)
Montana	Tribal Courts, PL280 conflicts with state constitution		(7, 0)
North Carolina	Tribal Courts		(1, 0)
North Dakota	Tribal Courts, PL280 conflicts with state constitution		(2, 0)
Nebraska	State Courts, mandatory state	Winnebago, Omaha	(1, 1)
New Mexico	Tribal Courts		(10, 0)
Nevada	Tribal Courts		(4, 0)
New York	State Courts under Public Law 785 in 1950		(0, 4)
Oklahoma	Tribal Courts		(1, 0)
Oregon	Tribal Courts, mandatory state but retroceded for all	Warm Springs, Umatilla	(2, 0)
Couth Carolina	Tribal Courts		(1, 0)
South Dakota	Tribal Courts, except for highways		(8, 0)
Utah	Tribal Courts		(1, 0)
Washington	Tribal Courts	Port Madison, Quinault	(13, 0)
Wisconsin	State Courts, mandatory state	Menominee	(1, 7)
Wyoming	Tribal Courts		(1, 0)

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Table 2: Differences Between Public Law 280 Reservations and Other Reservations

Note: This table presents summary statistics on development and court activity by whether the reservation is subject to concurrent juris-diction by state courts under Public Law 280, or if the reservation has a fully autonomous tribal court. Per capita personal income and population come from the Bureau of Economic Analysis regional information system tables, while the information on tribal court activity comes from a 1985 survey of tribal court staffing and activity(NAICJA, 1985).

	State Court Jurisdiction	Autonomous Tribal Courts
Number of Reservations	27	78
Year 2000 Per Capita Personal Income in Headquarters County		
... Mean ($)	23,418.6	21,575.8
... Median ($)	23,165.0	21,794.0
... Standard Deviation ($)	3593.0	4523.2
... Interquartile Range ($)	4156.0	6618.0
Logged Year 2000 Population		
... Mean	10.6	11.0
... Median	10.6	10.5
... Standard Deviation	1.4	1.6
... Interquartile Range	2.1	2.1

(a) Income and Demographic Characteristics in 2000

	State Court Jurisdiction	Autonomous Tribal Courts
... Civil Cases (per 10,000 residents)	1.5	56.8
... Criminal Cases (per 10,000 residents)	0.0	245.0
... Tribal Court Judges (per 10,000 residents)	0.1	1.2
... Tribal Court Personnel (per 10,000 residents)	0.3	4.2

(b) Tribal Court Activity in 1985

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Table 3: Differences Between Public Law 280 Reservations and Reservations with Active and Inactive Tribal Courts

Note: This table presents summary statistics on development and court activity by whether the reservation is subject to concurrent juris-diction by state courts under Public Law 280, or if the reservation has a fully autonomous tribal court (separately split out by active tribal courts and inactive tribal courts; civil cases per capita greater / below the median). Per capita personal income and population come from the Bureau of Economic Analysis regional information system tables, while the information on tribal court activity comes from a 1985 survey of tribal court staffing and activity(NAICJA, 1985).

	State Court Jurisdiction	Inactive Tribal Courts	Active Tribal Courts
Number of Reservations	27	27	51
Year 2000 Per Capita Personal Income in Headquarters County			
... Mean ($)	23,418.6	23,593.6	20,507.6
... Median ($)	23,165.0	22,949.0	20,181.0
... Standard Deviation ($)	3593.0	4087.0	4411.2
... Interquartile Range ($)	4156.0	6067.0	5860.5
Logged Year 2000 Population			
... Mean	10.6	11.2	10.4
... Median	10.6	10.8	10.3
... Standard Deviation	1.6	1.2	1.5
... Interquartile Range	2.1	1.7	2.2

(a) Income and Demographic Characteristics in 2000

	State Court Jurisdiction	Inactive Tribal Courts	Active Tribal Courts
... Civil Cases (per 10,000 residents)	1.5	6.6	83.4
... Criminal Cases (per 10,000 residents)	0.0	147.6	296.6
... Tribal Court Judges (per 10,000 residents)	0.1	0.2	1.7
... Tribal Court Personnel (per 10,000 residents)	0.3	1.0	5.9

(b) Tribal Court Activity in 1985

Table 4: Legal Enforcement and Per Capita Income in Year 2000

Note: This table presents OLS results for the specification

$$\log(income\_per\_capita_i) \quad = \quad \beta_1 st\,jur_i + \beta_2 court\_activity_i + \beta_3 \log(population_i) + \varepsilon_i$$

where each observation is a reservation headquarters county, *st jur* equals one if the reservation is under PL280 state jurisdiction, and zero otherwise, and *court_activity$_i$* is a reservation-specific measure of court activity taken from a 1985 survey of tribal courts. The dependent variable is the log of *income_per_capita$_i$*, which is per capita income in the county in year 2000. Variables denoted with a (Z) are standardized to have a mean of zero and a standard deviation of 1 for ease of interpretation. ***, **, and * indicate statistical significance at the one, five, and ten percent levels.

	(1)	(2)	(3)	(4)	(5)	(6)
state court indicator	0.093**	0.073*			0.145***	0.110***
	(0.045)	(0.040)			(0.046)	(0.042)
tribal court indicator (not active)					0.149***	0.102**
					(0.046)	(0.042)
civil cases per capita (Z)			−0.080***	−0.055***		
			(0.023)	(0.021)		
Sample	full	full	non-PL280	non-PL280	full	full
Control for Population		x		x		x
R^2	0.039	0.265	0.136	0.352	0.127	0.304
N	105	105	78	78	105	105