

GETTING SMART ABOUT TRIBAL COMMERCIAL LAW: HOW  
SMART CONTRACTS CAN TRANSFORM TRIBAL ECONOMIES

ADAM CREPELLE

TABLE OF CONTENTS

I. INTRODUCTION.....	469
II. TRIBAL SOVEREIGNTY AND ECONOMIC DEVELOPMENT.....	474
III. TRIBAL INSTITUTIONS, UNCERTAINTY, AND ECONOMIC DEVELOPMENT.....	484
IV. SMART CONTRACTS.....	493
V. SMART CONTRACTS AND TRIBAL INSTITUTIONS.....	501
A. <i>Smart Contracts as Contracts</i> .....	502
B. <i>Smart Contracts and Secured Transactions</i> .....	508
C. <i>Bureaucratic Automation</i> .....	513
VI. CONCLUSION.....	514

I. INTRODUCTION

For most of history, the Americas' indigenous people had thriving economies.<sup>1</sup> Trade networks were transcontinental,<sup>2</sup> and Indians enjoyed the fruits of abundance.<sup>3</sup> Indian life has been much different for the past two hundred years. Indians now have the highest poverty rate in the United States.<sup>4</sup> Reservation unemployment rates perennially hovered

---

<sup>1</sup>Adam Crepelle, *Decolonizing Reservation Economies: Returning to Private Enterprise and Trade*, 12 J. BUS. ENTREPRENEURSHIP & L. 413, 415 (2019) ("[L]ong before European arrival, tribes had vibrant economies.").

<sup>2</sup>Adam Crepelle, *The Time-Trap: Addressing the Stereotypes that Undermine Tribal Sovereignty*, 53 COLUM. HUM. RTS. L. REV 189, 231-232 (2021) ("Trade in the pre-contact Americas was often a distant affair. Quinoa from the Southeastern United States was traded all the way up to Canada, and copper from Lake Superior flowed south to Florida. Shells and shark teeth from the Pacific Ocean were traded in modern Missouri. Central American cacao beans reached present-day Santa Fe, New Mexico.").

<sup>3</sup>Adam Crepelle & Walter E Block, *Property Rights and Freedom: The Keys to Improving Life in Indian Country*, 23 WASH. & LEE J. CIV. RTS. & SOC. JUST. 315, 316 (2017) ("Explorers noted the American Indians were better nourished and more physically robust than the people of Europe. Indeed, American Indians had surpluses of food as they produced enough in four months to feed themselves for a year.").

<sup>4</sup>Crepelle, *supra* note 1, at 414.

above fifty percent even prior to the COVID-19 pandemic.<sup>5</sup> With the exception of gaming, few places are as barren of business as Indian reservations.<sup>6</sup> Tribes have engaged in numerous reforms to attract businesses to their lands; however, businesses remain reluctant to operate on tribal land.<sup>7</sup>

Businesses avoid Indian country<sup>8</sup> because Indian country is complicated.<sup>9</sup> Tribal courts can assert civil jurisdiction over non-Indians,<sup>10</sup> but the scope of tribal jurisdiction is uncertain.<sup>11</sup> Uncertainty over where to file suit discourages business development in Indian

---

<sup>5</sup>Unemployment on Indian Reservations at 50 Percent: The Urgent Need to Create Jobs in Indian Country: Hearing Before the S. Comm. on Indian Affairs, 111th Cong. 1 (2010) (statement of Hon. Byron L. Dorgan, Chairman, S. Comm. on Indian Affairs).

<sup>6</sup>Elizabeth Ann Kronk Warner, *Tribal Renewable Energy Development Under the HEARTH Act: An Independently Rational, But Collectively Deficient, Option*, 55 ARIZ. L. REV. 1031, 1044 (2013) (quoting H.R. Rep. No. 112-427, at 454 (2012), "Private investment within Indian reservations—except in the anomalous case of Indian gaming . . . is about as scarce as it is in any nation where ownership of property is highly restricted by national governments.").

<sup>7</sup>Adam Crepelle, *How Federal Indian Law Prevents Business Development in Indian Country*, 23 U. PENN. J. BUS. L. 683, 686-87 (2021).

<sup>8</sup>18 U.S.C. § 1151 (2018). The statutory definition of Indian country specifically applies to criminal jurisdiction; however, the definition also applies to civil jurisdiction. *See Alaska v. Native Village of Venetie Tribal Gov't*, 522 U.S. 520, 527 (1998) ("Although this definition by its terms relates only to federal criminal jurisdiction, we have recognized that it also generally applies to questions of civil jurisdiction such as the one at issue here.").

<sup>9</sup>Creppelle, *supra* note 7, at 688.

<sup>10</sup>*Montana v. United States*, 450 U.S. 544, 565-66 (1981).

<sup>11</sup>Brief for Ass'n of Am. Railroads as Amici Curiae Supporting Petitioner at 3, *Plains Commerce Bank v. Long Family Land & Cattle Co.*, 554 U.S. 316 (2008) (No. 07-411), 2008 WL 503593 [hereinafter *Brief Amicus Curiae of Ass'n of Am. Railroads*] ("While this Court's previous decisions seek to limit tribal jurisdiction in reasonable ways, uncertainty regarding the proper scope of tribal jurisdiction over nonmembers under the first exception of *Montana v. United States*, 450 U.S. 544, 565-66 (1981), has made it difficult to determine the proper forum and ascertain the applicable laws, regulatory requirements, and taxes."); Brief for Retail Litigation Ctr., Inc., as Amici Curiae Supporting Petitioners at 2, *Dollar Gen. Corp. v. Mississippi Band of Choctaw Indians*, 136 S. Ct. 2159 (2015) (No. 13-1496) 2015 WL 5244347 [hereinafter *Brief for Amicus Curiae Retail Litigation Ctr., Inc.*] ("Yet when it comes to investment and expansion, retailers face continuing uncertainty over the fundamental question of which judicial system governs their conduct on tribal lands.").

country.<sup>12</sup> Moreover, businesses are leery of tribal laws.<sup>13</sup> Businesses do not believe tribal courts can treat non-Indians fairly either.<sup>14</sup> Although territoriality is the baseline jurisdictional rule across the globe,<sup>15</sup> businesses do not believe engaging with an Indian on tribal land should

---

<sup>12</sup>Brief Amicus Curiae of Ass'n of Am. Railroads, *supra* note 11, at 3 ("This uncertainty discourages business investment and economic development in Indian country."); Brief For Am. Bankers Ass'n & S.D. Bankers Ass'n as Amici Curiae in Support Of Petitioner at 2-3, *Plains Commerce Bank v. Long Family Land & Cattle Co.*, 554 U.S. 316 (2008) (No. 07-411), 2008 WL 503597 [hereinafter Brief For Amicus Curiae Am. Bankers Ass'n & S.D. Bankers Ass'n] ("Although admittedly on a smaller scale, uncertainty concerning the nature and extent to which tribal courts may exert jurisdiction over non-Indians can result in similarly injurious consequences to reservation Indians and non-Indians alike.").

<sup>13</sup>Brief Amicus Curiae of Ass'n of Am. Railroads, *supra* note 11, at 22 ("It is impossible to evaluate risks of a law that one cannot identify with reasonable certainty. Even tribes with substantial written and reported law, like the Navajo Nation, apply unwritten customary or traditional law. Currently, the risk cannot be mitigated by agreement."); Brief for Amicus Curiae Am. Bankers Ass'n & S.D. Bankers Ass'n, *supra* note 12, at 5 ("Lacking any meaningful decisional guideposts, it is virtually impossible for an outsider to become familiar with Lakota customs and traditions, let alone predict how a particular dispute is likely to be resolved under these customs.").

<sup>14</sup>Brief Amicus Curiae of Ass'n of Am. Railroads, *supra* note 11, at 23 ("The lack of impartial review of constitutional rights issues in tort cases also may prejudice nonmembers on issues including the composition of juries and the adequacy of procedure, in addition to the magnitude of judgments."); Brief for Amicus Curiae Am. Bankers Ass'n & S.D. Bankers Ass'n, *supra* note 12, at 3 ("This is true because of the uncertainty associated with the varying structure of Indian tribunals, the uncertainty associated with the substantive law they may apply and the varying levels of independence enjoyed by the judges of those tribunals."); Brief for Amicus Curiae Retail Litigation Ctr., Inc., *supra* note 11, at 12 ("[T]he nonmember would similarly have no recourse outside the tribe's own appellate system. This inability to obtain federal court review of such drastic outcomes further demonstrates that the Fifth Circuit's expansive reading of this Court's narrow exception was erroneous.").

<sup>15</sup>*Am. Banana Co. v. United Fruit Co.*, 213 U.S. 347, 356 (1909) ("But the general and almost universal rule is that the character of an act as lawful or unlawful must be determined wholly by the law of the country where the act is done."); *see also* Adam Crepelle, *Tribal Courts, The Violence Against Women Act, and Supplemental Jurisdiction: Expanding Tribal Court Jurisdiction to Improve Public Safety in Indian Country*, 81 MONT. L. REV. 59, 64 (2020).

subject the business to tribal law.<sup>16</sup> Businesses also tend to think tribal governments are unstable and tribal bureaucracies are politically motivated.<sup>17</sup> Nevertheless, some businesses say they do not mind tribal jurisdiction if it is based upon express consent.<sup>18</sup>

Smart contracts are a consensual mechanism that solves businesses' concerns about tribal institutional capacity.<sup>19</sup> Smart contracts are self-executing agreements.<sup>20</sup> Since smart contracts automatically execute the contract's terms, parties do not need to worry about the effectiveness of external enforcement institutions.<sup>21</sup> Contract law is also commonly negotiated by the parties,<sup>22</sup> so parties to a smart contract can select the law of their choice. Furthermore, blockchain technology renders the terms of smart contracts immutable, and immutability leads

---

<sup>16</sup>Brief Amicus Curiae of Ass'n of Am. Railroads, *supra* note 11, at 12 ("A nonmember does not provide the consent required by merely engaging in business dealings with a tribe or tribal member.").

<sup>17</sup>ROBERT J. MILLER, RESERVATION "CAPITALISM:" ECONOMIC DEVELOPMENT IN INDIAN COUNTRY 102 (2013) ("One reporter stated that everyone in Indian Country knows of business projects that were cancelled after the latest election."); Stephen Cornell, Tribal-Citizen Entrepreneurship: What Does It Mean for Indian Country, and How Can Tribes Support It?, Speech at Montana Indian Business Conference in Great Falls, Mont. (Feb. 2, 2006) (condensed transcript available at <https://www.minneapolisfed.org/article/2006/tribalcitizen-entrepreneurship-what-does-it-mean-for-indian-country-and-how-can-tribes-support-it>) [hereinafter Cornell, Tribal-Citizen Entrepreneurship] ("How the tribal bureaucracy deals with you may depend on who you voted for or who your relatives are.").

<sup>18</sup>*See* Brief Amicus Curiae of Ass'n of Am. Railroads, *supra* note 11, at 23-24 ("Requiring a clear and unequivocal consent to tribal court jurisdiction and, if applicable, tribal law, would have the beneficial effect of allowing nonmember businesses, tribes, and tribal members to fashion their agreements to efficiently afford the dispute resolution mechanisms they intend."); *see also* Brief for Amicus Curiae Retail Litigation Ctr., Inc., *supra* note 11, at 14-15 ("[T]he vast majority of tribal court actions over nonmembers must be based on consent. Amicus RLC urges this Court to adopt a bright-line standard for measuring such consent, so that its members will be able to evaluate in advance the merits and risks of expanding into tribal areas."); *see also id.* at 19 ("A rule that nonmember consent to tribal court jurisdiction must be clear and unequivocal will thus help both tribes and parties avoid the quagmire of years of litigation over the nature and scope of tribal court jurisdiction.").

<sup>19</sup>*See infra* Part V.

<sup>20</sup>*See infra* Part IV.

<sup>21</sup>*See infra* Part IV.

<sup>22</sup>*See* John F. Coyle, *A Short History of the Choice-of-Law Clause*, 91 U. COLO. L. REV. 1147, 1149-50 (2020) ("One recent study found that 75 percent of material contracts executed by public companies contain such a clause.").

to credibility.<sup>23</sup> In addition to contract enforcement, smart contracts can execute bureaucratic functions<sup>24</sup> and address many of the industry's concerns about tribal institutions.

Smart contracts can also revolutionize the way people view tribes. Tribal cultures are often portrayed as static; indeed, questions of Indian authenticity arise when Indians use modern technology.<sup>25</sup> However, tribes have always embraced new technologies, such as the horse.<sup>26</sup> Blockchain-based smart contracts are just another tool tribes can assimilate to improve life in Indian country. While there are serious barriers to smart contract use on many reservations, including lack of reliable internet<sup>27</sup> and electricity,<sup>28</sup> tribes with access should consider how smart contracts can benefit their economies. This is the first law journal article to explore how smart contracts can transform tribal sovereignty and economies.

The remainder of this article proceeds as follows. Part II discusses the evolution of tribal sovereignty related to tribal economic development. Next, Part III examines how institutions impact business

---

<sup>23</sup>See *infra* Part IV.

<sup>24</sup>See *infra* Part V, C.

<sup>25</sup>See Crepelle, *supra* note 2, at 193 ("An opponent of Makah whaling asserted, 'Wake up in your teepee, put on your buffalo skin, paddle out in your canoe and stick it with a wooden harpoon. Until then, spare us the "spiritual existence" nonsense."").

<sup>26</sup>See Gavin Clarkson, *Tribal Bonds: Statutory Shackles and Regulatory Restraints on Tribal Economic Development*, 85 N.C. L. REV. 1009, 1029–30 (2007) ("Many tribes pride themselves on their ability to adapt: the Navajos developed a thriving weaving industry using wool from sheep brought over by Europeans, the Plains Indians incorporated European horses into their culture, and the Choctaw claim that if the Europeans 'had brought aluminum foil with them Choctaws would have been cooking with it while the other tribes were still regarding it with suspicion.""); see also Crepelle, *supra* note 2, at 194 ("As Cahuilla author Rupert Costo put it, 'After all, the Indians were not and are not fools; we are always ready to improve our condition.'").

<sup>27</sup>See U.S. Gov't Accountability Off., GAO-18-630, *Broadband Internet FCC's Data Overstate Access On Tribal Lands 1-2* (2018); see also Fed. Comm'n Comm'n, *Comm'n Marketplace Rep.*, FCC 20-188, 211 (2020) ("Tribal lands experience lower rates of both fixed and mobile broadband deployment as compared to non-Tribal areas of the United States, particularly in rural areas.").

<sup>28</sup>Nat'l Cong. Of Am. Indians, *Energy and Minerals*, <http://www.ncai.org/policy-issues/land-natural-resources/energy-and-minerals> ("Many tribal homes lack access to electricity and affordable heating sources.").

confidence and addresses some of the stereotypes businesses have about tribal institutions. Following this discussion, Part IV provides background information on smart contracts and how smart contracts relate to institutions. Then Part V explores how smart contracts can enhance tribal institutions.

## II. TRIBAL SOVEREIGNTY AND ECONOMIC DEVELOPMENT

Long before European arrival, tribes developed laws and institutions to promote commerce.<sup>29</sup> Tribes enforced contracts and allowed individuals to lend at interest.<sup>30</sup> Tribes also had security devices—including intermarriage,<sup>31</sup> ceremonies,<sup>32</sup> and pledges.<sup>33</sup> Efficient legal systems enabled goods to flow across the Americas.<sup>34</sup> In fact, tribes developed physical infrastructure to facilitate trade, like roads<sup>35</sup> and

---

<sup>29</sup>Adam Creppelle, *Tribal Law's Indian Law Problem: How Supreme Court Jurisprudence Undermines the Development of Tribal Law and Tribal Economies*, J. COMMONWEALTH L. (forthcoming 2022) (manuscript at 2-5) (on file with author).

<sup>30</sup>*Id.* at (manuscript at 5) (“Not only did tribes have currencies, tribes had institutions that functioned like fractional reserve banking and charged interest on loans.”).

<sup>31</sup>Matthew L.M. Fletcher & Leah Jurss, *Tribal Jurisdiction—A Historical Bargain*, 76 MD. L. REV. 101, 107 (2017).

<sup>32</sup>*Ill. Beliefs – Calumet*, ILL. ST MUSEUM (2000), [http://www.museum.state.il.us/muslink/nat\\_amer/post/htmls/be\\_calumet.html](http://www.museum.state.il.us/muslink/nat_amer/post/htmls/be_calumet.html) (“The calumet was a tobacco pipe, highly revered by the Illinois, which could be used to end disputes, strengthen alliances, and ensure peaceful relationships with strangers.”).

<sup>33</sup>See Paul E. Frye, *Lender Recourse in Indian Country: A Navajo Case Study*, 21 N.M. L. REV. 275, 290 n.83 (1991).

<sup>34</sup>See Creppelle, *supra* note 29, at 2.

