

Carlos, Ann M.; Feir, Donna; Redish, Angela

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INDIGENOUS NATIONS AND THE DEVELOPMENT OF THE US
ECONOMY: LAND, RESOURCES, AND DISPOSSESSION

Ann M. Carlos (University of Colorado)
Donna Feir (University of Victoria)
Angela Redish (University of British Columbia)

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QUEEN'S UNIVERSITY CENTRE FOR ECONOMIC HISTORY
Queen's University Belfast
185 Stranmillis Road
Belfast BT9 5EE

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Indigenous Nations and the Development of the US Economy: Land, Resources, and Dispossession

Ann M. Carlos¹

Donna Feir²

Angela Redish³

Abstract

Abundant land and strong property rights are conventionally viewed as key factors underpinning US economic development success. This view relies on the “Pristine Myth” of an empty undeveloped land. But the abundant land of North America was already made productive and was the recognized territory of sovereign Indigenous Nations. We demonstrate that the development of strong property rights for European/American settlers was mirrored by the attenuation and increasing disregard of Indigenous property rights and that the dearth of discussion of the dispossession of Indigenous nations results in a misunderstanding of some of the core themes of US economic history.

Keywords: Indigenous peoples, development of the American economy, Institutions

JEL Codes: N40, N41, N50, N51

¹ Corresponding author: Department of Economics, University of Colorado, Colorado, USA 80309. Email: ann.carlos@colorado.edu.

² Department of Economics, University of Victoria, Victoria, BC, Canada, V8P 5C2. Email: dfeir@uvic.ca.

³ Vancouver School of Economics, University of British Columbia, Vancouver, BC, Canada. Email: angela.redish@ubc.ca.

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Introduction

A standard account of the growth and development of the American economy describes an evolution from struggling settlements to the world's most successful economy.¹ This depiction focuses on the roles of access to abundant land, technological adaptation, migration, enhanced human capital and “governments that established private property rights, rules of law and protections of individual freedom;” with many seeing land and natural resources at the core of nineteenth and twentieth century growth.² Yet the standard emphasis on abundant land, property rights, rule of law and protections of individual freedom erases the narrative of the millions of people present when European ships arrived; people whose productive activities had already shaped the land, cultivated its natural resources and whose own institutions of property and governance managed intra- and inter-nation relationships (Denevan, 1992; Mann, 2005).

In this paper we provide a framework and chronology for understanding and teaching American economic history, describing how land came to be owned by European settlers and their descendants in large measure by undermining Indigenous relationships to their property.³ We chart the path by which Indigenous peoples in the contiguous United States were transformed from the sovereign owners of the land to economically impoverished participants in US economic growth: Peoples who went from being the tallest in the world (Steckel and Prince, 2001) with among the highest standards of living (Carlos and Lewis, 2010b) to some of the lowest per capita income groups in the United States with some of the lowest life expectancies (Akee and Taylor, 2014; U.S. Commission on Civil Rights, 2018). When the experiences of Indigenous nations are included, the sweeping narrative of the United States as a leader in the security of property rights and rule of law, and hence its economic success (Sokoloff and Engerman, 2000; Acemoglu and Robinson, 2012; Cain et al. 2018;), must be questioned or at least amended.

Land and institutions are deeply intertwined, not least through the construction of borders that define ownership and legal jurisdiction. Institutions - political, economic, and social - and resource abundance, are not exogenously determined, but are socially constructed (Wright, 1996). Political institutions set the rules determining who votes, who makes the laws, and who decides on resource allocations, all of which, in turn, influence courts, common law, commercial law and property rights (North 1991; North, Wallis and Weingast 2009). In North America, these

¹ See Oxford Handbook of American Economic History (Cain et al. 2018, p. 1).

²Cain et al. 2018, pp. 1, 4, 13.

³We use Native American, and Indian interchangeably. We refer the interested reader to a quickly growing body of literature by historians, in particular, Banner (2005), Hämäläinen (2008, 2019), Greer (2018), and Rao (2020).

forces have led to increasing incomes and wealth for many; but increasing inequality and poverty for others.

