Secured Transactions Laws and Economic Development on American Indian Reservations

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Increasing access to capital and economic well-being on reservations has been a priority of tribal nations for decades (Senate Committee on Indian Affairs, 2015). Many have attributed the relative scarcity of investment and economic activity on reservations to outside businesses and lenders poor understanding of tribal nations' laws, enforcement mechanisms, and jurisdictional limits.[1] Tribal entrepreneurs, Federal Reserve Banks, and the Uniform Law Commission (ULC) have advocated that tribal nations (*i*) adopt template secured transactions laws (STLs) that are harmonized with existing codes in the U.S. as part of the *uniform commercial code* (UCC); and (*ii*) integrate their commercial filing systems into their states'.

However, adopting uniform STLs that harmonize tribal laws with state laws and ceding control over tribal filing systems creates a tension for tribes (Coffey and Tsosie, 2001). According to Singel (2005, p.362), the wholesale adoption of STLs "challenges the development of cultural sovereignty to the extent that it displaces or modifies tribal norms and values related to the ownership of property and the relation between debtors and creditors." A tension also exists for communities due to their historical relations with off-reservation governments being marked by violence, coercion, targeted cultural assimilation, and expropriation.

In response to this tension, tribal nations have sought compromises between uniform systems and completely non-uniform or uncoded laws. Specifically, by selectively adopting parts of the UCC, tribes can exert their own judgment about what provisions apply in their territory (including what actors may use the UCC). Tribes may also create and use local filing systems rather than state filing systems to maintain control of the transactions that would obtain priority. However, most of the advocates of tribes' adopting STLs suggest they should do so using approximately uniform texts with only minor alterations related to sovereign immunity and cultural property in order to maximize lender comfort and reduce the transactions costs of dealing with a new legal system. In this paper, we examine whether selectively adopting secured laws is a plausible alternative to adopting approximately uniform text for generating economic growth.

I. Background and Data

Generally speaking, tribes have the power to enact and enforce civil laws on reservations, and state civil laws do not apply to transactions on reservation lands to which Indian tribes, tribal entities, or tribal members are parties (Carter and Miller, 2001). Outsiders' willingness to enter into contractual relationships with tribal entities or members in business ventures that would take place on reservation land may dwindle if tribal laws are unfamiliar or unclear.

STLs create encumbrances (known as security interests) on personal property to support obligations owed by one party (usually a debtor) to another (usually a creditor) (Baird and Jackson, 1983).A key component of these laws is provisions for a centralized filing location for third parties

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[1] See Wellhausen et al. (2017); Anderson and Parker (2008); Brown, Cookson and Heimer (2019); Dippel, Frye and Leonard (2020).

to identify potentially competing claims in which the third party is considering acquiring an interest (Henning, Woodrow and Dubovec, 2018). These filing systems are usually coordinated by the state governments.

Tribal adoptions of STLs vary along two key dimensions: how model legislation was adopted, and what filing system was used. Uniform vs. selective adoptions reflect the types of *laws* passed by a tribe, whereas state vs local filing systems reflect the types of *lenders* that are expected to rely on the filing system. Following Roark (2020), we classify laws as "uniform" if a tribe adopts uniform text with no modification; "selective" if a tribe adopts a uniform text that has been modified to limit the type of entity or the types of transactions the law will apply to; and "non-uniform" if the text was not derived from a uniform code. We classify filing systems as "state" if tribe has contracted with the state to use their secured transactions filing systems; "local" if the tribe has created its own filing system; or "none" when no filing system could be identified. For more background on secured transactions laws in the context of Indian Country, see the associated online appendix of this paper.

Currently, sixty-two Indian tribes have adopted an STL (Roark, 2020), however we focus on a sub-sample of them for this analysis. First we exclude all communities in Oklahoma Tribal Statistical areas because of the unique institutional circumstances of these areas relative to reservations. Second, because of the structure of our data, we exclude all reservations outside of the Public Land Survey System (PLSS) which effectively excludes many eastern reservations. We provide more details in the online appendix.

In practice, we see five combinations of these in our sample, with their adoptions depicted in Figure 1. The most common form of adoption is selective adoption of a model law combined with a local filing system. However, since 2005, there has been a large increase in the number of nations adopting uniform laws and integrating with state filing systems. Throughout this period there are 125 reservations in our sample that never adopt an STL.