<sup>35</sup>Blake De Pastino, *Ceremonial 'Axis' Road Discovered in Heart of Ancient City of Cahokia*, W. DIGS (Dec. 31, 2015), <http://westerndigs.org/ceremonial-axis-road-discovered-in-heart-of-ancient-city-of-cahokia/> (“The road, dubbed the Rattlesnake Causeway, is an elevated embankment about 18 meters wide that stretches from Cahokia's Grand Plaza south through the center of the city . . . .”); see also Tom Magnuson, *Trails and Trading Routes*, NCPEDIA (Jan. 1, 2007), <https://www.ncpedia.org/history/colonial/trade-routes> (“Long before Europeans showed up, American Indians maintained extensive networks of trading paths.”); see also *Trade Routes in the Americas Before Columbus, Trade in the Age of Discovery*, HISTORY HAVEN 166–67, [http://www.historyhaven.com/documents/trade\\_americas.pdf](http://www.historyhaven.com/documents/trade_americas.pdf).

canals.<sup>36</sup> The high volume of trade with diverse peoples led to the emergence of indigenous trade languages.<sup>37</sup> Europeans immediately recognized tribal economic capacity<sup>38</sup> and Indians skillfully engaged in trade with European powers.<sup>39</sup>

Despite acknowledging tribal sovereignty in its founding documents,<sup>40</sup> the newly formed United States sought to acquire indigenous land and resources.<sup>41</sup> Thus, the Constitution authorized Congress to regulate trade with the Indian tribes.<sup>42</sup> An Act to Regulate Trade and Intercourse with the Indian Tribes ("The Act"), was one of the very first laws passed by Congress in 1790.<sup>43</sup> Under the Act, non-Indians had to obtain a federal license to trade with Indians.<sup>44</sup> Although the Act

<sup>36</sup>CHRISTOPHER B. RODNING, *Water Travel and Mississippian Settlement at Bottle Creek*, in BOTTLE CREEK: A PENSACOLA CULTURE SITE IN SOUTH ALABAMA 194, 198 (Ian W. Brown ed., 2003) ("Many of these native canals demonstrate considerable engineering expertise in planning and maintenance....").

<sup>37</sup>Crepelle, *supra* note 1, at 418 ("Tribes developed trade languages in order to enable exchange with diverse peoples.").

<sup>38</sup>FRANCIS PAUL PRUCHA, *THE GREAT FATHER: THE UNITED STATES GOVERNMENT AND THE AMERICAN INDIANS* 8 (abr. ed. 1986) ("Trade was of inestimable importance to the colonies economically . . ."); Crepelle & Block, *supra* note 3, at 316 ("Explorers noted the American Indians were better nourished and more physically robust than the people of Europe.").

<sup>39</sup>Adam Crepelle, *White Tape and Indian Wards: Removing the Federal Bureaucracy to Empower Tribal Economies And Self-Government*, 54 U. MICH. J.L. REFORM 563, 564-65 (2021).

<sup>40</sup>ARTICLES OF CONFEDERATION OF 1781, art. IX, para. 4 ("[R]egulating the trade and managing all affairs with the Indians . . ."); THE NW. ORDINANCE OF 1787, art. III ("The utmost good faith shall always be observed towards the Indians; their lands and property shall never be taken from them without their consent; and in their property, rights, and liberty they never shall be invaded or disturbed, unless in just and lawful wars authorized by Congress; but laws founded in justice and humanity shall, from time to time, be made, for preventing wrongs being done to them, and for preserving peace and friendship with them."); U.S. CONST., art. I, § 2, cl. 3; U.S. CONST., art. I, § 8, cl. 3.

<sup>41</sup>Crepelle, *supra* note 1, at 423 ("One of the earliest objectives of the United States Indian policy was to seize control of Indian resources.").

<sup>42</sup>U.S. CONST. art. I, §. 8, cl. 3.

<sup>43</sup>An Act to Regulate Trade and Intercourse with the Indian Tribes, ch. 33, 1 Stat. 137 (1790) (codified as amended at 25 U.S.C. § 177 (2018), 25 U.S.C. §§ 261-264 (2018)).

<sup>44</sup>*Id.* §§1, 3, 7, 10-11.

was premised on Indian incompetence,<sup>45</sup> Congress knew tribal rules governing tribal trade were more important than federal law.<sup>46</sup> However, trade also undermined tribal sovereignty by spreading European diseases<sup>47</sup> and creating dependence on European goods.<sup>48</sup>

Tribal institutions were further debased by the Supreme Court. In 1823, the Supreme Court divested tribes of ownership of their land.<sup>49</sup> The Court reached its conclusion by relying on the doctrine of discovery,<sup>50</sup> an international law holding Christian Europeans acquire ownership of lands inhabited by non-Christian Europeans upon "discovery."<sup>51</sup> In 1831,

---

<sup>45</sup>Cent. Mach. Co. v. Ariz. Tax Comm'n, 448 U.S. 160, 163 (1980) ("In 1790, Congress passed a statute regulating the licensing of Indian traders. Act of July 22, 1790, ch. 33, 1 Stat. 137. Ever since that time, the Federal Government has comprehensively regulated trade with Indians to prevent 'fraud and imposition' upon them."); Ewert v. Bluejacket, 259 U.S. 129, 136 (1922) ("The purpose of the section clearly is to protect the inexperienced, dependent and improvident Indians from the avarice and cunning of unscrupulous men in official position and at the same time to prevent officials from being tempted, as they otherwise might be, to speculate on that inexperience or upon the necessities and weaknesses of these 'wards of the nation.'"); See United States v. Hutto, 256 U.S. 524, 528 (1921).

<sup>46</sup>Fletcher & Jurss, *supra* note 31, at 107 ("Even Congress, at times, seemed to understand that tribal regulations were of greater import than federal Indian trader statutes, which proved to be an ineffective means to govern Indian trade.").

<sup>47</sup>Crepelle & Block, *supra* note 3, at 316-17.

<sup>48</sup>FRANCIS PAUL PRUCHA, AMERICAN INDIAN TREATIES: THE HISTORY OF A POLITICAL ANOMALY 7 (1994) ("In fact, economic dependence was in large part the reason that the Indians were forced to accept United States suzerainty.").

<sup>49</sup>Johnson v. M'Intosh, 21 U.S. 543, 587 (1823) ("They maintain, as all others have maintained, that discovery gave an exclusive right to extinguish the Indian title of occupancy, either by purchase or by conquest. . .").

<sup>50</sup>*Id.* at 573 ("This principle was, that discovery gave title to the government by whose subjects, or by whose authority, it was made, against all other European governments, which title might be consummated by possession.").

<sup>51</sup>Robert J. Miller, *American Indians, the Doctrine of Discovery, and Manifest Destiny*, 11 WYO. L. REV. 329, 330-31 (2011) ("The English colonists in North America and then the American colonial, state, and federal governments all utilized the Doctrine and its religious, cultural, and racial ideas of superiority over Native Americans to stake legal claims to the lands and property rights of the indigenous peoples."); Robert A. Williams, Jr., *Encounters on the Frontiers of International Human Rights Law: Redefining the Terms of Indigenous Peoples' Survival in the World*, 1990 DUKE L.J. 660, 672 ("For five



the Court determined tribes were not full territorial sovereigns but instead described tribes as "domestic dependent nations" because "they are in a state of pupilage. Their relation to the United States resembles that of a ward to his guardian."<sup>52</sup> Nonetheless, in 1832, the Court categorically prohibited states from asserting their laws into tribal lands without the consent of the tribes.<sup>53</sup> But the tribal victory was hollow because President Andrew Jackson refused to enforce the decision.<sup>54</sup>

By the mid-1800s, most tribes had been removed to reservations.<sup>55</sup> Indians had been self-supporting since time immemorial<sup>56</sup> and were supposed to be able to continue their way of life on reservations.<sup>57</sup> Indians attempted to engage in productive efforts on

---

hundred years, this doctrine and its discourse of diminished indigenous legal status and rights has been relied on by European and European-derived settler states to regulate and legitimate their colonial activities in indigenous peoples' territories.").

<sup>52</sup>*Cherokee Nation v. Georgia*, 30 U.S. 1, 17 (1831).

<sup>53</sup>*Worcester v. Georgia*, 31 U.S. 515, 561 (1832) ("The Cherokee nation, then, is a distinct community occupying its own territory, with boundaries accurately described, in which the laws of Georgia can have no force . . .").

<sup>54</sup>Tim Alan Garrison, *Worcester v. Georgia (1832)*, NEW GA. ENCYC. (Feb. 20, 2018), <https://www.georgiaencyclopedia.org/articles/government-politics/worcester-v-georgia-1832> ("Georgia ignored the Supreme Court's ruling, refused to release the missionaries, and continued to press the federal government to remove the Cherokee. President Jackson did not enforce the decision against the state and instead called on the Cherokee to relocate or fall under Georgia's jurisdiction."); *Worcester v. Georgia*, ENCYC. BRITANNICA (May 18, 2020), <https://www.britannica.com/topic/Worcester-v-Georgia> ("Pres. Andrew Jackson declined to enforce the Supreme Court's decision, thus allowing states to enact further legislation damaging to the tribes.").

<sup>55</sup>Indian Removal Act of 1830, ch. 148, 4 Stat. 411; Crepelle, *supra* note 2 at 202.

<sup>56</sup>Crepelle & Block, *supra* note 3, at 341.

<sup>57</sup>*McGirt v. Oklahoma*, 140 S. Ct. 2452, 2477 (2020) ("And in many treaties, like those now before us, the federal government promised Indian Tribes the right to continue to govern themselves."); Andrew Jackson, President of the U.S., First Annual Message to Congress (Dec. 8, 1829), in PRESIDENTIAL SPEECHES, UVA, MILLER CTR.

<https://millercenter.org/the-presidency/presidential-speeches/december-8-1829-first-annual-message-congress> ("As a means of effecting this end I suggest for your consideration the propriety of setting apart an ample district west of the Mississippi, and without the limits of any state or territory now formed, to be guaranteed to the Indian tribes as long as they shall occupy it, each tribe having a distinct control over the portion designated for its use. There they may be secured in the enjoyment of governments of their own choice, subject to

reservations;<sup>58</sup> however, federal authorities denied Indians economic and personal liberty.<sup>59</sup> Indeed, federal authorities implemented regulations for the express purpose of obliterating tribal cultures.<sup>60</sup> For example, Congress enacted the Major Crimes Act in 1885<sup>61</sup> to supplant tribal justice systems.<sup>62</sup> The Supreme Court acknowledged there was no constitutional authority for the law<sup>63</sup> but upheld the law anyway because

---

no other control from the United States than such as may be necessary to preserve peace on the frontier and between the several tribes.").

<sup>58</sup>Kenneth H. Bobroff, *Retelling Allotment: Indian Property Rights and the Myth of Common Ownership*, 54 VAND. L. REV. 1557, 1594 (2001) ("Even after resettlement or confinement to reservations, many Indians continued to create or modify private property systems to meet their new circumstances."); Jeffrey Ostler, *"The Last Buffalo Hunt" And Beyond: Plains Sioux Economic Strategies in the Early Reservation Period*, 21 GREAT PLAINS Q. 115, 119–20 (2001) (noting that the Indian tribes pursued economic strategies to respond to their needs).

<sup>59</sup>Kevin Gover, Remarks at the Ceremony Acknowledging the 175th Anniversary of the BIA (Sept. 8, 2000) (transcript available at TRIBAL COURT CLEARINGHOUSE, [http://www.tribal-institute.org/lists/kevin\\_gover.htm](http://www.tribal-institute.org/lists/kevin_gover.htm)) ("After the devastation of tribal economies and the deliberate creation of tribal dependence on the services provided by this agency, this agency set out to destroy all things Indian.").

<sup>60</sup>*United States v. Clapox*, 35 F. 575, 577 (D. Or. 1888) ("In fact, the reservation itself is in the nature of a school, and the Indians are gathered there, under the charge of an agent, for the purpose of acquiring the habits, ideas, and aspirations which distinguish the civilized from the uncivilized man."); ANDREA SMITH, U.N. PERMANENT F. ON INDIGENOUS ISSUES, *INDIGENOUS PEOPLES AND BOARDING SCHOOLS: A COMPARATIVE STUDY*, at 3 (2009), [https://www.un.org/esa/socdev/unpfii/documents/IPS\\_Boarding\\_Schools.pdf](https://www.un.org/esa/socdev/unpfii/documents/IPS_Boarding_Schools.pdf); Adam Creppelle, *Tribal Lending and Tribal Sovereignty*, 66 DRAKE L. REV. 1, 27-28 (2018) ("CFR courts were created to stamp out Indian culture and accelerate assimilation.").

<sup>61</sup>Major Crimes Act of 1885, ch. 341, § 9, 23 Stat. 385 (codified as amended at 18 U.S.C. § 1153 (2018)). The original Act of 1885 extended federal jurisdiction into Indian country for the crimes of murder, manslaughter, rape, assault with intent to kill, arson, burglary, and larceny. The current code has been amended to include additional crimes.

<sup>62</sup>Kevin K. Washburn, *Federal Criminal Law and Tribal Self-Determination*, 84 N.C. L. REV. 779, 803-05 (2006).

<sup>63</sup>*United States v. Kagama*, 118 U.S. 375, 378-79 (1886) ("This clause is relied on in the argument in the present case, the proposition being that the statute under consideration is a regulation of commerce with the Indian tribes. But we think it would be a very strained construction of this clause, that a system of criminal laws for Indians living peaceably in their reservations . . .

of Indians' dependent status.<sup>64</sup> Extraconstitutional power enabled the United States to violate its treaty pledges and break up reservations.<sup>65</sup>

The General Allotment Act of 1887 ("the GAA") is the most egregious treaty violation in United States history.<sup>66</sup> The GAA broke reservations into 160 acres parcels for each Indian head of household.<sup>67</sup> The land was placed in trust for twenty-five years.<sup>68</sup> During this time, Indians were supposed to become self-supporting farmers and United States citizens.<sup>69</sup> Lands remaining after each Indian received his parcel were opened to non-Indian settlement in order to catalyze Indian assimilation.<sup>70</sup> Although the GAA was supposed to convert nomadic plains Indians into farmers, most of the land allotments Indians received were not suitable for agriculture by the United States' own admission.<sup>71</sup>

---

was authorized by the grant of power to regulate commerce with the Indian tribes.").

<sup>64</sup>*Id.* at 383 ("It seems to us that this is within the competency of Congress. These Indian tribes are the wards of the nation.").

<sup>65</sup>*Lone Wolf v. Hitchcock*, 187 U.S. 553, 565-66 (1903).

<sup>66</sup>General Allotment Act of Feb. 8, 1887, Pub. L. No. 49-105, ch. 119, 24 Stat. 388, *repealed by* Indian Land Consolidation Act Amendments of 2000, Pub. L. No. 106-462, 114 Stat. 1991 (codified as amended at 25 U.S.C. §§ 2201—2221 (2018)).

<sup>67</sup>Frank Pommersheim, *Land into Trust: An Inquiry into Law, Policy, and History*, 49 IDAHO L. REV. 519, 521 (2013).

<sup>68</sup>*Id.*

<sup>69</sup>William Canby Jr., *Indian Law in a Nutshell* 22-23 (6th ed. 2015).

<sup>70</sup>*DeCouteau v. Dist. Cty. Court of the Tenth Jud. Dist.*, 420 U.S. 425, 462 (1975) (Douglas, J., dissenting) ("The purpose was not to alter or change the reservation but to lure white settlers onto the reservation whose habits of work and leanings toward education would invigorate life on the reservation.").

<sup>71</sup>CANBY, *supra* note 69, at 24 ("Of the 48 million acres that remained [Indian-held], some 20 million were desert or semidesert."); Crepelle & Block, *supra* note 3, at 322 (noting that much of the lands tribes retained after allotment was "unsuitable for farming."); Stephen J. Gunn, *Indian General Allotment Act (Dawes Act) (1887)*, ENCYCLOPEDIA.COM (updated Feb. 18, 2020), <https://www.encyclopedia.com/history/encyclopedias-almanacs-transcripts-and-maps/indian-general-allotment-act-dawes-act-1887> ("Most allotted lands were not suitable for agriculture.").

The GAA robbed tribes of ninety million acres of land,<sup>72</sup> crushed tribal economies, and cast countless Indians into extreme poverty.<sup>73</sup>

Congress acknowledged the GAA's disastrous effects on tribes and enacted legislation to revitalize tribal institutions with the Indian Reorganization Act of 1934 ("the IRA").<sup>74</sup> Most significantly, the IRA ended allotment<sup>75</sup> and placed reservation lands in trust status to ensure tribes would have a land base.<sup>76</sup> Many traditional tribal governance structures were decentralized and informal,<sup>77</sup> so the IRA provided tribes

---

<sup>72</sup>CANBY, *supra* note 69, at 23; Pommersheim, *supra* note 67, at 525 ("The IRA was largely the effort of Indian Affairs Commissioner John Collier, whose primary goal of ending the forty-seven years of federal allotment policy resulted in the loss of 90 million acres of Indian land.").