In 1840, Alexis de Tocqueville wrote that “in no other country in the world is the love of property keener or more alert than in the United States, and nowhere else does the majority display less inclination towards doctrines which in any way threaten the way property is owned.”⁴ Having fought for a new nation, de Tocqueville alludes to the willingness to fight to keep the land. Here we focus on the ways by which property came to be owned and by whom, and most importantly, how land came into the public domain of the United States. The United States was never an empty land waiting for European farmers - the ‘Pristine Myth’ is a demonstrable fallacy - land was wholly owned by others who would be dispossessed both within and outside the rule of law.

The history of this transfer of resources from Indigenous nations to settlers is ignored in much of the economic history literature, an exception being Allen and Leonard (2021). Our goal is to spur its inclusion in the core narratives of US economic growth. First, the paper addresses the frame within which much of this economic history is written, that of settlers or colonial/state/federal governments. The disregard of Indigenous agency renders Indigenous peoples invisible in both the meta-narratives and more specifically in the context of rights to land. Some recent papers use Indigenous land merely as an instrument or as a robustness check; or never mention Indigenous people (Hornbeck 2010; Miller 2011; Bleakley and Ferrie 2016; Mattheis and Raz 2019; Bazzi Fiszbein and Gebresilas 2020). Models that claim to understand/predict the evolution of property rights, wealth, or economic development while simultaneously ignoring Indigenous proprietors of the land distort the history. Employing such a perspective is not inherently wrong, but it becomes problematic when it is the standard mode.⁵

Second, we argue that although it is often claimed that the United States established legal ownership through rights of conquest or through purchase of lands from other colonial powers (Allen 2019, p. 260) and/or that “the land was not held by recognized parties” (Libecap, 2018, p. 173), none of these statements are valid. As we document, the government of the early Republic recognized the sovereign power of Indigenous nations. However, over the course of the nineteenth century the courts, Congress, the Office of the President, and the use of the military changed the rules of the game to enhance settler access to land and resources in the face of previously recognized Indigenous claims. Third, we make a conceptual contribution by explicitly discussing how sovereignty and individual property rights interact and evolve, and the

⁴ Democracy in America, vol 2, pt3, ch 21 (1840) p.1140.

⁵ Native Americans are substantially under-represented in economics. Hoover and Washington, 2000.

connection to de jure laws and de facto norms in the context of Indigenous nations and the Federal Government prior to the end of treaty making with Indian nations in 1871.⁶

We bring together decade by decade data on land cessions, treaties (ratified and unratified), presidential orders, reservation land, and data on population densities to chronicle the pattern of land transfers from Indigenous nations. We use these data to provide evidence that the transfer of Indigenous land not only changed the boundary of US, but further show that the greater the settlement in adjacent counties the faster the transfer of land. This paper complements the emerging literature on Indigenous economic history which focuses heavily on the Dawes Era (1887-1934) but is largely separate from that on the development of the American economy.⁷ Papers in this literature focus on policies and events including natural resource loss (Feir, Gillezeau and Jones 2019), forced co-existence of different Indigenous nations on reservations (Dippel, 2014), the extent of federal oversight on reservations (Frye and Parker 2021), and residential schools (Gregg, 2018). Each had major consequences for Indigenous economic growth but would have been impossible without the political, legal and economic changes before 1871 which are the main focus here.⁸

We first present the conceptual framework used to structure our discussion, distinguishing between the concepts of sovereignty and property, explicating when and how individual transactions over land can have implications for effective sovereignty. We then address two misconceptions: The Pristine Myth and the belief (in US economic history) that Indigenous peoples and nations were not recognized parties in American law. Next, we focus on the forces that shifted the relative power of Indigenous nations and the federal government: the legal system, squatting, immigration, railways, and violence, qualitatively and quantitatively. Finally, we summarize the implications of this paper for understanding the dispossession of Indigenous nations.⁹

Conceptual Framework

The transfer of land from Indigenous peoples to settlers involved the loss of two distinct sets of rights: land ownership and sovereignty. We begin by discussing the distinction between the two.

⁶ Perhaps the only paper in economic history that explicitly addresses the evolution of property ownership and sovereignty between the United States and Indigenous nations is Anderson and Mc Chesney (1994).

⁷ On the Dawes Act, see Akee (2020), Carlson (1978, 1981, 1983), Miller (2015), Dippel and Fry (2019), Dippel et al. (2020), and Leonard et al. (2020).