We construct a measure of economic activity using the Global DMSP-OLS Nighttime Lights Time Series — available from 1992 to 2013 — that has been used extensively in recent economic literature as proxy for economic activity in settings where other measures are difficult to obtain (Donaldson and Storeygard, 2016). This allows us to characterize annual changes in economic activity within specific areas of each reservation — a major improvement over decadal reservation-level income measures available from the U.S. Census. We calculate the average annual nighttime luminosity for each square-mile "section" in the Public Land Survey System (PLSS) that overlaps a Native American Reservation in each year from 1992 to 2013. We focus on a square-mile section as the unit of analysis because this allows us to analyze both the extensive margin (unlit sections becoming lit) and intensive margin (previously lit cells growing brighter). Furthermore, many reservations contain remote swaths of land, or culturally significant lands, that are unlikely to see development, and a section-level analysis allows us to absorb these with spatial fixed effects.

We construct and analyze three outcomes. *ihsLight* is the inverse hyperbolic sine transformation of average luminosity. The ihs-transformation can be interpreted like a natural log but is defined at zero, and so we use it to analyze overall changes across both margins of variation. *1(Lit)* is an indicator variable that is equal to one if there is any light in a section (to analyze the extensive margin). *lnLights* is the natural log of luminosity in sections that have non-zero luminosity (to measure intensive-margin variation only).

II. Empirical Analysis

We estimate the average treatment effect of adopting an STL on luminosity using a two-way fixed effects estimator:

$$(1) \quad Y_{ijrt} = \sum_{k=1}^{5} Adopt_{krt} + \gamma + \alpha + \varepsilon_{ijrt}$$
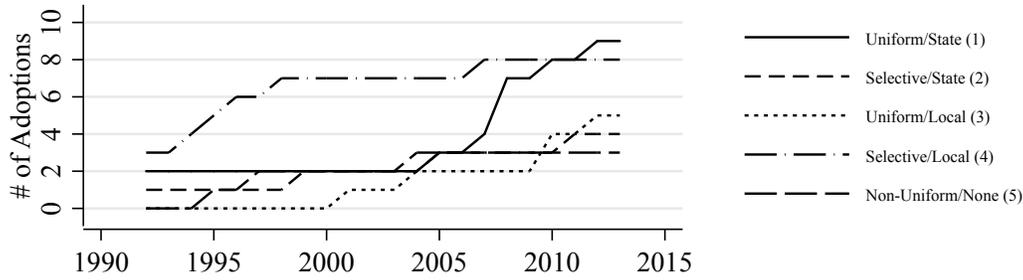
Figure 1. : **Adoption of Secured Transaction Law (STL) Types By Tribal Nations Over Time.**

where Y_{ijrt} is the outcome for section i in township j on reservation r in year t. $Adopt_{krt}$ is a dummy variable equal to one if reservation r has adoption of type k in year t; each never has more than one type of adoption. γ denotes cross-sectional fixed effects and α denotes time fixed effects. ε_{ijrt} is an error term. We use a standard difference-in-difference setup that includes reservation (R) fixed effects and year (Y) fixed effects (odd columns in Table 1). We also include a specification with township (T) and state-by-year (SY) fixed effects to capture additional unobserved heterogeneity across space and time (even columns in Table 1). We control for each section's distance to the reservation border to measure proximity to outside markets. We also run models that exclude the Navajo reservation because of its physical size, and as anticipated, this has trivial impact on the models estimates with township fixed effects. Using an event study design we found no evidence of pre-trends in the adoption of any STL which we present in the online appendix. We believe that this supports a causal interpretation of our results. We show in the appendix that our findings are robust to accounting for the rise of casinos during this period.

Table 1 presents the results of estimating equation 1. We label adoption types from 1 to 5 as depicted in the table. Columns 1–2 focus on the combined extensive and intensive margin, columns 3-4 focus on the extensive margin, and columns 5-6 focus on the intensive margin. We find that the adoption of uniform or selective laws with a state filing system has the greatest effect

on the intensive margin of light (columns 5-6). At the intensive margin, it appears to make no difference whether tribes that use a state filing system adopt laws selectively or uniformly — either way there is a roughly 10-14% increase in luminosity. The benefits of a type-1 (type-2) adoption increase (decrease) slightly with the inclusion of more flexible fixed effects, but the difference is not statistically significant.

In contrast, only selective laws increase the probability of new economic activity in previously unlit sections (adoptions types 2 and 4 in columns 3-4). In fact, selective laws with a local filing system have a statistically identical effect to adopting selective laws with states filing system on the extensive margin after controlling for township and state-by-year fixed effects. The results indicate that a type-2 adoption increases the probability of nighttime lights in a section by 10 percentage points, or roughly 53% in our preferred specification. A type-4 adoption increases the probability of nighttime lights in a section by 7.5 percentage points, or roughly 39% relative to the mean of 18.8.