<sup>73</sup>Hodel v. Irving, 481 U.S. 704, 707 (1987) ("The policy of allotment of Indian lands quickly proved disastrous for the Indians. "); LEWIS MERIAM, INST. FOR GOV'T RES., THE PROBLEM OF INDIAN ADMINISTRATION 3 (1928) ("An overwhelming majority of the Indians are poor, even extremely poor . . .").

<sup>74</sup>Indian Reorganization Act of 1934, Pub. L. No. 73-383, ch. 576, 48 Stat. 984 (codified as amended at 25 U.S.C. §§ 5101—5144 (2018)).

<sup>75</sup>CANBY, *supra* note 69, at 25 ("Perhaps the most important and effective provision of the Indian Reorganization Act was that which ended the practice of allotment . . ."); Pommersheim, *supra* note 67, at 522 ("The ravages of the allotment policy were halted only by the IRA of 1934 . . .").

<sup>76</sup>The Indian Reorganization Act – 75 Years Later: Renewing Our Commitment to Restore Tribal Homelands and Promote Self-Determination: Hearing Before the S. Comm. on Indian Affairs, 112th Cong 1 (2011) [hereinafter 75 Years Later] (statement of Hon. Daniel K Akaka, U.S. Sen. from Haw.) ("When Congress enacted the Indian Reorganization Act in 1934, its intent was very clear. Congress intended to end Federal policies of termination and allotment and begin an era of empowering tribes by restoring their homelands and encouraging self-determination."); CANBY, *supra* note 69, at 25-26; Pommersheim, *supra* note 67, at 526 ("Securing the land holdings in trust for the native population was seen as the key component for both economic security and self-determination for Indians.").

<sup>77</sup>Dep't. of the Interior, Indian Affairs, Summary Under the Criteria and Evidence for Proposed Finding for Federal Acknowledgement of the Jena Band of Choctaw Indians (1994), [https://www.bia.gov/sites/bia.gov/files/assets/as-ia/ofa/petition/045\\_jencht\\_LA/045\\_pf.pdf](https://www.bia.gov/sites/bia.gov/files/assets/as-ia/ofa/petition/045_jencht_LA/045_pf.pdf) (evaluating the Jena Band of Choctaw Indians petition for federal recognition and determining to recognize the tribe although, "[t]here was no tribal council or other formal political leadership within the tribe prior to 1974"); Mark Edwin Miller, FORGOTTEN TRIBES: UNRECOGNIZED INDIANS AND THE FEDERAL ACKNOWLEDGEMENT PROCESS 183 (2006) (noting that tribes commonly were not "organized as a tribe" until the federal government organized them); Matthew L.M. Fletcher, *Theoretical*

with western-style governance structures to help tribes meet contemporary government demands.<sup>78</sup> However, the IRA constitutions were often incompatible with tribal cultures.<sup>79</sup> Despite being ostensibly designed to foster tribal-governance, tribal institutions were completely subordinated to the Secretary of the Interior's whim.<sup>80</sup> The IRA remains the backdrop of contemporary federal Indian policy.<sup>81</sup>

---

*Restrictions on the Sharing of Indigenous Biological Knowledge: Implications for Freedom of Speech in Tribal Law*, 14 Kan. J.L. & Pub. Pol'y 525, 534 (2004–2005) ("The kind of coercive, arbitrary, and violent government actions generated by EuroAmerican governments - i.e., imprisonment, execution, police brutality, denial of governmental benefits and services, eminent domain, interrogation, entrapment, surveillance, quartering of soldiers, and so on - were rarely, if ever, perpetuated by Indian communities."); Yomba Shoshone Tribe & Ely Shoshone Tribe of the Western Shoshone People, Amended Request for Urgent Action under Early Warning Procedure to the Committee on the Elimination of Racial Discrimination of the United Nations 3 (2000), <https://law.arizona.edu/sites/default/files/Amended%20Request%20for%20Urgent%20Action%20under%20Early%20Warning%20Procedure.pdf> ("Western Shoshone political and social structures have traditionally been decentralized under a system suited to their harsh natural environment.").

<sup>78</sup>Canby, *supra* note 69, at 69-70; *see also* Presidential Comm'n on Indian Reservation Econ., Rep. & Recommendations to the President of the U.S. 31 (1984) [hereinafter Rep. & Recommendations], <https://files.eric.ed.gov/fulltext/ED252342.pdf>.

<sup>79</sup>CANBY, *supra* note 69, at 26; Adam Crepelle, *Standing Rock in the Swamp: Oil, the Environment, and the United Houma Nation's Struggle for Federal Recognition*, 64 LOY. L. REV. 141, 155-56 (2018) ("[M]any traditional tribal governments did not have Western style central governments.").

<sup>80</sup>S. REP. NO. 101-216, at 51 (1989) ("The Indian Reorganization Act declared an end to the policy of allotment, but it severely restricted the powers and the autonomy of the new tribal governments which would operate under its authority."); CANBY, *supra* note 69, at 25 (noting tribal self-government existed at the whim of the Secretary of the Interior); Crepelle & Block, *supra* note 3 at 324 ("The [IRA] . . . did relatively little to improve tribal sovereignty because the Secretary of the Interior was granted power over virtually all tribal activities.").

<sup>81</sup>S. REP. NO. 112-166, at 6 (2012) ("These principles are the foundation for federal Indian policy in the modern era of tribal self-determination."); *75 Years Later*, *supra* note 76, at 1 (statement of Hon. Daniel K. Akaka, U.S. Sen. from Haw.) ("Since 1934, the IRA has stood as the bedrock of Federal Indian Policy.").

The federal government shifted course during the 1950s and turned to terminating tribes.<sup>82</sup> Accordingly, Congress ended its relationship with over 100 tribes, meaning these tribes' sovereignty were no longer recognized.<sup>83</sup> Without recognition by the United States, tribes cannot assert governmental powers.<sup>84</sup> Tribal sovereignty was further undermined by Congress' extension of state criminal law and civil adjudicatory jurisdiction over reservations in five states and the Alaska territory with Public Law 83-280 (PL 280).<sup>85</sup> Other states were allowed to assert jurisdiction over the Indian country inside their borders without seeking tribal consent.<sup>86</sup> PL 280 greatly undermined tribal justice systems.<sup>87</sup> Furthermore, Congress coerced Indians into leaving reservations for large metropolitan areas through the Indian Relocation Act of 1956.<sup>88</sup>

Federal Indian law and policy began a new course in 1959 with the Supreme Court's opinion in *Williams v. Lee*.<sup>89</sup> The Supreme Court refused to recognize state court jurisdiction over a non-Indian debt collection suit against an Indian for a debt accrued on the Navajo

---

<sup>82</sup>CANBY, *supra* note 69, at 26; DONALD FIXICO, TERMINATION AND RELOCATION: FEDERAL INDIAN POLICY, 31 (1990); Crepelle, *supra* note 1, at 440 ("The era of the Indian New Deal came to a close in the aftermath of the Second World War and was replaced by the assimilationist tribal termination policy.").

<sup>83</sup>Carla F. Fredericks, *Plenary Energy*, 118 W. VA. L. REV. 789, 796 (2015).

<sup>84</sup>Adam Crepelle, Tribal Recognition, Consultation, and Lessons from the First Climate Location, 34 NAT. RES. & ENV'T 13 (2020).

<sup>85</sup>An Act of Aug. 15, 1953, Pub. L. No. 83-280, ch. 505, 67 Stat. 588 (codified as amended at 18 U.S.C. § 1162 (2018); 28 U.S.C. § 1360 (2018); 25 U.S.C. §§ 1321—1326 (2018)).

<sup>86</sup>*Id.* § 7.

<sup>87</sup>CANBY, *supra* note 69, at 287-89; Crepelle, *supra* note 29, at (manuscript at 18) ("The imposition of state law undercut tribal self-governance.").

<sup>88</sup>Indian Relocation Act of 1956, Pub. L. No. 84-959, 70 Stat. 986.

<sup>89</sup>*Williams v. Lee*, 358 U.S. 217 (1959). CHARLES WILKINSON, AMERICAN INDIANS, TIME, AND THE LAW 1 (rev. ed. 2009) (On January 12, 1959, the Supreme Court decided *Williams v. Lee* and, in so doing, opened the modern era of federal Indian law."); Bethany R. Berger, *Sheep, Sovereignty, and the Supreme Court: The Story of Williams v. Lee*, in INDIAN LAW STORIES 359, 383 (Carole Goldberg et al. eds., 2011) ("The *Williams* decision also provided a legal foundation for the growing tribal sovereignty movement.").

Nation.<sup>90</sup> In a unanimous opinion, Justice Hugo Black explained that allowing state courts to adjudicate reservation disputes against Indians would denigrate tribal sovereignty.<sup>91</sup> The United States' political climate matched the spirit of *Williams v. Lee*, as Presidents Kennedy and Johnson both expressed their opposition to tribal termination policies.<sup>92</sup> President Nixon formally rejected tribal termination in favor of tribal self-determination in 1970,<sup>93</sup> prompting Congress to embrace tribal self-determination in 1975.<sup>94</sup>

Tribes have benefitted greatly from the self-determination policy.<sup>95</sup> Indian gaming is a direct outgrowth of the tribal self-determination policy<sup>96</sup> and, at least prior to COVID-19, generated over \$30 billion a year for tribes.<sup>97</sup> Tribes and tribe-owned enterprises have

---

<sup>90</sup>*Williams*, 358 U.S. at 217-18 ("He brought this action in the Superior Court of Arizona against petitioners, a Navajo Indian and his wife who live on the Reservation, to collect for goods sold them there on credit.").

<sup>91</sup>*Id.* at 223 ("There can be no doubt that to allow the exercise of state jurisdiction here would undermine the authority of the tribal courts over Reservation affairs and hence would infringe on the right of the Indians to govern themselves.").

<sup>92</sup>Exec. Order No. 11399, 33 Fed. Reg. 4245 (Mar. 6, 1968); Special Message to the Congress on the Problems of the American Indian: "The Forgotten American," 1 PUB. PAPERS 335, 337 (Mar. 6, 1968) ("Indians must have a voice in making the plans and decisions in programs which are important to their daily life."); Letter from John F. Kennedy, President, U.S., to Oliver La Farge, President, Ass'n of Am. Indian Aff. (Oct. 28, 1960) (describing his administration's position towards American Indians).

<sup>93</sup>Special Message to the Congress on Indian Affairs, 1 PUB. PAPERS 564 (July 8, 1970).

<sup>94</sup>Indian Self-Determination and Education Assistance Act of 1975, Pub. L. No. 93-638, 88 Stat. 2203 (codified as amended at 25 U.S.C. §§ 5301—5423 (2018)).

<sup>95</sup>Joseph P. Kalt & Joseph William Singer, *Myths and Realities of Tribal Sovereignty: The Law and Economics of Indian Self Rule* 1 (Harv. U. Native Am. Program, Working Paper No. RWP04-016, 2004) ("[T]ribal self-rule – sovereignty – has proven to be the only policy that has shown concrete success in breaking debilitating economic dependence on federal spending programs and replenishing the social and cultural fabric that can support vibrant and healthy communities and families.").

<sup>96</sup>*See* 25 U.S.C. § 2701(4) (2018).

<sup>97</sup>Mavis Harris, *2018 Indian Gaming Revenues of \$33.7 Billion Show a 4.1% Increase*, NAT'L INDIAN GAMING COMM'N. (Sept 12, 2018), <https://www.nigc.gov/news/detail/2018-indian-gaming-revenues-of-33.7-billion-show-a-4.1-increase>.

experienced success in several other industries too.<sup>98</sup> Nevertheless, Indian country's private sector remains virtually non-existent.<sup>99</sup> This is not due to a lack of effort by tribes;<sup>100</sup> rather, private investors remain reluctant to place their money in Indian country because they lack confidence in tribal institutions.<sup>101</sup> The next section explores reasons why people distrust tribal institutions.

### III. TRIBAL INSTITUTIONS, UNCERTAINTY, AND ECONOMIC DEVELOPMENT

Institutions are the formal and informal rules of a society.<sup>102</sup> Laws are an example of formal institutions, as laws set forth which activities are permitted in a jurisdiction.<sup>103</sup> Accordingly, the rule of law is a set of principles that all people and entities must abide by.<sup>104</sup> In order for the rule of law to have maximum effect, people must have open access to laws and an independent judicial body.<sup>105</sup> The rule of law is

---

<sup>98</sup>Crepelle, *supra* note 7, at 702-03.

<sup>99</sup>*Id.* at 690-91, 703.

<sup>100</sup>*See, e.g.*, Timothy Berg et al., MODEL TRIBAL SECURED TRANSACTIONS ACT (Nat's Conf. of Comm'r on Unif. L. 2005); *see also* Crepelle, *supra* note 7, at 704 ("Tribes realize the value of creating private sector economies and have made substantial efforts to promote Indian entrepreneurs.").

<sup>101</sup>Crepelle, *supra* note 7, at 706.

<sup>102</sup>Daron Acemoglu & James Robinson, *The Role of Institutions in Growth and Development 2* (Comm'n on Growth & Dev., Working Paper No. 10, 2008).

<sup>103</sup>Kevin J. Fandl, *Can Smart Contracts Enhance Firm Efficiency in Emerging Markets?*, 40 NW. J. INT'L L. & BUS. 333, 341 (2020) ("Laws are a prime example of institutions as they delineate the actions that a party can or cannot take and prescribe punishments for actions taken outside those constraints.").

<sup>104</sup>United Nations, *What is the Rule of Law*, U.N. AND THE RULE OF LAW, <https://www.un.org/ruleoflaw/what-is-the-rule-of-law/> (last visited Jan. 2, 2022); *What is the Rule of Law?*, WORLD JUST. PROJECT, <https://worldjusticeproject.org/about-us/overview/what-rule-law> (last visited Jan. 2, 2022); *Peace & Security Funding Map*, CANDID, <https://peaceandsecurityindex.org/issues/institution-building/#:~:text=Grants%20created%20to%20uphold%20the,equally%20enforced%2C%20and%20independently%20adjudicated> (last visited Jan. 2, 2022) (citing data collected on May 16, 2021 and captured at <https://perma.cc/JQ9L-L6KE>).

<sup>105</sup>Peace and Security Funding Index, *supra* note 104; World Just. Project, *supra* note 104; U.N. and the Rule of Law, *supra* note 104.



thought to play a key role in economic development;<sup>106</sup> in fact, the rule of law may be even more important for national development than natural resource endowments.<sup>107</sup> The rule of law leads to economic growth by increasing certainty, and certainty enables those engaged in commerce to make better decisions.<sup>108</sup> Reducing risk reduces the cost of doing

---

<sup>106</sup>*Rule of Law*, AM. BAR ASS'N, [https://www.americanbar.org/groups/public\\_education/resources/rule-of-law/](https://www.americanbar.org/groups/public_education/resources/rule-of-law/); U.N. AND THE RULE OF LAW, *supra* note 104 ("For the United Nations (UN) system, the rule of law is a principle of governance in which all persons, institutions and entities, public and private, including the State itself, are accountable to laws that are publicly promulgated, equally enforced and independently adjudicated, and which are consistent with international human rights norms and standards."); *Overview – Rule of Law*, U.S. COURTS, <https://www.uscourts.gov/educational-resources/educational-activities/overview-rule-law>.

<sup>107</sup>Jason Higbee & Frank A. Schmid, *Rule of Law and Economic Growth*, FEDERAL RESERVE BANK OF ST. LOUIS (2004), <https://files.stlouisfed.org/files/htdocs/publications/es/04/ES0419.pdf> ("Japan . . . has few natural resources. Yet, it is one of the richest countries in the world."); United Nations, *Rule of Law and Development*, U.N. AND THE RULE OF LAW, <https://www.un.org/ruleoflaw/rule-of-law-and-development> ("At the national level, the rule of law is necessary to create an environment for providing sustainable livelihoods and eradicating poverty.").