⁸ Exceptions include Wishart (1995), Gregg (2009), and Gregg and Wishart (2012) on the Cherokee economy and their removal.

⁹ Our paper parallels new work on the development of the US economy, slavery, and how Black Americans faced extractive institutions (Derenoncourt, 2017) and who too were dispossessed (Logan and Temin, 2020).

Then we turn to how these concepts relate to “good institutions” and the rule of law.

Property and Sovereignty

Title or ownership of land has been described as a bundle of “Blackstonian” rights: the right to use or alter, to exclude, and to transfer elements to others (Ellickson 1993; Alchian 2007).¹⁰ Fee simple ownership, sometimes called ‘complete’ property rights, means that the owner has full and irrevocable ownership of the land and/or buildings.¹¹ Distinct from fee simple ownership, occupation or possession of land could refer to socially recognized possession such as rental or leasing, or unlawful occupation/possession such as squatting.

Blackstonian rights over land can be allocated to individuals or a collective; how they are allocated varying over time and by society. The strength of any given property right can be measured by the probability the right is enforced (Alchian, 1991, p. 584). As Demsetz (1967 p. 347) wrote: “Property rights are an instrument of society and derive their significance from the fact that they help a man form those expectations which he can reasonably hold in his dealings with others. These expectations find expression in the laws, customs, and mores of a society.” The key point is that property rights are socially constructed and enforced. Individuals can say they have a right to something and attempt to enforce it but such actions will be costly or ineffective in the absence of a collective that agrees with them.

We define sovereignty as the ability to specify and enforce laws that govern a specific geographic space including regulating who and what may cross the territorial borders.¹² The laws specified and enforced by sovereigns relate to property and all criminal and civil laws. As such, sovereign transfers of jurisdiction, transfer not merely land but also the authority to specify rights and enforce “rules of the game.” Just as the strength of property rights depends on the probability of and costs of enforcement, effective sovereignty depends on the ability of the collective to enforce the rules on those in the collective. In contrast, transfers of individual property rights, whether it be full fee simple rights or only use rights, do not imply a legal or sovereign regime change. If a Canadian buys a house and title to the underlying land in the United States, Canada does not acquire sovereign jurisdiction over the house nor the ability to enforce Canadian law on that land; nor would a Canadian assume that this was the transaction implied. However, when

¹⁰This characterization is common amongst economists but more debated amongst legal scholars. See (Merrill and Smith, 2002).

¹¹ The word property is problematic but used here for its familiarity to economists and its centrality to most economic development narratives. We acknowledge that it may not adequately convey the full relationship of people to place, and implies a separability that may not exist. Trosper 2020.

¹² Legal historians debate issues of sovereignty and of jurisdiction. See Benton (2001, p. 279) Dennison (2017), and Ford (2010).

two individuals who are members of different sovereignties transfer land rights, it can have a marginal impact on the effective sovereignty of both. If “too many” such transactions occur it can destabilize the existing institutions, that is, they may cause ‘sovereignty spillovers’- the effect of individuals’ transactions on the ability of the sovereign to enforce its laws within its jurisdiction.

Limiting negotiations over property to the inter-sovereign domain can mitigate spillovers. Sovereign-to-sovereign land transfers resolve uncertainty over whose laws apply when a property transaction occurs because those transactions move the border of each sovereign’s jurisdiction.¹³ Treaties between Indigenous nations and the United States government are the written records of sovereign transactions over land that occurred between mutually recognized nations. Such negotiations do not fully eliminate possible sovereignty externalities because a sovereign may choose laws or enforcement of those laws that can have implications for another collective’s effective sovereignty (Dennison, 2017). Additionally, changes in territorial size may lead to increasing demands for more, while, conversely, a decrease in territory can put pressure on a society and its social norms, potentially resulting in a breakdown in the ability to enforce norms and to a splintering of the collective. Treaty making had consequences on both sides of the border because treaties changed the balance of power between jurisdictions.