On the combined margin, our preferred column 2 specification indicates that type-2 and type-4 adoptions increase luminosity by 21.3% and 15.6%, respectively (the effects are not statistically different from one another). Type-1 adoptions have no effect on the overall margin. Taken together, the results suggest that extensive-margin growth in nighttime lights is an important driver of the overall effect of adopting an STL. Adopting a uniform law appears to stimulate activity only on the intensive margin.

	(1)	(2)	(3)	(4)	(5)	(6)
	ihsLight		*1(Lit)*		*lnLight*	
Uniform/State (1)	0.120	0.0791	0.0422	0.0250	0.122	0.101
	(0.102)	(0.0561)	(0.0269)	(0.0153)	(0.0363)	(0.0277)
Selective/State (2)	0.0538	0.213	0.0188	0.104	0.117	0.140
	(0.0257)	(0.0811)	(0.00479)	(0.0416)	(0.0263)	(0.0562)
Uniform/Local (3)	0.0904	0.0168	-0.00321	-0.0230	-0.0236	0.0123
	(0.0389)	(0.0507)	(0.00926)	(0.0130)	(0.0341)	(0.0187)
Selective/Local (4)	0.144	0.156	0.0656	0.0747	-0.0139	0.00876
	(0.0355)	(0.0422)	(0.0160)	(0.0175)	(0.0388)	(0.0744)
Non-Uniform/None (5)	-0.00785	0.0288	-0.000703	0.0131	-0.0421	-0.0144
	(0.0154)	(0.0215)	(0.00586)	(0.00813)	(0.0224)	(0.0470)
Fixed Effects	R,Y	T,SY	R,Y	T,SY	R,Y	T,SY
Observations	2,441,516	2,441,472	2,441,516	2,441,472	219,890	219,890
# Fixed Effects	180	26,943	180	26,943	180	2,073
Adjusted R-squared	0.362	0.701	0.281	0.610	0.267	0.636

Table 1—: **The Effect of Adopting A Secured Transaction Law (STL) on Nighttime Lights.**

Note: To maintain a balanced panel, columns 5-6 only include sections that have positive luminosity over 1992-2013. Columns 1, 3, and 5 include reservation and year fixed effects; columns 2, 4, and 6 include township and state-by-year fixed effects. The coefficients in columns 1,2,5, and 6 can be interpreted as percentage changes in luminosity, whereas the coefficient in columns 3 and 4 can be interpreted as *percentage point* changes in the probability that a section is lit (this baseline probability is 18.8%). Standard errors are clustered by reservation (N = 158).

The adoption of a non-uniform law without a filing system has no impact on luminosity on any dimension.

III. Discussion

Selective adoption results in economic activity in previously unlit areas (columns 3–4), while the adoption of uniform texts results only in the expansion of already existing economic activity (columns 5–6). Whether selective adoption also accelerates activity in previously lit areas depends on the type of filing system used.

These findings are interesting in part because they shed light on potentially different paths for economic development. Uniform adoptions with state filing systems may give creditors and vendors more confidence to invest in already economically more vibrant eras because the legal system becomes more familiar (Woodward Jr, 1996, p. 1525). However, risk adverse outside investors may still be hesitant to lend in eras previously "unproven" for economic development.

Conversely, the selective adoption of commercial laws in tribal territories may be tailored to generate new forms of economic activity. Selective jurisdictions that limited their application to certain actors (mostly tribal enterprises) or they limited the application of commercial laws to certain transaction types may suggest tribes themselves become more able to engage in targeted economic development that STLs are used to support. Selective laws may expand economic development in already lit areas if they are paired with state filing systems, because the filing system is more familiar to outside lenders.

Selective laws with local filing systems may be successful for generating economic activity in new areas (even if they are unfamiliar to lenders) if the primary actors using the filing system are either tribes themselves or other actors on the reservation. Scholars have suggested that tribal growth can be spurred by tribes intervening to increase the probability money is spent within their jurisdictional boundaries and/or serving as lending enterprises to facilitate economic opportunity (Miller, 2012; Roark, 2020). However, these more localized sys-

tems and selective laws maybe less effective at expanding economic activity were it already exists because outsiders will be more hesitant, or not well-informed enough to use them relative to state systems.

More broadly, we believe our findings imply that selective adoptions of STLs and local filing systems can be as effective or more effective than completely uniform laws in fostering economic activity, suggesting that tribes can use tailored strategies that promote economic development while protecting their unique community interests. The driving force in the increases in light we observe could be tribal public investments made possible through tribal enterprises, tribal enterprises directly, or private enterprise on the reservation. We believe it is worth disentangling these possibilities in future work.

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