<sup>108</sup>Shawn E. Regan & Terry L. Anderson, *The Energy Wealth of Indian Nations*, 3 LSU J. OF ENERGY L. & RES. 195, 195 (2014) ("A stable rule of law promotes long-term investment by reducing the cost of engaging in market exchange and encouraging capital accumulation."); Brian Tamanaha, *A Concise Guide To The Rule Of Law*, in RELOCATING THE RULE OF LAW 11 (Gianluigi Palombella & Neil Walker ed. 2009) ("[E]conomic actors can better predict in advance the anticipated costs and benefits of prospective transactions, which enables them to make more efficient decisions."); STEVEN J. DAVIS, REGULATORY COMPLEXITY AND POLICY UNCERTAINTY: HEADWINDS OF OUR OWN MAKING 16 (2017), [https://bfi.uchicago.edu/wp-content/uploads/Regulatory\\_Complexity\\_and\\_Policy\\_Uncertainty\\_Headwinds\\_of\\_Own\\_Making\\_April\\_2017.pdf](https://bfi.uchicago.edu/wp-content/uploads/Regulatory_Complexity_and_Policy_Uncertainty_Headwinds_of_Own_Making_April_2017.pdf) (last seen Jan, 2, 2022) ("We also find that increases in policy uncertainty brings reduced investment and employment growth rates for firms in these sectors.").

business.<sup>109</sup> When the cost of commerce decreases, more commerce can occur.<sup>110</sup>

Informal institutions are not codified and exist independently of the government.<sup>111</sup> Culture, beliefs, and stereotypes all constitute informal institutions.<sup>112</sup> Trust, however, may be the most important institution of all. As Nobel Laureate Kenneth Arrow states “[v]irtually every commercial transaction has within itself an element of trust . . .”<sup>113</sup> Indeed, high levels of social trust are strongly correlated with a country being wealthy.<sup>114</sup> While difficult to precisely define, trust is basically party A's expectation that party B will do what party A thinks party B is supposed to do under the circumstances.<sup>115</sup> Trust varies depending on a number of variables including the risk taken and familiarity with the situation.<sup>116</sup>

---

<sup>109</sup>See, e.g., Lucas Downey, *Transaction Costs*, INVESTOPEDIA (Apr. 30, 2021), <https://www.investopedia.com/terms/t/transactioncosts.asp> (“When transaction costs diminish, an economy becomes more efficient, and more capital and labor are freed to produce wealth.”); *Reduce Transaction Costs In Your Small Business*, NASDAQ (Feb. 1, 2017, 10:06 am EST), <https://www.nasdaq.com/articles/reduce-transaction-costs-in-your-small-business-2017-02-01> (“Any business that can reduce its transaction costs has a better chance of being profitable.”); *Transaction Costs Theory*, SCIENCE DIRECT, <https://www.sciencedirect.com/topics/economics-econometrics-and-finance/transaction-costs-theory>.

<sup>110</sup>Jason Fernando, *Law of Supply and Demand*, INVESTOPEDIA (Nov. 7, 2021), <https://www.investopedia.com/terms/l/law-of-supply-demand.asp>.

<sup>111</sup>Claudia R. Williamson & Carrie B. Kerekes, *Securing Private Property: Formal versus Informal Institutions*, 54 J.L. & ECON. 537, 546 (2011) (“Informal institutions are those rules that shape human behavior but are outside of government and are not part of a written legal framework.”).

<sup>112</sup>Claudia R. Williamson & Carrie B. Kerekes, *Securing Private Property: Formal versus Informal Institutions*, 54 J.L. & ECON. 537, 546 (2011) (“Informal institutions are those rules that shape human behavior but are outside of government and are not part of a written legal framework.”).

<sup>113</sup>YANN ALGAN, *Trust and Social Capital*, in FOR GOOD MEASURE: ADVANCING RESEARCH ON WELL-BEING METRICS BEYOND GDP (Joseph E. Stiglitz et al. eds. 2009), <https://www.oecd-ilibrary.org/sites/9789264307278-12-en/index.html?itemId=/content/component/9789264307278-12-en> (emphasis in original).

<sup>114</sup>*Id.* at 113 (“Countries with higher levels of trust tend to have higher income.”).

<sup>115</sup>Frank B. Cross, *Law and Trust*, 93 GEO. L.J. 1457, 1461 (2005).

<sup>116</sup>*Id.* at 1462-63.

Private businesses often lack faith in tribal institutions.<sup>117</sup>The absence of confidence in tribal institutions stems from most Americans' unfamiliarity with tribes and their unique political status.<sup>118</sup> Tribes surrendered no powers at the Constitutional Convention<sup>119</sup> nor are tribes bound by the United States Constitution.<sup>120</sup> Some tribes also apply unwritten customs and traditions in judicial proceedings.<sup>121</sup> Furthermore, non-Indians lack tribal citizenship, so they cannot participate in tribal elections, creating a democratic deficit.<sup>122</sup> Then, some people do not trust

---

<sup>117</sup>Brief for Amicus Curiae Retail Litigation Ctr., Inc., *supra* note 11, at 10-11 ("Put simply, the hallmarks and protections of the American judicial system that are guaranteed to all citizens of the United States under the Constitution are not guaranteed in tribal court. Compounding the impact of these differences is the fact that, following final judgment in the tribal court system, a nonmember defendant has no right to a merits review of the case in federal court – not even in this Court."); Brief for Amicus Curiae Am. Bankers Ass'n & S.D. Bankers Ass'n, *supra* note 12, at 7 ("[O]ther businesses in the communities served by ABA's and SDBA's members limit the amount of business they do on-reservation or with tribal members living on the reservations not because of their race, but rather because the risk associated with not knowing the rules before the game begins simply outweighs the potential economic benefit to them and the greater economy, both on-reservation and off-reservation.").

<sup>118</sup>Adam Crepelle, *Lies, Damn Lies and Federal Indian Law: The Ethics of Citing Racist Precedent In Contemporary Federal Indian Law*, 44 N.Y.U. REV. L. & SOC. CHANGE 529, 572 (2021) ("Most Americans have very limited knowledge of American Indians.").

<sup>119</sup>*See, e.g.,* Blatchford v. Native Village of Noatak, 501 U.S. 775, 782 (1991) (noting that tribes surrendered no powers at the Constitutional Convention).

<sup>120</sup>Talton v. Mayes, 163 U.S. 376 (1896) (holding the Bill of Rights does not apply to Indian tribes).

<sup>121</sup>Nevada v. Hicks, 533 U.S. 353, 384 (2004) (Souter, J., concurring) ("Although some modern tribal courts 'mirror American courts' and 'are guided by written codes, rules, procedures, and guidelines,' tribal law is still frequently unwritten, being based instead 'on the values, mores, and norms of a tribe and expressed in its customs, traditions, and practices,' and is often 'handed down orally or by example from one generation to another.'").

<sup>122</sup>Duro v. Reina, 495 U.S. 676, 693 (1990) ("We hesitate to adopt a view of tribal sovereignty that would single out another group of citizens, nonmember Indians, for trial by political bodies that do not include them."); *See also* United States v. Lara, 541 U.S. 193, 212-213 (2004) (Kennedy, J., concurring).

tribal institutions because of outright racism.<sup>123</sup> For example, as recently as 2013, Senator Chuck Grassley openly said tribal courts cannot treat non-Indians fairly.<sup>124</sup> This fear has resulted in extreme limits on tribal jurisdiction over non-Indians.<sup>125</sup>

Functionally, tribes can only<sup>126</sup> assert civil jurisdiction over non-Indians who expressly consent to tribal law and jurisdiction.<sup>127</sup> Consent seems like a clear term, but under Supreme Court precedent, it is not.<sup>128</sup> For example, the Supreme Court split evenly on whether a tribal court could assert civil jurisdiction over a non-Indian company that obtained tribal approval to operate on tribal land in 2016.<sup>129</sup> To date, this jurisdictional uncertainty has no remedy either because forum selection clauses and arbitration agreements may not be effective in Indian

---

<sup>123</sup>Judith V. Royster, *The Legacy of Allotment*, 27 ARIZ. ST. L.J. 1, 73 (1995) ("To the extent that distrust of tribal authority over non-Indians is rooted in ethnocentrism, the country simply ought to get over it.").

<sup>124</sup>Jennifer Bendry, Chuck Grassley On VAWA: Tribal Provision Means 'The Non-Indian Doesn't Get A Fair Trial', HUFFPOST (updated Feb. 21, 2013), [https://www.huffpost.com/entry/chuck-grassley-vawa\\_n\\_2735080](https://www.huffpost.com/entry/chuck-grassley-vawa_n_2735080).

<sup>125</sup>*In re Mayfield*, 141 U.S. 107, 115-16 (1891) ("The policy of Congress has evidently been to vest in the inhabitants of the Indian country such power of self-government as was thought to be consistent with the safety of the white population with which they may have come in contact, and to encourage them as far as possible in raising themselves to our standard of civilization.").

<sup>126</sup>Tribes can theoretically assert civil jurisdiction over non-Indians engaged in activities that threaten a tribe's economic or general welfare. Historically, the Supreme Court has held this expansive exception is nearly impossible to meet. *See Plains Commerce Bank v. Long Family Land & Cattle Co.*, 554 U.S. 316, 333 (2008) ("The exception is *Brendale v. Confederated Tribes and Bands of Yakima Nation* . . ."); *But cf.*, *United States v. Cooley*, 141 S.Ct. 1638 (2021) (holding that it is within tribal civil jurisdiction to detain non-Indian violators of state and federal law under the general welfare exception).

<sup>127</sup>*Plains Commerce Bank*, 554 U.S. at 337 ("Consequently, those laws and regulations may be fairly imposed on nonmembers only if the nonmember has consented, either expressly or by his actions.").

<sup>128</sup>Crepelle, *supra* note 7, at 707-711; Philip H. Tinker, *In Search of a Civil Solution: Tribal Authority to Regulate NonMember Conduct in Indian Country*, 50 TULSA L. REV. 193, 206 (2014) ("Most recently, the Court in *Plains Commerce Bank v. Long Family Land and Cattle Company* continued the trend of revising the *Montana II* exception to preclude tribal jurisdiction under whatever set of facts the case before it presented.").

<sup>129</sup>*Dollar Gen. Corp. v. Mississippi Band of Choctaw Indians*, 136 S. Ct. 2159 (2016).

country.<sup>130</sup> Hence, jurisdictional confusion further subverts confidence in tribal institutions rendering Indian country an even less desirable investment opportunity.<sup>131</sup>

Limits on tribal court jurisdiction signal that tribal courts are different than other courts. Differences lead to distrust; plus, diminished jurisdiction creates a disincentive for tribes to fund their court systems. After all, why invest money in an institution that lacks jurisdiction over approximately ninety-nine percent of the United States population?<sup>132</sup> Thus, tribal courts are often severely underfunded.<sup>133</sup> Inadequate funding results in shortages of qualified tribal court employees,<sup>134</sup> including some tribal judges who lack law degrees.<sup>135</sup> Tribal courts are not always

---

<sup>130</sup>For a discussion of forum selection clauses application to Indian country commerce, *see* Crepelle, *supra* note 7, at 712-715.

<sup>131</sup>REP. & RECOMMENDATIONS, *supra* note 78, at 40 (observing that jurisdictional conflicts and dual taxation concerns have impeded the economic development of Indian reservations); Brief for Amicus Curiae Retail Litigation Ctr., Inc., *supra* note 11, at 2; Brief for Amicus Curiae Am. Bankers Ass'n & S.D. Bankers Ass'n, *supra* note 12, at 8 ("ABA and SDBA respectfully submit that greater certainty concerning the limits of tribal court jurisdiction will help fuel the economic engine, both on-reservation and off."); *id.* at 3 ("As the current state of our national and world economies demonstrates, a lack of reasonable predictability as to future events is detrimental to the economy in general and to the credit market in particular. [U]ncertainty concerning the nature and extent to which tribal courts may exert jurisdiction over non-Indians can result in similarly injurious consequences to reservation Indians and non-Indians alike.").

<sup>132</sup>*QuickFacts*, U.S. CENSUS Bureau, <https://www.census.gov/quickfacts/fact/table/US/PST045219> (noting 1.3% of the United States population self-identifies as American Indian or Alaska Native).

<sup>133</sup>25 U.S.C. § 3651(8) (2018); U.S. Gov't Accountability Off., GAO-11-252, Indian Country Criminal Justice: Departments of the Interior and Justice Should Strengthen Coordination to Support Tribal Courts 21 (2011) ("Further, officials at 11 of the 12 tribes we visited noted that their tribal courts' budgets are inadequate to properly carry out the duties of the court.").

<sup>134</sup>*U.S. v. Cavanaugh*, 680 F.Supp.2d 1062, 1072 (D.N.D. 2009); GAO-11-252, *supra* note 133, at 22 ("Tribal justice officials also stated that their tribal courts face various challenges in recruiting and retaining qualified judicial personnel including: (1) inability to pay competitive salaries, (2) housing shortages on the reservation, and (3) rural and remote geographic location of the reservation, among other things.").

<sup>135</sup>Matthew L.M. Fletcher, *A Unifying Theory of Tribal Civil Jurisdiction*, 46 ARIZ. ST. L.J. 779, 825 (2014) ("It may still be true that most

independent bodies either;<sup>136</sup> indeed, some tribal councils can override tribal court decisions.<sup>137</sup> This leads to charges that tribal courts are politically motivated.<sup>138</sup>

Without strong independent judicial systems, businesses fear tribal governments will use their sovereignty to adversely impact a business's investment.<sup>139</sup> For example, many tribal codes lack a contract clause type provision.<sup>140</sup> The purpose of a contract clause is to prevent the government from interfering with private investment; hence, the absence of a contract clause sends chills down would-be investors' backs.<sup>141</sup>

---

tribal lower court judges are not lawyers, but it is my experience that the vast majority of tribal appellate judges are lawyers (and many are law professors).").

<sup>136</sup>Miller, *supra* note 17, at 106; REP. & RECOMMENDATIONS, *supra* note 78, at 31

("[T]he failure to establish a clear separation of powers between the tribal council and the tribal judiciary has resulted in political interference with tribal courts, weakening their independence, and raising doubts about fairness and the rule of law."); Cornell, Tribal-citizen Entrepreneurship, *supra* note 17 ("Some tribal courts answer to tribal councils and are either politicized or severely underfunded, or both.").

<sup>137</sup>Miller, *supra* note 17, at 106 ("[I]n some tribes, the elected tribal council itself acts as the court or is the tribe's appellate court and hears appeals of decisions from the tribe's trial court."); *Assistance, Walking on Common Ground: Pathways to Equal Justice*, REBECCA MURDOCK ED., BUREAU OF JUST. REP. 9 (2005),

[http://walkingoncommonground.org/files/WOCG\\_Draft%20Report%20FVTC.pdf](http://walkingoncommonground.org/files/WOCG_Draft%20Report%20FVTC.pdf) ("For some tribes, council can sanction tribal courts for decisions they don't agree with, placing tribal court independence in doubt."); Fletcher, *supra* note 135, at 824 ("But there remain horror stories of tribal councils removing tribal judges after a tribal court decision opposed the elected officials").

<sup>138</sup>Murdock ed., *supra* note 137, at 8 ("There is a lot of skepticism about tribal judicial independence, which leads to mistrust of tribal judicial systems.").

<sup>139</sup>Miller, *supra* note 17, at 101-02; *Economic Trends on the American Indian Reservation in South Dakota*, FREE LIBR. [hereinafter *Economic Trends*], <https://www.thefreelibrary.com/Economic+trends+on+the+American+Indian+reservations+in+South+Dakota.-a0105659704> ("Numerous cases can be cited where changes in tribal leadership have led to arbitrary violation of contracts which has amounted to expropriation of private property.").

<sup>140</sup>U.S. CONST. art. I, § 10, cl. 6 (The Contracts Clause provides that "[n]o State shall . . . pass any . . . Law impairing the Obligation of Contracts."); *See also*, Crepelle & Block, *supra* note 3, at 330 ("Most tribal constitutions do not contain provisions prohibiting the tribal government from violating contracts.").

<sup>141</sup>Crepelle & Block, *supra* note 3, at 330 ("Without a contracts clause type provision, tribes can use their sovereign status to impair contracts, and this has a chilling effect on business development."); Robert J. Miller, *Sovereign*

Likewise, tribes often lack secured transactions laws, so businesses do not feel comfortable placing capital in Indian country.<sup>142</sup> Bad laws can make registering to do business with a tribe a bureaucratic adventure.<sup>143</sup> Tribal politics have also been known to impact some tribal bureaucracies.<sup>144</sup>

The distrust of tribal institutions is largely without merit. Unfortunately, some tribal institutions have fallen short of perfection; however, state institutions err too.<sup>145</sup> State failures do not result in calls to abolish or restrict the jurisdiction of state courts or bureaucracies.<sup>146</sup> Rather, businesses lobby for change within the ill-reputed state institution or businesses place their capital elsewhere. This is one of the benefits of federalism. Jurisdictions can develop their own institutions to attract investments.<sup>147</sup> Nonetheless, tribes' status as "domestic dependent

---

*Resilience: Reviving Private-Sector Economic Institutions in Indian Country*, 2018 BYUL REV. 1331, 1370 (2019).

<sup>142</sup>Miller, *supra* note 17, at 143.

<sup>143</sup>Miller, *supra* note 17, at 108 ("[T]here are many layers of tribal bureaucracy at Pine Ridge and that any of them can delay the business permitting process."); Joseph Austin, *How Many Lawyers Does it Take to Register a Business on the Navajo Nation*, OLEA, SOLÓRZANO & AUSTIN, <https://www.team-osa.com/blank-7/2020/08/11/how-many-lawyers-does-it-take-to-register-a-business-on-the-navajo-nation>; Crepelle, *supra* note 7 at 705-730; Crepelle, *supra* note 1, at 451-52.