Good Institutions

Property rights, institutions and growth are intertwined. Sokoloff and Engerman (2000) argued that differences in the long term development of the northern states vs the southern states and West Indies reflected the impact of differences in land ownership (family farm vs plantation) on political structures. Similarly, Acemoglu, Johnson, and Robinson (2005, p. 395) define as ‘good’, economic institutions “that provide security of property rights and relatively equal access to economic resources to a broad cross-section of society” and that put “constraints on the actions of elites, politicians, and other powerful groups, so that these people cannot expropriate the incomes and investments of others or create a highly uneven playing field” (Acemoglu 2003, p. 27). Thus ‘good institutions’ have two dimensions - security over property rights and constraints on expropriation (Lamoreaux 2011).

Normally discussed in the context of a given sovereign jurisdiction, we consider these dimensions as they relate to sovereign-to-sovereign transactions. First, there is no sharp distinction between voluntary and involuntary transactions in US/Indigenous treaty-making, rather a spectrum that extends from mutually beneficial and free exchange to outright theft

¹³ Border changes are ubiquitous throughout history as the result of defeat in war, invasion, or dynastic marriages.

(Banner 2005). Thus “good institutions” would be those negotiated and enforced to maintain a level playing field and provide a foundation for future investment. Most theories of negotiation and contracting assume that the terms of the contract reflect relative bargaining power and as outside options diminish, the terms of the contract worsen. However, in a world of “good institutions”, once a contract is signed, further changes in a party’s position should not lead to forced renegotiation. Second, we also consider how “good institutions” relate to the internal laws of a sovereign. We explore how US institutions evolved with respect to Indigenous property and sovereignty.¹⁴

Addressing the Pristine Myth: Not an Empty Land

The depiction of North America as an empty land barely affected by human presence has been called the “Pristine Myth” (Denevan, 1992). Despite substantial and compelling evidence to the contrary, it continues to persist, explicitly or implicitly, in economic history narratives. To take just one recent example. Pim De Zwart and Jan Luiten Van Zanden (2018, p. 90) write of “the native Americas (sic) succumbing *en masse* to European violence and diseases” and the area “repopulated by Europeans, Africans, and later Asians.” North America was not an empty land when the Europeans arrived nor did Indigenous people disappear with the arrival of Europeans.¹⁵ Ethnographers have mapped the territories of Indigenous nations around 1600 (see Figure 1). The map must be understood as a snapshot, with national boundaries of Indigenous nations shifting and changing, and with use rights overlapping during certain periods for certain nations (Dunbar-Ortiz 2014), but what the map makes clear is just how many different Indigenous nations comprised the “Indian” population, and that the entire continent was claimed as the sovereign territory of at least one nation.

Population density was, however, unevenly distributed throughout the continent and a function of the physical resources. Twentieth century estimates of the population at the time of contact for North America north of urban Mexico to the Arctic ranged from 1.2 to 18 million.¹⁶ These estimates were based largely on warrior and village counts from contemporary accounts of European observers or on environmental carrying capacity. More recent estimates using the spatial distribution of archaeological remains in the eastern half of North America have reduced the upper end of the range to 6.1 million (Milner and Chaplin 2010, p. 708). Although some land

¹⁴ These issues can be raised with respect to Indigenous nations’ laws.

¹⁵ Population size in 1492 is a matter of conjecture as is the impact of disease. Recent scholarship argues that the impact of European diseases has been over-estimated (Larsen, 1994; Cameron et al., 2015). Indigenous people continued to manage the land after the arrival of Europeans.

¹⁶See Denevan (1976), Dobyns (1983), Ramenofsky (1987), Thornton (1987), and Ubelaker (1988).

was uninhabited some times of the year, uninhabited does not imply unused but rather part of a rotation cycle.¹⁷

The Americas prior to contact were not empty of people, nor was it an environment free of disease or violence. In a multidisciplinary study of 12,520 skeletal remains distributed over 64 sites in the Americas - from as early as 6000 BC to the middle of the eighteenth century, Steckel and Rose (2002, Table 1.1) create a health index to measure the wellbeing of different groups at different points in time. Over half of the sample, 6,472 skeletal remains, come from sites in North America, and of these about half are from sites dated to before contact. One result is notable. The estimated health index has a negative slope not just from the time of European contact. Indigenous societies were progressively less healthy computed from the earliest skeletal remains. These societies were experiencing increasing stressors that manifest in the different measures prior to contact: greater urbanization and settled agriculture, as in Europe, had negative health consequences shown by the declining health index, as did violence.