<sup>144</sup>Miller, *supra* note 17, at 108 ("[T]he tribal land committee rarely had any members experienced in business . . ."); *Policing On American Indian Reservations*, Stewart Wakeling et al., NAT'L INST. OF JUST., U.S. DEPT OF JUST., 58 (2001), <https://www.ncjrs.gov/pdffiles1/nij/188095.pdf> ("For example, corrupt tribal governments co-opt police departments to protect illegitimate activities and enterprises from scrutiny or prosecution. Cases of nepotism in hiring and promoting police officers and staff are also in evidence."); Cornell, *Tribal-citizen Entrepreneurship*, *supra* note 17 ("How the tribal bureaucracy deals with you may depend on who you voted for or who your relatives are. And so on."); *Economic Trends*, *supra* note 139 ("Other examples of lack of the rule of law on many reservations relate to tribal enterprises and operations of tribal government operating under a spoils system where the group in power hand-out the best jobs, contracts, and other advantages to their relatives and friends.").

<sup>145</sup>Kalt & Singer, *supra* note 95, at 31-32.

<sup>146</sup>Kalt & Singer, *supra* note 95, at 32 ("Just as with tribes, such real-world challenges that these states face argue for improvements in their court systems, not for termination of their sovereignty.").

<sup>147</sup>Adam Crepelle, *Legal Issues in Tribal E-Commerce*, 10 AM. U. BUS. L. REV. 383, 430 (2021) ("South Dakota and Delaware have made exporting their financial laws to other states a major industry.").

nations" prevents tribes from using their sovereignty to compete for businesses.<sup>148</sup> Federal law also imposes unique laws upon tribes that complicate most transactions in Indian country.<sup>149</sup> This signals tribes are lesser sovereigns with ambiguous powers, creating uncertainty and distrust around tribal institutions.

The vast majority of tribal institutions have proven themselves to be effective.<sup>150</sup> Tribal courts, for example, have asserted criminal jurisdiction over nearly two hundred non-Indians under the Violence Against Women Act's special domestic violence criminal jurisdiction, and not a single non-Indian has alleged unfair treatment.<sup>151</sup> Tribal courts also routinely resolve civil disputes involving non-Indian parties with no controversy at all.<sup>152</sup> For example, non-Indians in Shawnee, Oklahoma have opted out of the state's court system, instead preferring the Citizen Potawatomi Nation's court.<sup>153</sup> Tribal institutions have consistently outperformed federal institutions when given the chance.<sup>154</sup> Despite being unable to vote in tribal elections, non-Indians actually have more influence over tribal affairs than Indians themselves through Congress'

---

<sup>148</sup>Crepelle, *supra* note 7, at 721-724; Adam Creppelle, Taxes, Theft, and Indian Tribes: Seeking an Equitable Solution to State Taxation of Indian Country Commerce, 122 W. VA. L. REV. 999, 1029 (2020).

<sup>149</sup>Crepelle, *supra* note 7, at 721 ("In the name of protecting tribes, numerous federal regulations apply in Indian country that exist nowhere else in the United States.").

<sup>150</sup>Judith V. Royster, *Practical Sovereignty, Political Sovereignty, and the Indian Tribal Energy Development and Self-Determination Act*, 12 LEWIS & CLARK L. REV. 1065, 1068 (2008) ("Tribes exercising actual decision-making powers consistently out-perform outside decision-makers.").

<sup>151</sup>Crepelle, *supra* note 15, at 91 ("Approximately 150 arrests of non-Indians under VAWA have occurred, and not a single non-Indian has challenged the fairness of the tribal court.").

<sup>152</sup>Matthew L.M. Fletcher, *Contract and (Tribal) Jurisdiction*, 126 YALE L.J. F. 1 (2016) (explaining the increased volume of business contracts executed between Indians and non-Indians); Sarah Krakoff, *Tribal Civil Judicial Jurisdiction Over Nonmembers: A Practical Guide for Judges*, 81 U. COLO. L. REV. 1187, 1193 (2010) ("Many assertions of tribal authority over nonmembers are uncontroversial and do not result in litigation.").

<sup>153</sup>Stephen Cornell & Joseph P. Kalt, *American Indian Self-Determination: The Political Economy of a Policy that Works* 12 (John F. Kennedy Sch. of Gov't, Harv. U., HKS Faculty Research Working Paper Series No. RWP10-043, 2010).

<sup>154</sup>Crepelle, *supra* note 2, at 239 ("When tribes are allowed the opportunity to self-govern, the evidence unequivocally shows tribes outperform the feds. Tribal institutions sometimes even outperform state institutions.").



"plenary power" over Indians.<sup>155</sup> Thus, the distrust of tribal institutions is a lot of smoke and little fire.

Tribal institutional capacity certainly exceeds the stereotype. Accordingly, the general public is slowly recognizing the legitimacy of tribal institutions.<sup>156</sup> Tribes can use technology to revolutionize the public's image of tribal institutions. Smart contracts are one of the technologies which can operate to bolster trust in tribal economic institutions.

#### IV. SMART CONTRACTS

Contemporary smart contracts were originally defined in 1996 as "a set of promises, specified in digital form, including protocols within which the parties perform on these promises."<sup>157</sup> Thus, smart contracts are self-enforcing agreements.<sup>158</sup> This concept is not new; in fact, ancient Egyptian temples supposedly had coin-operated holy water dispensers over two thousand years ago.<sup>159</sup> During the 1600s, the British used coin-activated tobacco boxes, essentially early vending machines.<sup>160</sup> Vending machines are the most ubiquitous example of smart contracts.<sup>161</sup> Once an individual inserts money and pushes a button, the sale automatically

---

<sup>155</sup>Crepelle, *supra* note 15, at 85 ("The only reason the plenary power doctrine persists is because non-Indians control Congress; that is, non-Indians have a voice in tribal governance."); Adam Crepelle, *Law and Economics of Crime in Indian Country: Why Things Are So Bad*, 110 GEO. L. J. 569, 605-606 (2021) ("Due to Congress's plenary power over tribes, Congress has the capacity to unilaterally abrogate tribal sovereignty.").

<sup>156</sup>G.A. Res. 61/295, United Nations Declaration on the Rights of Indigenous Peoples (Sept. 13, 2007); Violence Against Women Act Reauthorization Act of 2021, H.R.1620, 117th Cong. (2021).

<sup>157</sup>Fandl, *supra* note 103, at 348.

<sup>158</sup>Farshad Ghodoosi, *Contracting in the Age of Smart Contracts*, 96 WASH. L. REV. 51, 60 (2021) ("Smart contracts are essentially coded obligations that are enforced autonomously."); Max Raskin, *The Law And Legality Of Smart Contracts*, 1 GEO. L. TECH. REV. 305, 309 (2017) ("A smart contract is an agreement whose execution is automated.").

<sup>159</sup>Raskin, *supra* note 158, at 315.

<sup>160</sup>Raskin, *supra* note 158, at 315.

<sup>161</sup>Raskin, *supra* note 158, at 314 ("The vending machine is the archetypical example of a self-executing smart contract.").

executes.<sup>162</sup> This basic premise has been digitized and advanced by modern technological innovations.<sup>163</sup>

Smart contracts now operate on "blockchain,"<sup>164</sup> a digital ledger that is distributed across a network of computers.<sup>165</sup> Once recorded on a blockchain, information is virtually unalterable.<sup>166</sup> Inalterable information combined with distribution across a network has led Professor Del Wright Jr. to describe blockchain as a "trust machine."<sup>167</sup> Hence, blockchain's key attribute is establishing trust between parties without

---

<sup>162</sup>Raskin, *supra* note 157, at 306 ("If the machine is operating properly and money is inserted into the machine, then a contract for sale will be executed automatically.").

<sup>163</sup>Primavera De Filippi et al., *Smart Contracts*, INTERNET POL'Y REV. J. ON INTERNET REG. (2020) ("Thus, just as a vending machine can automate the performance of a contract to sell only the physical goods contained within it, so a blockchain-based smart contract can provide automatic performance of a contract relating only to transactions in blockchain-based assets."); *Vending Machine Model: Trustless Payment for Scalable Smart Contracts*, MEDIUM (Nov. 11, 2020), <https://medium.com/starkware/the-vending-machine-model-6d724df9cf08>.

<sup>164</sup>Stuart D. Levi & Alex B. Lipton, *An Introduction to Smart Contracts and Their Potential and Inherent Limitations*, HARV. L. SCH. F. ON CORP. GOVERNANCE, (May 26, 2018) <https://corpgov.law.harvard.edu/2018/05/26/an-introduction-to-smart-contracts-and-their-potential-and-inherent-limitations/> [hereinafter Levi & Lipton, *An Introduction*] ("Smart contracts' is a term used to describe computer code that automatically executes all or parts of an agreement and is stored on a blockchain-based platform."); *What is a Smart Contract?*, CORP. FIN. INST., <https://corporatefinanceinstitute.com/resources/knowledge/deals/smart-contract/> [hereinafter CORP. FIN. INST.] ("The smart contract is executed through a blockchain network, and the code of the contract is replicated on many computers that comprise the network."); *id.* ("The concept of smart contracts is primarily based on the idea of blockchain technology.").

<sup>165</sup>Del C Wright Jr., *Short & Happy Guide to Bitcoin, Blockchain, and Crypto 1* (2020).

<sup>166</sup>Nathan Fulmer, *Exploring the Legal Issues of Blockchain Applications*, 52 AKRON L. REV. 161, 170 (2019) ("The immutability, or extreme resistance to tampering, gives cryptocurrencies and other blockchain applications their intrinsic value because most businesses and industries rely on accurate untampered records."); Kevin Werbach & Nicolas Cornell, *Contracts Ex Machina*, 67 DUKE L. J. 313, 327 (2017) ("In theory, no one can alter an existing transaction, because every block is linked in an immutable sequence.").

<sup>167</sup>WRIGHT, *supra* note 165, at 1.

the need for a third-party institution.<sup>168</sup> Because trust is valuable, blockchain has been applied to a myriad of things, from voting to ridesharing. a growing myriad of applications—from voting to ridesharing.<sup>169</sup> Blockchain vests parties to a smart contract with a high degree of trust because breaching a smart contract is nearly impossible.<sup>170</sup>

Parties form a smart contract by agreeing to contractual terms then entering the contract's terms into computer code.<sup>171</sup> The code itself represents the possible outcomes of the contract—if "x," occurs then "y"

---

<sup>168</sup>Primavera De Filippi et al., *Blockchain as a Confidence Machine: The Problem of Trust & Challenges of Governance*, 62 *TECH. & SOC'Y* 1, 6 (2020) ("It is commonly understood that the raison d'être of a blockchain-based system is that it does not require trusted third parties."); Fulmer, *supra* note 166, at 169 ("Instead of relying on a trusted central intermediary, trust is placed into the blockchain's underlying code in the form of cryptographic problems."); Werbach & Cornell, *supra* note 166, at 325 ("The core attribute of Bitcoin is that it allows unrelated individuals and organizations to have confidence in transactions without trusting intermediaries or a legal system.").

<sup>169</sup>Werbach & Cornell, *supra* note 166, at 325; Fulmer, *supra* note 166, at 171-72 ("The blockchain platform is considered a foundational technology that is capable of being implemented into a wide variety of industries and practice areas."); *The Growing List of Applications and Use Cases of Blockchain Technology In Business and Life*, *INSIDER* (Mar 2, 2020, 9:24 am), <https://www.businessinsider.com/blockchain-technology-applications-use-cases>.

<sup>170</sup>Jeremy M. Sklaroff, *Smart Contracts and the Cost of Inflexibility*, 166 *U. PENN. L. REV.* 263, 273 (2018) ("A smart contract is immutable and unmodifiable once created, since its logic is seeded into a blockchain spread across multiple points."); Mark Verstraete, *The Stakes of Smart Contracts*, 50 *LOYOLA U. CHI. L. J.* 743, 756 (2019) ("The underlying idea for smart contracts is relatively straightforward: contract terms could be secured by hardware or software, thus limiting the possibilities—including making it impossible—for parties to breach an agreement."); Werbach & Cornell, *supra* note 166, at 332 ("But with a smart contract, complete execution of the agreement, including any transfer of value, occurs without any such opportunity to interrupt.").

<sup>171</sup>Morgan N. Temte, *Blockchain Challenges Traditional Contract Law: Just How Smart Are Smart Contracts?*, 19 *WYO. L. REV.* 87 (2019) ("Coders write the terms of a smart contract in blockchain computer code rather than in English or another traditional language."); *CORP. FIN. INST.*, *supra* note 164 ("After the contractual terms are finalized, they are translated into programming code."); *Smart Contracts — What Are They and How to Create Them?*, *CONCISE SOFTWARE, MEDIUM* (May 13, 2019), <https://medium.com/@concisesoftware/smart-contracts-what-are-they-and-how-to-create-them-6ddc0df1f66b> ("Then the contract terms are written down — not in the traditional form, but in the blockchain application.").

automatically occurs.<sup>172</sup> Typically, a third-party source of information is used to determine whether the contract has been performed.<sup>173</sup> Finding reliable sources can be tricky; hence, the contracting parties can pre-select sources of information to verify the contract's performance, commonly referred to as an "oracle."<sup>174</sup> When the oracle confirms a contractual term is fulfilled, the contract automatically executes.<sup>175</sup> Thus, parties to a smart contract do not need to have any faith in external institutions.<sup>176</sup>

---

<sup>172</sup>Michelle Adams, *In with the New, But Out with the Old?*, U. MIAMI L. REV. (2021) ("Smart contracts operate using 'if/then' conditional statements coded into a blockchain."); Fandl, *supra* note 102, at 349 ("What turns a traditional contract into a smart contract is automation, or in programmatic language, "if/then" conditions built into computer code."); CORP. FIN. INST., *supra* note 164 ("Basically, the code represents a number of different conditional statements that describe the possible scenarios of a future transaction.").

<sup>173</sup>Levi & Lipton, *supra* note 164 ("Many smart contract-proposed use-cases assume that the smart contract will receive information or parameters from resources that are not on the blockchain itself—so-called off-chain resources."); Temte, *supra* note 171, at 96 ("Smart contracts must collect outside information using an external data feed since smart contracts often rely on facts outside of the blockchain to determine if parties have met their requisite obligations.").

<sup>174</sup>Levi & Lipton, *supra* note 164 ("Oracles are trusted third parties that retrieve off-chain information and then push that information to the blockchain at predetermined times."); Temte, *supra* note 170, at 96 ("Smart contracts use oracles to collect facts outside of the blockchain to help determine if the parties have met their obligations.").

<sup>175</sup>CORP. FIN. INST., *supra* note 164 ("If a term of the contract is satisfied and it is verified by all participants of the blockchain network, then the relevant transaction is executed."); *Blockchain Oracles*, BLOCKCHAINHUB BERLIN, <http://blockchainhub.net/blockchain-oracles>.

<sup>176</sup>Werbach & Cornell, *supra* note 166, at 333 ("With smart contracts, the transaction is irreversibly encoded on a distributed blockchain. A judicial decision holding a smart contract unenforceable cannot undo the results of its fully executed agreement."); Toshendra Kumar Sharma, *Best Programming Languages to Build Smart Contracts*, BLOCKCHAIN COUNCIL, <https://www.blockchain-council.org/blockchain/best-programming-languages-to-build-smart-contracts/> [hereinafter Sharma, *Best Programming Languages*] ("Smart contracts allow for trusted transactions and agreements to be carried out among anonymous parties without the need for a central entity, external enforcement mechanism, or legal system.").

Smart contracts come in a variety of flavors.<sup>177</sup> The contract can be completely comprised of code; alternatively, the contract can consist of both code and natural language.<sup>178</sup> There are several different coding languages for smart contracts, each with unique attributes.<sup>179</sup> Another possibility is an entirely natural language contract with code-based enforcement mechanisms.<sup>180</sup> Max Raskin has further differentiated between weak and strong smart contracts:<sup>181</sup> weak smart contracts are those which are easily modified or revoked after execution, whereas strong contracts are more difficult to alter post execution.<sup>182</sup> Due to current technological limitations, weak smart contracts are more common than strong smart contracts.<sup>183</sup>

Smart contracts present unique advantages and disadvantages compared to traditional contracts. The self-executing nature of smart contracts implies third-parties are not required to enforce agreements; therefore, smart contracts can increase trust in jurisdictions where people

---

<sup>177</sup>*Smart Contracts: 12 Use Cases for Business & Beyond*, SMART CONTRACTS ALLIANCE, CHAMBER OF DIGITAL COMMERCE (2016), [https://4actl02j1q5u2o7ouq1ymaad-wpengine.netdna-ssl.com/wp-content/uploads/2018/02/Smart-Contracts-12-Use-Cases-for-Business-and-Beyond\\_Chamber-of-Digital-Commerce.pdf](https://4actl02j1q5u2o7ouq1ymaad-wpengine.netdna-ssl.com/wp-content/uploads/2018/02/Smart-Contracts-12-Use-Cases-for-Business-and-Beyond_Chamber-of-Digital-Commerce.pdf) ("It is a common misconception that there is only one type of smart contract. In fact, there is a spectrum of possibilities.").