Land across North America had already been heavily affected by human processes and modified to meet peoples' economic needs well before the arrival of Europeans.¹⁸ Some impacts were obvious: "Earthworks, roads, fields, and settlements were ubiquitous" (Denevan 1992, p.369) and large scale agriculture was practiced by numerous societies. Ancestors of the Pimas (Hohokam) in (now) Arizona built one of the most extensive networks of irrigation canals in the world. One Pima canal system carried enough water to irrigate an estimated ten thousand acres of land (Mann 2005). The Haudenosaunee (Iroquois) had large scale agriculture: a French traveler in 1669 reported six square miles of corn fields surrounding each Haudenosaunee village; twenty years later the Governor of New France reported that he had destroyed more than a million bushels of corn from two Haudenosaunee villages (Dunbar-Ortiz 2014). At the same time, many of the ways Indigenous people shaped the environment might not have been easily recognized as such by Europeans. Forest landscapes had been modified through burning to create havens for game and space for gardens. Indigenous people also cultivated bison herds by using fire to extend the short-blade grasslands beyond their natural range (Isenberg 2000; Mann 2005; Dunbar-Ortiz 2014; Zedeno, Ballinger, Murray 2014).

Surpluses from Indigenous production were traded across the continent through a vast system of trading networks (Dunbar-Ortiz 2014). This trade was facilitated by numerous commodity currencies some of which were adopted by European colonists (Taxay 1970). Lutz (2009) argues that the trading jargon, Chinook, used with British and French traders pre-dated contact and had

¹⁷No one would argue that land left fallow in a rotation was uninhabited.

¹⁸See Denevan (1992), Koch et al. (2019), and Mann (2005).

facilitated trade among the linguistically diverse nations from Alaska to California before it was subsequently used by British and French traders.

Territoriality was understood by Indigenous nations, as were the boundaries that defined a nation's lands. Shared rights were also well defined and when ignored, war or violence could result. At the same time, migrations from environmental change or predator prey cycles did occur and changed boundaries between Indigenous communities (Ray 1974). Within a nation, property could be held privately or as limited access common property or communally. In some nations, land was held by families stretching over generations, while, in others, it was reallocated more often (Carlos and Lewis 2010a). Migratory big game such as bison, caribou or deer were held as common property (Carlos and Lewis 2010a; Benson 2006), while allotments, fishing rights, beaver ponds, weapons, or jewelry were personal or private property (Anderson 1992; Lutz 2009) with sharing and redistribution standard as ways to mitigate the risk of starvation or to attenuate competition/violence over resource sites (Johnsen 1986). In sum, property rights across the continent were diverse and varied but clearly present.

Indigenous polities' authority structures were equally diverse : confederacies, house-structures, leagues, chieftainships, or extended kin-based groupings - matrilinear and patrilinear (Borrows and Coyle 2017). Unlike in Europe, positions of political authority or hierarchy were generally not inherited but appointed or elected through a tribe-specific mechanism. Thus, although the power structure appeared diffuse to Europeans, it was well defined within nations. After contact, however, family control over particular plots of land or the lack of a clear hierarchy caused problems especially in relation to the authority to sell/transfer land to others.

Indigenous Sovereignty to 1800

When English settlers arrived in Jamestown in 1607, the philosophy that Europeans owned the land due to a 'right of discovery' or religion (as Christians), had been almost completely eliminated from European legal and popular thinking.¹⁹ Nonetheless, colonists came to the Americas with promises of land from colonial companies. The reality was that the land was neither free nor unsettled and, by the mid-18th century, even settlers accepted that Indian nations owned the land and held jurisdiction over land they had not sold (Banner 2005).

Transfer of sovereignty or jurisdiction in lands sold to individuals or to Colonies, through formal treaties or less formal agreements to purchase, created a grey area. Were individual colonists who purchased land from an Indigenous nation essentially settling in the Indigenous nation (as when Canadians buy land in the United States) or was the plot transferred to the

¹⁹ While colonists from multiple European nations settled in North America, we focus only on English colonization.

sovereignty of the European power? To the extent that colonists were leasing land, as they sometimes did, they were moving to Indigenous territory but if the contract was intended as a sale, many assumed that the land moved to colonial territory. Although contracts to lease and to buy are conceptually different, in reality, either side could argue that one or other was intended. To reduce legal wrangling or conflict, Indigenous nations, colonies and crown moved to a position allowing only nation-to-nation transactions of purchase – as in the Royal Proclamation of 1763.²⁰