<sup>178</sup>*Id.*

<sup>179</sup>Sharma, *supra* note 176; Peter Wayner, *23 Blockchain Languages Driving the Future of Programming*, TECHBEACON, <https://techbeacon.com/app-dev-testing/23-blockchain-languages-driving-future-programming>.

<sup>180</sup>SMART CONTRACTS ALLIANCE, *supra* note 177, at 9.

<sup>181</sup>Raskin, *supra* note 158, at 309-11.

<sup>182</sup>Raskin, *supra* note 158 at 310.

<sup>183</sup>Raskin, *supra* note 158 at 311 ("From the perspective of innovators, this bifurcation makes sense because as a practical matter, technology and society are far away from the pure, strong smart contract definition this paper considers.").

lack faith in adjudicatory institutions.<sup>184</sup> Economies depend upon trust,<sup>185</sup> so this has significant implications for developing countries.<sup>186</sup> Self-execution also means parties can enforce agreements without having to enter into the judicial system,<sup>187</sup> saving considerable time and money.<sup>188</sup> Additionally, jurisdictional issues, such as forum selection and choice of law, are less significant because the contract automatically executes.<sup>189</sup> Disputes over whether a contract has been formed are likely to disappear

---

<sup>184</sup>Fandl, *supra* note 103, at 351 ("Third, and quite significant in terms of the forthcoming discussion about smart contracts in developing countries, the enforcement provisions built into smart contracts offer a superior remedy for parties to a dispute."); Liraz Margalit, *Can Smart Contracts Help Democratize Trust?*, CMS WIRE (Jan 15, 2020), <https://www.cmswire.com/digital-experience/can-smart-contracts-help-democratize-trust/> ("In other words, with smart contracts, trust is no longer a factor in deciding whether or not to do business.").

<sup>185</sup>Algan, *supra* note 113 ("Trust between individuals (inter-personal trust) and trust in institutions (institutional trust) have been shown to be a decisive determinant of economic growth, social cohesion and well-being."); Margalit, *supra* note 184 ("Trust is the glue of society and drives the economy . . . Researchers have demonstrated a positive correlation between higher trust and higher GDP per capita.").

<sup>186</sup>Mena Cammett, *To Reduce Risk, Build Trust, in Developing Countries and the U.S.*, YALE INSIGHTS (Feb. 23, 2021), <https://insights.som.yale.edu/insights/to-reduce-risk-build-trust-in-developing-countries-and-the-us> ("A lack of trust raises transaction costs for everybody."); *Why Trust Is the Gold Standard in Developing Countries*, KNOWLEDGE @ WHARTON (Apr. 18, 2019), <https://knowledge.wharton.upenn.edu/article/why-trust-is-the-gold-standard-in-the-developing-world/>.

<sup>187</sup>Fandl, *supra* note 103, at 359 ("Smart contracts purportedly eliminate the need for courts, judges, arbitrators, and even lawyers in crafting, interpreting, and enforcing a contract."); Temte, *supra* note 171, at 96 ("Once the parties meet conditions as stated in the ledger, the contract executes automatically without interjection from a third party").

<sup>188</sup>Sklaroff, *supra* note 170, at 279 ("This quality reduces the amount of resources each party needs to monitor the other and avoids the high cost of litigation"); Temte, *supra* note 171, at 96 ("In the legal field, smart contracts can drastically shorten litigation settlement times and mitigate risk for the user.").

<sup>189</sup>Fandl, *supra* note 103, at 351 ("Rather than having to draft a choice of law and choice of forum clause in a contract, or relying on conventions such as the Uniform Commercial Code or the Convention on the International Sale of Goods, parties to a smart contract enjoy the benefits of strict compliance with the stated performance obligations in the agreement.").

when using smart contracts because taking the time to input the agreement into computer code evinces intent to contract.<sup>190</sup>

Although smart contracts have clear benefits, smart contracts have downsides. Smart contracts will reduce the need for third-party dispute resolution; however, smart contracts will increase the need for computer programmers to translate contracts into code.<sup>191</sup> Plus, smart contract code can contain errors, and undoing the error may be difficult.<sup>192</sup> The automatic execution of smart contracts could make contractual defenses like fraud, duress, and mistake difficult to establish.<sup>193</sup> Smart contracts also lack flexibility, which is a hallmark of traditional contract law.<sup>194</sup> For example, creditors often accept late

---

<sup>190</sup>Fandl, *supra* note 103, at 350 ("First, they obviate the need for judicial intervention to determine whether a valid contract has been formed and what it consists of.").

<sup>191</sup>Levi & Lipton, *supra* note 164 ("A key challenge in the widespread adoption of smart contracts is that parties will need to rely on a trusted, technical expert to either capture the parties' agreement in code or confirm that code written by a third party is accurate."); Temte, *supra* note 171, at 97-98 ("Rather, the contracting parties are at the mercy of the coded language and the programmers who drafted it.").

<sup>192</sup>Ghodoosi, *supra* note 158, at 65 ("Disputes can arise out of unforeseen coding errors or hacks."); Temte, *supra* note 171, at 110 ("A software coder could make an error, or an operator could bug the code with a virus which misinforms the smart contract."); Verstraete, *supra* note 170, at 761 ("For example, bugs in smart contract code might allow an individual to extract the entire value of the contract—something that would likely be proscribed by contract law.").

<sup>193</sup>*Smart Contract Technology and Financial Inclusion*, World Bank Group (2020), <https://openknowledge.worldbank.org/bitstream/handle/10986/33723/Smart-Contract-Technology-and-Financial-Inclusion.pdf?sequence=1&isAllowed=y> ("[S]mart contracts' immutability and self-execution are not advantageous properties when the terms they capture are illegal, fraudulent, or unconscionable.").

<sup>194</sup>Ghodoosi, *supra* note 158 at 67 ("Smart contracts are entirely reliant on 'ex ante formalizations, which can never match the flexibility of ex post human decision-making."); Sklaroff, *supra* note 170, at 279 ("Parties to a smart contract must sacrifice flexibility, which is an important source of efficiency in their transactional relationship."); Temte, *supra* note 171, at 98 ("Smart contracts generally do not accommodate flexibility and, as a result, are unlikely to replace contracts that necessitate or contain flexible terms.").

payments or less than perfect performance without assessing penalties.<sup>195</sup> Smart contracts execute terms without regard for the implications of enforcing the agreement.<sup>196</sup> At present, smart contracts have limited capacity and cannot perform much beyond if/then agreements.<sup>197</sup>

Nonetheless, technological advances will almost certainly increase the capacity of smart contracts, so state legislatures are developing policies specific to smart contracts.<sup>198</sup> In 2017, Arizona became the first state to pass legislation recognizing the commercial validity of smart contracts.<sup>199</sup> Other states have enacted similar legislation since then.<sup>200</sup> Wyoming has enacted legislation relating to the use of smart contracts to perfect security interests in digital assets.<sup>201</sup> Illinois has passed a law requiring standard written notices to cancel health insurance benefits, terminate a public utility service, and implement creditor actions even if the parties entered their agreement via a smart contract.<sup>202</sup> Even states without smart contract laws have passed legislation to examine the application of smart contracts.<sup>203</sup> The time has come for tribes to explore smart contracts.

---

<sup>195</sup>Sklaroff, *supra* note 170, at 292; Marcia Stewart, *What to Do When Your Tenant is Late with the Rent*, NOLO <https://www.nolo.com/legal-encyclopedia/what-to-do-when-your-tenant-is-late-with-the-rent.html>.

<sup>196</sup>Sklaroff, *supra* note 170, at 292 ("This flexibility would not have been an option if the agreement were a smart contract."); Maren Woebeking, *The Impact of Smart Contracts on Traditional Concepts of Contract Law*, 10 (1) J. OF INTELL. PROP., INFO. TECH. & E-COMMERCE L. 105, 110 (2019) ("With smart contracts, sections of or even all contractual obligations can be performed automatically the moment a certain digitally verifiable event occurs.").

<sup>197</sup>Fandl, *supra* note 103, at 352; Temte, *supra* note 171, at 98 ("Because the coding of the smart contract on the blockchain cannot deal with vague or uncertain conditions, smart contracts are more practical when used with concrete rather than abstract conditions.").

<sup>198</sup>Heather Morton, *Blockchain State Legislation*, NAT'L CONF. OF ST. LEGIS. (Mar. 28, 2019), <https://www.ncsl.org/research/financial-services-and-commerce/the-fundamentals-of-risk-management-and-insurance-viewed-through-the-lens-of-emerging-technology-webinar.aspx>.

<sup>199</sup>Ariz. Rev. Stat. Ann. § 44-7061(c) (2017).

<sup>200</sup>*See, e.g.*, Tenn. Code Ann. § 47-10-202(c) (2021); N.D. Cent. Code Ann. § 9-16-19(3) (West 2019); 205 Ill. Comp. Stat. Ann. 730/10(a) (West 2021).

<sup>201</sup>Wyo. Stat. Ann. § 34-29-103 (2021).

<sup>202</sup>205 Ill. Comp. Stat. Ann. 730/15(d) (West 2021).

<sup>203</sup>Christopher Adcock, *An Update on State Smart Contract Legislation*, NAT'L L. REV. (April 15, 2020),



## V. SMART CONTRACTS AND TRIBAL INSTITUTIONS

Smart contracts can increase faith in tribal institutions. The technology underlying smart contracts can allay the fear of tribes mistreating non-Indians. Smart contracts can also increase the enforceability of tribal law. As tribal law is more easily enforced, confidence in tribal law will increase. Additionally, smart contracts and technology can streamline tribal bureaucracies, and improving bureaucratic efficiency will improve faith in tribal institutions. Since smart contract policy is still in its infancy, tribes can influence how states and the federal government approach smart contracts. Tribes taking the lead on a technological issue will also help shatter stereotypes about tribes being able to exist in the modern world.<sup>204</sup> Toppling antiquated tribal tropes will go a long way towards increasing trust in tribal institutions.

Contract law is an ideal area of the law for tribes to flex their sovereignty. Contract law is largely a creature of state common law,<sup>205</sup> and state law is presumed to stop at the reservation's edge.<sup>206</sup> This bright line rule has blurred over the years;<sup>207</sup> nevertheless, tribes retain the inherent sovereign authority "to make their own laws and be ruled by them."<sup>208</sup> Indeed, tribes already have their own contract laws and

---

[https://www.natlawreview.com/article/update-state-smart-contract-legislation#google\\_vignette](https://www.natlawreview.com/article/update-state-smart-contract-legislation#google_vignette) ("For many states, the first step in passing smart contract legislation is forming a task force or exploratory committee to research potential applications of smart contracts and similar technologies.").

<sup>204</sup>Crepelle, *supra* note 2, at 191-195.

<sup>205</sup>Levi & Lipton, *An Introduction*, *supra* note 164 ("There is no federal contract law in the United States; rather, the enforceability and interpretation of contracts is determined at the state level."); *Contract*, LEGAL INFO. INST., <https://www.law.cornell.edu/wex/contract> ("Contract law is generally governed by the state Common Law . . .").

<sup>206</sup>*Worcester v. Georgia*, 31 U.S. (6 Pet.) 515, 520 (1832) ("The Cherokee nation, then, is a distinct community occupying its own territory, with boundaries accurately described, in which the laws of Georgia can have no force, and which the citizens of Georgia have no right to enter, but with the assent of the Cherokees themselves . . ."); 42 C.J.S. *Indians* § 93 (2021) ("A state is preempted by operation of federal law from applying its own laws to land held by the United States in trust for the tribe.").

<sup>207</sup>*McClanahan v. Ariz. Tax Comm'n*, 411 U.S. 164, 172 (1973) ("Finally, the trend has been away from the idea of inherent Indian sovereignty as a bar to state jurisdiction and toward reliance on federal pre-emption.").

<sup>208</sup>*Williams v. Lee*, 358 U.S. 217, 220 (1959).

commercial codes.<sup>209</sup> Tribes should use their sovereign status to capitalize on the potential of smart contracts.<sup>210</sup> The remainder of this section explores how tribes can wield smart contract technology.

#### A. *Smart Contracts as Contracts*

Tribes can assert civil jurisdiction over parties who enter consensual relationships with the tribe or its citizens.<sup>211</sup> Contracts are consensual agreements<sup>212</sup> and an integral component of market economies.<sup>213</sup> Contracts are essentially enforceable promises.<sup>214</sup> Enforceability facilitates trust.<sup>215</sup> The trust engendered by enforceable

---

<sup>209</sup>*E.g., Bus. & Professions Code, Article I, Business Licenses, COLORADO RIVER INDIAN TRIBES, (March 12, 2004), amended by Ordinance 06-01 adopted March 15, 2006, [https://www.crit-nsn.gov/crit\\_contents/ordinances/busprof\\_mar2006.pdf](https://www.crit-nsn.gov/crit_contents/ordinances/busprof_mar2006.pdf); Navajo Nation Code Ann., Title 5A, Navajo Uniform Commercial Code, NAVAJO NATION (2010), <http://www.navajonationcouncil.org/Navajo%20Nation%20Codes/V0020.pdf>; Part II, Code of Ordinances, Chapter 24: Business and Commerce, SALT RIVER PIMA-MARICOPA INDIAN CMTY., <https://www.srpmic-nsn.gov/wp-content/uploads/2018/09/CodeOfOrdinances-Chapter24.pdf>; Title XVI Commercial Code, CHITIMACHA TRIBE OF LOUISIANA, <http://www.chitimacha.gov/sites/default/files/CCCL%20Title%20XVI%20-%20Commercial%20Code%20-%20Table%20of%20Comments.pdf>; Title XXVI Uniform Commercial Code, MISSISSIPPI BAND OF CHOCTAW INDIANS, [http://www.choctaw.org/government/tribal\\_code/Title%2026-%20Uniform%20Commercial%20Code.pdf](http://www.choctaw.org/government/tribal_code/Title%2026-%20Uniform%20Commercial%20Code.pdf).*

<sup>210</sup>Crepelle, *supra* note 147, at 406-408.

<sup>211</sup>*See Montana v. United States*, 450 U.S. 544, 565 (1981).

<sup>212</sup>RESTATEMENT (SECOND) OF CONTRACTS § 17 (AM. LAW INST. 1981) ("[T]he formation of a contract requires a bargain in which there is a manifestation of mutual assent to the exchange and consideration.").

<sup>213</sup>Mark Pennington, *Why Most Things Should Probably Be for Sale*, 13 GEO. J.L. & PUB. POL'Y 251, 258 (2015) ("Markets cannot operate effectively without a background institutional framework which protects property rights and enforces contracts."); Daniel Indiviglio, *A Free Market Needs Free Contracts*, ATLANTIC (Jan. 20, 2010), <https://www.theatlantic.com/business/archive/2010/01/a-free-market-needs-free-contracts/33861/>.

<sup>214</sup>RESTATEMENT, *supra* note 212, at § 17(1).

<sup>215</sup>Cross, *supra* note 115, at 1485 ("Contract law's chief feature is restraint of opportunism, suggesting mistrust between parties to the transaction.").

contracts enables commercial transactions between complete strangers;<sup>216</sup> however, the parties to the contract must trust the institution enforcing the contract.<sup>217</sup> Smart contracts can be trusted to execute agreements.<sup>218</sup>

While smart contracts can only execute agreements containing a few variables, most contracts only contain a few terms that serve as variables.<sup>219</sup> Even lengthy contracts usually turn on a few key terms.<sup>220</sup> For example, an apartment lease may be fifty pages, but behind all the legal gobbledygook, the apartment complex is merely trying to ensure the tenant will make timely rent payments and fix the things they break.<sup>221</sup> Since most contracts contain a small number of essential terms, smart contracts are capable of executing many contractual arrangements.<sup>222</sup> Smart contract execution is impartial and efficient.<sup>223</sup> Thus, smart contracts can help tribes improve their economies by increasing faith in tribal institutions.<sup>224</sup>

To benefit from smart contracts, tribal codes should be amended to include smart contracts in the definition of contract.<sup>225</sup> There has been

---

<sup>216</sup>Fandl, *supra* note 103, at 336-37 ("Merchants of the past engaged in transactions with those parties whom they knew or whom their associates vouched for. Merchant guilds, tribes, and families built reputations that enabled them to transact business on the basis of those reputations.").

<sup>217</sup>See *supra* Part III.

<sup>218</sup>See *supra* Part IV.

<sup>219</sup>BERNARD SALANIÉ, *THE ECONOMICS OF CONTRACTS: A PRIMER* 144 (2d ed. 2017) ("Real-life contracts usually take a simple form. They are often linear and depend on only a small number of variables.").

<sup>220</sup>Karen Eggleston, Eric A. Posner & Richard Zeckhauser, *The Design and Interpretation of Contracts: Why Complexity Matters*, 95 NW. U. L. REV. 91, 99-100 (2000) ("On the other hand, many contracts that look complex are really simple. Many simple sales contracts include lengthy boilerplate provisions, which neither party expects to apply with any significant probability.").

<sup>221</sup>*Id.*

<sup>222</sup>Simon Chandler, *Smart Contracts Are No Problem for the World's Legal Systems, so Long as They Behave Like Legal Contracts*, COINTELEGRAPH (Feb. 8, 2019), <https://cointelegraph.com/news/smart-contracts-are-no-problem-for-the-worlds-legal-systems-so-long-as-they-behave-like-legal-contracts>.

<sup>223</sup>See *supra* Part IV.

<sup>224</sup>See *supra* Part IV.

<sup>225</sup>Chandler, *supra* note 222 ("[T]he questions surrounding smart contracts will have to be answered on a nation-by-nation basis . . .").

some debate over whether smart contracts are in fact "contracts,"<sup>226</sup> but smart contracts are widely considered contracts in the conventional sense.<sup>227</sup> Smart contract legality is only half the battle as most individuals lack the skill set to encode written contracts. Accordingly, tribes should develop a set of smart contract templates to cover common commercial transactions on their reservations.<sup>228</sup> If a tribe itself cannot facilitate the smart contract template, an intertribal or other nonprofit can help formulate the templates, like how the National Conference of Commissioners on Uniform State Laws helped design the Model Tribal Secured Transaction Act (MTSTA).<sup>229</sup> The smart contract template

---

<sup>226</sup>Adams, *supra* note 172 ("Many identify smart contracts as neither being smart nor a contract, but even at their most basic form, traditional contracts have features that are comparable to those previously described."); Ghodoosi, *supra* note 158, at 66 ("Legal scholars have debated the legal nature of smart contracts. Some believe smart contracts are neither smart nor contracts in part because parties may enter into legal obligations without 'knowing it or intending to.'"); Heather Hughes, *Blockchain and the Future of Secured Transactions Law*, 3 STAN. J. OF BLOCKCHAIN L. & POL'Y 21, 50 (2020) ("It is possible that some smart contracts would not be enforceable as contracts if challenged, for want of consideration, if the parties believed that the self-enforcing nature of smart contracts obviated the need for establishing consideration.").

<sup>227</sup>Werbach & Cornell, *supra* note 166 at 343 ("To sum up, smart contracts are contracts."); Matt Hussey & Daniel Phillips, *What Are Smart Contracts and How Do They Work?*, DECRYPT (Jan. 8, 2021), <https://decrypt.co/resources/smart-contracts> ("Smart contracts are contracts expressed as a piece of code that are designed to carry out a set of instructions."); Benjamin Talin, *Smart Contracts, Blockchain & Co – Differences, Definition and Basics About The Distributed Ledger Technology*, MORETHANDIGITAL (last updated Jan. 19, 2021), <https://morethandigital.info/en/smart-contracts-blockchain-co-differences-definition-and-basics-about-the-distributed-ledger-technology/> ("In short, smart contracts are contracts that can be concluded without an intermediary, such as a lawyer.").

<sup>228</sup>Christopher D. Clack, Vikram A. Bakshi, & Lee Braine, *Smart Contract Templates: foundations, design landscape and research directions*, U. C. LONDON 1, 6 (2017); Christopher D. Clack, *Smart Contract Templates: legal semantics and code validation*, U. C. LONDON 1, 1 (2018).

<sup>229</sup> NAT'L CONF. COMM'RS ON UNIF. ST. LS., IMPLEMENTATION GUIDE AND COMMENTARY TO THE MODEL TRIBAL SECURED TRANSACTIONS ACT 14 (2005) (2005), <https://www.bia.gov/sites/bia.gov/files/assets/as-ia/ieed/ieed/pdf/idc1-024560.pdf> [hereinafter Implementation Guide]; William H. Henning, *A History and Description of the Model Tribal Secured*

should include a provision wherein parties to the contract expressly consent to tribal court jurisdiction for all events reasonably related to the smart contract.

Smart contracts should provide an indisputable basis for tribal court jurisdiction over events relating to the subject matter of the contract.<sup>230</sup> Taking the time to translate natural language contractual terms into computer code demonstrates an unequivocal intent to be bound by the contract's terms.<sup>231</sup> This satisfies the consent requirement for tribal court jurisdiction set forth by the Supreme Court<sup>232</sup> and federal regulations.<sup>233</sup> Furthermore, parties routinely consent to jurisdiction in foreign forums through "clickwrap" agreements.<sup>234</sup> Courts universally enforce the forum selection and choice of law clauses in clickwrap agreements<sup>235</sup> although most everyone knows clickwrap agreements are rarely ever read.<sup>236</sup> Consent should carry the same weight in tribal courts.<sup>237</sup>

Parties may seek judicial intervention in smart contract cases, and smart contracts should help allay non-Indian fear of tribal courts.

---

*Transactions Act Project*, IACA (2008),  
[https://www.iaca.org/wpcontent/uploads/MTSTA\\_Article.pdf](https://www.iaca.org/wpcontent/uploads/MTSTA_Article.pdf).

<sup>230</sup> Implementation Guide, *supra* note 229.

<sup>231</sup> Ghodoosi, *supra* note 158, at 64 ("For smart contracts to work, parties' obligations should be well thought-out and ingrained in a self-executing code (e.g., if/then).").

<sup>232</sup> *Montana v. United States*, 450 U.S. 544, 565 (1981) ("A tribe may regulate, through taxation, licensing, or other means, the activities of nonmembers who enter consensual relationships with the tribe or its members, through commercial dealing, contracts, leases, or other arrangements.").

<sup>233</sup> 25 C.F.R. § 11.103(a) (2021).

<sup>234</sup> Ekaterina Schoenefeld, *Internet Commerce in Foreign Countries*, 28 GPSOLO 23, 25 (2011) ("Any business selling goods or providing services over the Internet to customers located in another state or a foreign country will likely find itself one day subject to the jurisdiction of that state or country as a result of its activities there").

<sup>235</sup> Crepelle, *supra* note 147, at 410-411.

<sup>236</sup> Nathan J. Davis, *Presumed Assent: The Judicial Acceptance of Clickwrap*, 22 BERKELEY TECH. L.J. 577, 577 (2007) ("Despite the prevalence of these types of agreements, they have been the subject of controversy because of the conventional wisdom that people typically do not take the time to read standard form contracts."); Cesare Fracassi & William Magnuson, *Data Autonomy*, 74 VAND. L. REV. 327, 375 (2021) ("And while the problem of consent in browserwrap and clickwrap agreements is well known among contract scholars, there are no quick fixes.").

<sup>237</sup> Crepelle, *supra* note 147 at 425.

Whether the parties intended to form a contract is a common contracts issue.<sup>238</sup> However, intent should be a non-issue in smart contracts because encoding the agreement clearly evinces intent to contract.<sup>239</sup> Contract interpretation is another common issue in contracts cases,<sup>240</sup> and encoding the smart contract can eliminate many of the ambiguities that exist in natural languages.<sup>241</sup> Breach usually is not an issue with smart contracts because smart contracts automatically execute.<sup>242</sup> Hence, smart contracts have the ability to preempt many contract issues.

Smart contracts will not completely eliminate all contracting problems though.<sup>243</sup> For example, smart contract execution may result in an unsatisfactory performance, such as delivering rotten tomatoes instead

---

<sup>238</sup>E. ALLAN FARNSWORTH, *CONTRACTS* 108 (4th ed. 2004) ("What requirements must the bargaining process meet if it is to result in a contract? Courts have had concerns along two lines. First, did both parties *assent* to be bound? Second, is their agreement *definite* enough to be enforceable?"); JOSEPH M. PERILLO, *CONTRACTS* 26 (7th ed. 2014) ("A debate has raged as to whether the assent of the parties should be actual mental assent so that there is a 'meeting of the minds.'").

<sup>239</sup> Well, parties can always argue their objectively serious actions were a joke. *See* *Lucy v. Zehmer*, 84 S.E.2d 516, 522 (1954).

<sup>240</sup>Raskin, *supra* note 158 at 316-17 ("This is a problem that public courts often try to solve.").

<sup>241</sup>Raskin, *supra* note 158 at 325 ("All of this is simply to say that the problem of ambiguity is reduced in the smart contract context."); Sklaroff, *supra* note 170, at 291 ("Computer code must be precisely and completely defined, because at root it is a series of if-then instructions that must all be resolvable by a computer. A smart contract cannot contain a term that has one meaning at the time of execution and takes on another meaning later.").

<sup>242</sup>Fandl, *supra* note 103, at 351 ("Likewise, the risk of default is much greater in a smart contract given the automated enforcement provisions and lack of flexibility in interpreting party intent for their actions."); Temte, *supra* note 171, at 97 ("Smart contracts cause the risk of a breach to be more expensive for the breaching party, nearly eliminating the possibility of a breach."); Verstraete, *supra* note 170, at 756 ("The underlying idea for smart contracts is relatively straightforward: contract terms could be secured by hardware or software, thus limiting the possibilities—including making it impossible—for parties to breach an agreement.").

<sup>243</sup>Amy Schmitz, *Making Smart Contracts 'Smarter' with Arbitration*, *MEDIATE EVERYTHING MEDIATION* (Aug. 2020), <https://www.mediate.com/articles/arbsmartcontracts.cfm> ("The problem is that no amount of computer code can eliminate conflicts.").

of ripe tomatoes.<sup>244</sup> To combat unsatisfactory performance, a smart contract can contain exceptions to accommodate this and similar issues.<sup>245</sup> If the purchaser is unsatisfied with the results of the smart contract's execution, the purchaser can litigate the matter in tribal court.<sup>246</sup> Clear consent, automatic execution, and an unalterable digital record of the transaction should improve confidence in tribal courts. Increasing confidence in tribal institutions will go a long way towards improving tribal economies; when non-Indians have faith in tribal courts, they will be less likely to challenge tribal jurisdiction.

Critics of smart contracts have argued upfront negotiation of all contractual terms make smart contracts inefficient.<sup>247</sup> However, Indian country's unique jurisdictional landscape renders extensive upfront negotiation more efficient than spending years litigating which forum has jurisdiction over the case.<sup>248</sup> If smart contracts are more efficient than traditional contracts in Indian country, smart contracts will likely spark increased commerce and contracting.<sup>249</sup> Likewise, recognizing tribal jurisdiction over smart contract-based transactions increases certainty, and greater certainty will lead to increased investments in Indian country.

---

<sup>244</sup>*Id.* ("Furthermore, parties may fight about delivery of defective goods, leaving parties with no choice but to attempt litigation to recoup losses.").

<sup>245</sup>Ghodoosi, *supra* note 158, at 84-85; Werbach & Cornell, *supra* note 166, at 335 ("It is, however, possible to incorporate logic into a smart contract that permits exceptions or conditions.").

<sup>246</sup>Schmitz, *supra* note 243 (noting parties should build dispute resolution mechanisms into smart contracts); Werbach & Cornell, *supra* note 166, at 335 (noting smart contracts can be structured to permit arbitration).

<sup>247</sup>Fandl, *supra* note 103, at 351 ("A key element that readers should understand about smart contracts is that they exist in a pre-determined environment with conditions established ex-ante, meaning that the work going into a contract to ensure that it is accurate and precise is likely more extensive than that of a traditional contract, which may count on negotiation and favorable interpretation post-execution."); Sklaroff, *supra* note 170, at 297-98 ("Tapscott and Tapscott observe that lower costs of 'monitoring [and] enforcing' a smart contract are offset by higher 'up front' costs of 'determining agreement terms.'").

<sup>248</sup>Crepelle, *supra* note 7, at 688; 710; 718.

<sup>249</sup>Werbach & Cornell, *supra* note 166 at 335 ("If smart contracts are substantially cheaper and more efficient, more situations can benefit from the use of contractual agreements; for example, dynamic transactions around physical objects (smart property) or offerings for those unable to afford traditional legal services.").

### B. *Smart Contracts and Secured Transactions*

Access to capital is vital to economic development, and smart contracts can invigorate tribal lending laws.<sup>250</sup> Smart contracts mitigate many of the jurisdictional issues that scare lenders away from Indian country;<sup>251</sup> in fact, smart contracts may be better suited to enhance secured transactions than other contract laws.<sup>252</sup> After all, secured transactions are "if/then" equations—if the debtor timely pays, the debtor keeps the goods; if the debtor defaults, penalty provisions kick in. Plus, smart contracts' automatic execution drastically reduces the cost of monitoring debtors.<sup>253</sup> Lower creditor costs can translate into lower interest rates for borrowers.<sup>254</sup> When the price of credit drops, economic activity usually increases.<sup>255</sup>

---

<sup>250</sup>Teresa Rodríguez De Las Heras Ballell, *Digital Technology-Based Solutions For Enhanced Effectiveness of Secured Transactions Law: The Road To Perfection?*, 81 L. & CONTEMPORARY PROBLEMS 21, 26 (2018) ("Secured credit strengthens creditors' position, minimizes risks involved in financing transactions, and fosters credit offers in efficient conditions.").

<sup>251</sup>REP. & RECOMMENDATIONS, *supra* note 78, at 40 ("Concurrent legislative jurisdiction by state and local governments, with tribal governments, over non-Indian residents of Indian reservations, and over economic activity on reservations involving non-Indians, have produced significant litigation and jurisdictional conflicts. Disputes of this kind constitute a major source of obstacles to Indian reservation economic development.").

<sup>252</sup>Rodríguez De Las Heras Ballell, *supra* note 250, at 23 ("The application of technology solutions could attenuate imperfections, repair failures, and enhance effectiveness of the secured transactions legal system.").

<sup>253</sup>Rodríguez De Las Heras Ballell, *supra* note 250, at 24 ("To begin with, an envisioned integrated ecosystem of smart property and self-executed smart contracts for security agreements could effectively reduce verification and monitoring costs.").

<sup>254</sup>Elaine S. Povich, *Late Payment? A 'Kill Switch' Can Strand You and Your Car*, PEW CHARITABLE TRUSTS (Nov. 27, 2018), <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2018/11/27/late-payment-a-kill-switch-can-strand-you-and-your-car> ("They reduce repossession costs, and they permit the consumer to cure the default and restart the vehicle when it's cured. They also give some consumers access to credit who otherwise might not qualify.").

<sup>255</sup>Kevin L. Kliesen, *Low Interest Rates Have Benefits ... and Costs*, FED. RES. BANK OF ST. LOUIS (Oct. 1, 2010),

<https://www.stlouisfed.org/publications/regional-economist/october-2010/low-interest-rates-have-benefits--and-costs> ("To most economists, the primary benefit of low interest rates is its stimulative effect on economic



The general premise behind secured transactions backed by smart contracts is already at play in the automobile industry through starter interrupters.<sup>256</sup> The starter interrupter itself monitors payments.<sup>257</sup> If the debtor defaults, the starter interrupter disables the vehicle.<sup>258</sup> Starter interrupters often have GPS too, so creditors can easily locate and repossess the debtor's vehicle.<sup>259</sup> Starter interrupters substantially reduce lender operating costs by decreasing the need for collection and repossession agents.<sup>260</sup> Smart contracts can extend the same general principle to other forms of collateral.<sup>261</sup>

Although automatic enforcement can be extremely efficient, it is essentially self-help. Self-help is a part of the Uniform Commercial Code's Article 9<sup>262</sup> but not part of the MTSTA.<sup>263</sup> There are a few reasons for this. One is that coercion is anathema to many tribal cultures, and self-help repossession often involves an element of coercion.<sup>264</sup>

---

activity."); Chris Seabury, *How Interest Rates Affect the U.S. Markets*, INVESTOPEDIA (May 28, 2021), <https://www.investopedia.com/articles/stocks/09/how-interest-rates-affect-markets.asp#:~:text=The%20Fed%20lowers%20interest%20rates,can%20encourage%20borrowing%20and%20investing.&text=When%20there%20is%20too%20much,growth%20to%20more%20sustainable%20levels> ("Lowering rates makes borrowing money cheaper. This encourages consumer and business spending and investment and can boost asset prices.").

<sup>256</sup>Raskin, *supra* note 158, at 330.

<sup>257</sup>Kwesi D. Atta-Krah, Preventing a Boom from Turning Bust: Regulators Should Turn Their Attention to Starter Interrupt Devices Before the Subprime Auto Lending Bubble Bursts, 101 IOWA L. REV. 1187, 1191 (2016).

<sup>258</sup>*Id.*

<sup>259</sup>*Id.*

<sup>260</sup>*How the Blockchain Can Transform Government*, KNOWLEDGE @ WHARTON (July 5, 2018),

<https://knowledge.wharton.upenn.edu/article/blockchain-can-transform-government/> ("If he misses payments, the contract would trigger a process to repossess the car and the ownership would revert to the lender — all done without an intermediary such as a repo agent or collection agency.").

<sup>261</sup>Raskin, *supra* note 158, at 339 (describing how smart contract securities could work on furniture).

<sup>262</sup>U.C.C. § 9-607 (Am. L. Inst. & Unif. L. Comm'n 2021); U.C.C. § 9-609 (Am. L. Inst. & Unif. L. Comm'n 2021).

<sup>263</sup>IMPLEMENTATION GUIDE, *supra* note 229, at 82 ("Self-help repossession is not permitted under the Act.").

<sup>264</sup>Most indigenous governments operated by consensus rather than coercive authority. See Paul E. Frye, *Lender Recourse in Indian Country: A Navajo Case Study*, 21 N.M. L. REV. 275, 289 n.78 (1991) ("In R. YOUNG, A

Repossession is also an inherently dangerous task,<sup>265</sup> and non-Indians commit crimes against Indian victims at staggering rates.<sup>266</sup> This combination could make repossession even more dangerous in Indian country.

On the other hand, automatic enforcement mitigates the chances of physical confrontation during repossession because the repossession agent and debtor never cross paths.<sup>267</sup> Additionally, the debtor can regain use of items more quickly through smart contracts. Returning to the starter interrupter example, reclaiming a seized car requires the debtor to pick up the car from an impound lot.<sup>268</sup> Contrarily, vehicles disabled by starter interrupters can remain in the debtor's possession and become operable the moment the default is cured.<sup>269</sup>

The other issue with automatic enforcement and self-help is that seizing some items violates public policy.<sup>270</sup> Many reservations are

---

POLITICAL HISTORY OF THE NAVAJO TRIBE 91 (1978), Young states that until 1936 [n]o traditional native institution in the history of the Tribe ever had possessed or used coercion as an instrument for internal control-including the institution of the Headmen. In fact, coercion was repugnant to the principles of democratic government in Navajo society-and, even today, the Council is reluctant to enact obligatory legislation affecting the tribal membership, preferring to rely instead on persuasion."); Crepelle, *supra* note 15, at 94 ("[M]any tribes have 'peacemaker courts' where dispute resolution and restitution are the goals of the proceeding rather than 'winning the case.'"); Crepelle, *supra* note 79, at 170 n.215.

<sup>265</sup>David Ferrell, *Repo Men Hold Dangerous Jobs*, TULSAWORLD (updated Feb. 24, 2019), [https://tulsa-world.com/archive/repo-men-hold-dangerous-jobs/article\\_7e049ce6-c954-56c7-91e0-7a54f1be482d.html](https://tulsa-world.com/archive/repo-men-hold-dangerous-jobs/article_7e049ce6-c954-56c7-91e0-7a54f1be482d.html); Jeff Farrell, *Repo Man Dangers During Sick Economy*, KSLA NEWS 12 (updated Mar. 14, 2009, 10:26 p.m. PDT), <https://www.ksla.com/story/9962831/repo-man-dangers-during-sick-economy/>; Danielle Malagarie, *Texoma Repo Man Talks About the Dangers of the Job*, NEWS CHANNEL 6 (updated July 11, 2017, 8:43 p.m. PDT), <https://www.newschannel6now.com/story/35863047/texoma-repo-man-talks-about-dangerous-of-the-job/>.

<sup>266</sup>Crepelle, *supra* note 15, at 63 ("[M]ost Indian victimizations are committed by non-Indians.").

<sup>267</sup>Povich, *supra* note 254.

<sup>268</sup>Povich, *supra* note 254 ("They argue that the switches make getting the car operational again faster and easier than going to an impound lot.").

<sup>269</sup>Povich, *supra* note 254 ("Lenders and switch makers contend that the switches are less embarrassing than the traditional 'repo man' showing up on a car owner's doorstep to take the car.").

<sup>270</sup>World Bank Group, *Distributed Ledger Technology & Secured Transactions: Legal, Regulatory and Technological Perspectives* 22-23

vast.<sup>271</sup> Starter interrupters could leave a defaulting debtor stranded on a reservation.<sup>272</sup> Starter interrupters could also prevent individuals from going to work to earn the money needed to pay the debt.<sup>273</sup> Similar issues could arise when using other items as collateral.<sup>274</sup> Tribes can implement laws to prevent smart contracts from violating their public policies.<sup>275</sup>

Smart contracts can be tailored to mitigate the harms of outright inoperability. Using starter interrupters as an example, the smart contract

---

(Guidance Notes Series, Working Paper, 2020), <https://openknowledge.worldbank.org/bitstream/handle/10986/34007/Collateral-Registry-Secured-Transactions-Law-and-Practice.pdf?sequence=1&isAllowed=y> ("Various laws and regulations may preclude the use of certain assets as collateral for a loan or affect the ability of the secured creditor to enforce its right upon default.").

<sup>271</sup>TROY A. EID ET AL., INDIAN LAW AND ORDER COMM'N, A ROADMAP FOR MAKING NATIVE AMERICA SAFER 161 (2013) (noting the Wind River Indian Reservation's size as a complication in certain cases); Adam Crepelle, *Tribes, Vaccines, and COVID-19: A Look at Tribal Responses to the Pandemic*, 49 FORDHAM URBAN L. J. 31, 38 (2021) ("Once someone contracts COVID-19, accessing medical care can be difficult on a reservation. Indians who reside on reservations must make long drives to see a healthcare provider."); Patrice H. Kunesh, *Indian Country Can Help Solve Rural America's Decline*, HIGH COUNTRY NEWS (Apr. 22, 2019), <https://www.hcn.org/articles/economy-indian-country-can-help-solve-rural-americas-decline-opinion> [<https://perma.cc/64M8-87HF>] ("By Indian Country, I mean the 573 self-governing Native American and Alaska Native communities and reservations that span more than 60 million mostly rural acres throughout the United States.").

<sup>272</sup>Complaint at 11:1-3, ¶ 47, *Begay v. Credit Acceptance Corp.*, (TC CV 132 2011) (D. Navajo Nation Jul. 5 2011), [http://kpbs.media.clients.ellingtoncms.com/news/documents/2012/03/01/Class\\_Action\\_Complaint\\_-\\_filed.pdf](http://kpbs.media.clients.ellingtoncms.com/news/documents/2012/03/01/Class_Action_Complaint_-_filed.pdf).

<sup>273</sup>Povich, *supra* note 254 ("Obviously it hurts the consumer because these people can't get to work.").

<sup>274</sup>Rodríguez De Las Heras Ballell, *supra* note 250, at 41 ("For example, consider the self-help effects of deactivating passwords to access services, suspension of access, removal or unavailability of content, blockage of funds, ignition suspension, down grading of rating, change of profile, and geolocation-related actions.").

<sup>275</sup>Rodríguez De Las Heras Ballell, *supra* note 250, at 42 ("Such a reasonable stance leads accordingly to the conclusion that smart contracts in combination with remedies-enforcing smart devices should be devised, developed, formulated, and coded to implement equivalent solutions to comply with legal requirements—notice giving, opportunity to object, value assessment.").

can notify debtors of their default and declare the car can only travel fifty miles from its current location unless the default is cured. Likewise, computers and refrigerators are vital to modern life and are often bought on credit. Default could notify the debtor that the device will be rendered inoperable in twenty-four hours if payment is not made. Alternatively, rather than being inoperable, default could cause the computer to operate at an annoyingly slow speed. The fridge could make an irritating noise whenever the door is opened. Countless other default remedies exist, and tribes are in the best position to establish debtor-creditor rights in their jurisdiction.

Enforceable security interests are only part of an effective secured transactions regime. A successful secured transactions system needs a filing system.<sup>276</sup> A publicly searchable filing system enables creditors to record their security interests in collateral, thereby providing would-be creditors notice of existing claims to collateral.<sup>277</sup> Likewise, registries make enforcement of security interests much more efficient by reducing fraudulent claims to the property.<sup>278</sup> However, even among tribes that have implemented the MTSTA, few have a filing system or the capacity to implement a conventional paper-based filing system.<sup>279</sup> Consequently, most tribes use the surrounding state's filing system.<sup>280</sup> Although state-tribal collaborations can benefit both parties, tribes developing their own filing system assert sovereignty.

Thanks to technological innovations, tribes can create their own filing systems at a relatively low cost. Developing countries worldwide are turning to exclusively electronic secured transactions filing systems.<sup>281</sup> Thus, the software and hardware needed are already available. Blockchain can further improve secured transactions filing systems,

---

<sup>276</sup>William H. Henning et al., *A Proposal for a National Tribally Owned Lien Filing System to Support Access to Capital in Indian Country*, 18 WYO. L. REV. 475, 493 (2018) ("UCC Article 9, the MTSTA, the UNCITRAL and UNIDROIT instruments, and the modern secured transactions laws being adopted around the world cannot be utilized effectively in practice without a publicly searchable filing system.").

<sup>277</sup>*Id.* at 493 ("A filing system alleviates the problem by allowing the secured creditor to give third parties notice of its lien.").

<sup>278</sup>*Id.* at 492.

<sup>279</sup>*Id.*

<sup>280</sup>Henning et al., *supra* note 276, at 491-92.

<sup>281</sup>Fandl, *supra* note 103, at 357 ("Similarly, the United Nations Development Programme (UNDP) is applying blockchain and smart contracts to facilitate property titling in India as part of a pilot project meant to avoid many of the same problems faced in Honduras and other developing countries.").

enhancing both security and search speed.<sup>282</sup> An added benefit of blockchain is that its administrative costs are much lower than traditional paper-based filing systems. Blockchain and other technologies are bound to improve. Tribes can take the lead on applying and improving blockchain to secured transactions filing systems. Plus, doing so will help prove tribes can thrive and lead the way in government innovation.

### C. Bureaucratic Automation

Smart contracts can help improve tribal bureaucracies because many administrative functions can be executed with smart contracts.<sup>283</sup> When administrative functions operate on smart contracts and related technologies, bureaucracy will "be faster, more secure, more accurate, and more efficient than traditional bureaucracies."<sup>284</sup> Moreover, bureaucratic functions will also be more accessible through smart contracts and related technologies.<sup>285</sup> Finally, self-executing smart contract-based bureaucratic functions significantly reduce the chances for politically motivated bureaucratic snags. For these reasons, governments in the United States and worldwide are turning to blockchain-based technologies, like smart contracts, to improve their bureaucracies.<sup>286</sup> Tribes can do the same to increase trust in their bureaucracies.

---

<sup>282</sup>SMART CONTRACT TECHNOLOGY & FINANCIAL INCLUSION, *supra* note 193, at 9 ("Second, smart contracts' use of automated control protocols reduce the cost and increase the speed and accuracy of monitoring and verification.").

<sup>283</sup>MyungSan Jun, *Blockchain Government - A Next Form of Infrastructure for the Twenty-First Century*, 4 J. OF OPEN INNOVATION: TECH., MKT., AND COMPLEXITY 1, 8 (2018) ("Smart Contracts can automate the administrative process.").

<sup>284</sup>*Id.*

<sup>285</sup>Steven de Lara & Colin Grech, *The Role of Blockchain in the Public Sector*, OPEN ACCESS GOV'T. (June 19, 2020), <https://www.openaccessgovernment.org/the-role-of-blockchain-in-the-public-sector/88838/> ("This would reduce the cumbersome bureaucratic hurdles often associated with public sector departments, reduce the duplication of information (which is often a side effect of different departments sharing information) and ensure that different departments across governments would have access to the same trustworthy information.").

<sup>286</sup>MyungSan, *supra* note 283, at 8 ("This is why so many projects are being driven by the governments of over 40 countries within a span of 2 years.").

## VI. CONCLUSION

Tribal institutional capacity is rapidly increasing, and the general public is beginning to recognize this. For example, federal policies left tribal populations extremely vulnerable to COVID-19.<sup>287</sup> Yet, despite significant obstacles, tribes were models of COVID-19 responsiveness.<sup>288</sup> Tribes implemented protective measures before many states and could vaccinate their citizens much faster than states.<sup>289</sup> In fact, tribes were so effective distributing vaccines that they began vaccinating non-Indians.<sup>290</sup>

---

<sup>287</sup>Crepelle, *supra* note 271, at 39-44.

<sup>288</sup>Crepelle, *supra* note 271, at 53-64.

<sup>289</sup>See Alex Brown, *Indian Country Reaches 1M Vaccine Doses*, PEW CHARITABLE TRUSTS (Apr. 6, 2021), <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2021/04/06/indian-country-reaches-1m-vaccine-doses> ("While most states floundered early in their vaccine distribution, tribes administered their doses quickly, prioritizing elders with culturally important knowledge."); Joaquin Estus, *Tribes are Racing Ahead of Vaccination Curve*, INDIAN COUNTRY TODAY (last updated Feb. 16, 2021), <https://indiancountrytoday.com/news/tribes-are-racing-ahead-of-vaccination-curve> ("We're doing better than most states and counties in the country,' said Abigail Echo-Hawk, director of the Urban Indian Health Institute in Seattle. 'We have a system in place and as public health communities, I keep telling all of my friends in the state and federal levels like you should have asked an Indian. I had to do this a long time ago,' she said.").

<sup>290</sup>See Shawna Chen & Russell Contreras, *Native American Tribes Lead the Way on Coronavirus Vaccinations*, AXIOS (Mar. 11, 2021), <https://www.axios.com/covid-vaccine-native-americans-internet-access-6f1ebc15-987f-4c2a-bf1f-7dcffce7ce8f.html> ("Despite severe technological barriers, some tribes are vaccinating their members so efficiently, and at such high rates, that they've been able to branch out and offer coronavirus vaccines to people outside of their tribes."); Pat Dooris, *Oregon Tribes Say They Have Enough Vaccine, but Many Members Are Skeptical*, KGW8 (last updated Mar. 15, 2021, 6:42 PM PDT), <https://www.kgw.com/article/news/health/coronavirus/vaccine/oregon-tribes-abundant-vaccine-but-many-members-skeptical/283-1008ff7f-2530-47b4-8b40-cda89c415cbe> (recounting numerous tribes in Oregon inoculating non-tribal community members); Hannah Furfaro, *Teachers Crying Tears of Gratitude as Washington Tribes Help Speed COVID-19 Vaccines to Them*, SEATTLE TIMES (last updated Mar. 18, 2021, 9:39 AM), <https://www.seattletimes.com/education-lab/tribal-governments-in-washington-help-speed-teacher-vaccination-effort/> ("The Lummi Nation is one of several tribal governments in Washington state helping hasten the vaccine rollout for educators here. The Suquamish Tribe is expected to vaccinate about 500 North

Even the National Basketball Association's Portland Trailblazers received the COVID-19 vaccine from an Indian tribe.<sup>291</sup> Tribes can also blaze the trail in smart contract policy.

Smart contract policy is still in the formative stages, allowing tribal smart contract policies can set the path for the United States. Not only can tribes help shape smart contract policy, but smart contracts can also transform Indian country's commercial landscape. Smart contracts provide tribes with the ability to enforce contracts against non-Indian parties, and the ability to enforce laws provides tribes with an incentive to promulgate laws. By promulgating laws, tribes create a more certain business climate. As certainty increases, businesses are more likely to invest in Indian country. More investments equal more businesses on reservations. More businesses mean more places to spend money on reservations. With more businesses on reservations, people can spend money on the reservation and further stimulate the tribal economy.<sup>292</sup> More businesses also equal more jobs. Accordingly, smart contracts can help tribes build private sector economies.

---

Kitsap School District employees. The Port Gamble S'Klallam Tribe also provided North Kitsap school employees with doses. In Seattle this week, special-education teachers and instructional aides received vaccines through the Seattle Indian Health Board, easing the path for those who may have otherwise struggled to secure an appointment."); Iris Samuels, *US Tribe Shares Vaccine With Relatives, Neighbors in Canada*, ABC NEWS (May 5, 2021, 3:14 PM), <https://abcnews.go.com/Health/wireStory/montana-tribe-gifts-vaccines-neighbors-border-77499386>.

<sup>291</sup>*Statement from the Portland Trail Blazers*, NBA (Mar. 22, 2021), <https://www.nba.com/blazers/statement-portland-trail-blazers>. See also Brown, *supra* note 289 ("Players on the NBA's Portland Trail Blazers received doses from the Confederated Tribes of Grand Ronde, a nation whose reservation is located in northwest Oregon.").

<sup>292</sup>Crepelle, *supra* note 7, at 703 ("Due to the lack of small businesses, Indian country residents are often forced to leave the reservation to purchase goods. Creating a private sector will allow money to circulate within the reservation and stimulate further economic development.").