The Proclamation was the (intended as temporary) response of the British crown to land issues after the Treaty of Paris. Under the Treaty, the French ceded their rights to lands west of the Allegheny mountains (i.e. west of the lands of the 13 colonies) plus land they held in what is known today as Canada - while maintaining French rights over the Louisiana territory. Settlers in the thirteen colonies had anticipated that the French lands to their west would be opened for colonial settlement; but the Royal Proclamation declared it Indigenous territory.²¹ Although the Proclamation changed only which European power had the right to treat with Indigenous nations, at least some colonists perceived it as land theft. For Indigenous nations, the removal of French influence changed the balance of power between them and the Crown, and, subsequently, the Federal government.²² Finally, and crucially for our discussion here, because it would be the model for subsequent Federal legislation, the Royal Proclamation declared that only the Crown (or his/her representatives) could purchase Indigenous territory and that that purchase must occur at a public meeting within the Indigenous nation. The Crown, thus, became a monopsonist in the purchase of indigenous land. While the Proclamation was a unilateral declaration, in 1764, chiefs from 24 nations across North America signed the Treaty of Niagara agreeing to nation-to-nation land sales only (Redish, 2019).

After the American Revolution, transfers of land between Indigenous nations and the United States continued to take place at the level of the sovereign power, which, per the Constitution, was the Federal Government. The Non-Intercourse Act of 1790 declared that: “no purchase, grant, lease or other conveyance of lands, or of any title or claim thereto, from any Indian nation or tribe of Indians, shall be valid, unless the same be made and duly executed by some public treaty held under the authority of the United States.”²³

²⁰Conflicts over land would continue, as colonists claimed title to land through indigenous wives and children (Borsk, 2020).

²¹This was not an Indian Reservation as stated in Atack and Passell (1994, p.251) rather recognized Indigenous sovereign territory.

²²The end of French sovereignty in the region did not mean the end of the threat of French power.

²³“An act to regulate trade and intercourse with the Indian tribes”. Act of July 22, 1790, Pub.L. No. c. 33 Stat.137,138. Acts of the First Congress of the United States c33 (p.137). The act provided that any US citizen who

The new Republic, thus, recognized Indigenous nations as sovereign. While consistent with English legal tradition, this was also expedient. For a Federal Government with little by way of fiscal resources, lacking a standing army, and fearing invasion from Canada, realized with the War of 1812, bargaining power lay with Indigenous nations. The Federal government saw Indigenous nations both as potential allies or potential foes who could align with other European powers against the United States. Furthermore, the new nation saw land as a solution to their daunting fiscal woes. Land was an asset and land sales a possible source of revenue, while conflict over land an expense. By 1790 the federal government had concluded that purchasing land rights was cheaper than seizing land. Indigenous nations arguably had superior military power and technology (and the capacity to use it), and their military capacity posed a serious threat to those attempting to seize Indigenous lands.²⁴ In 1792, Thomas Jefferson wrote to David Campbell (Judge in the Southwest Territory): “I hope too that your admonitions against encroachments on the Indian lands will have a beneficial effect - the U.S. finds an Indian war too serious a thing to risk incurring one merely to gratify a few intruders with settlements which are to cost the other inhabitants of the U.S. a thousand times their value in taxes for carrying on the war they produce. I am satisfied it will ever be preferred to send armed force and make war against the intruders [i.e. settlers] as being more just and less expensive” (cited in Prucha 1962, p. 139).

Even as the new Republic accepted Indigenous sovereignty, it was laying the framework for how land could become a new territory or state within the Union. The 1785 Land Ordinance laid out how land would enter the public domain and move from the public domain into private hands – purchased land would be surveyed in a rectangular grid and sold at public auction with minimum prices and quantities defined by Congress. The Northwest Ordinance of 1787 detailed how a territory would be incorporated into the political system.²⁵ The operation of the Land Ordinance and the Northwest Ordinance put pressure on relations with Indigenous nations; forces which shifted the balance of power and the strength of *de jure* law as it applied to interactions with Indigenous nations.

committed a crime per US law in Indian territory would be punished under US law . not Indian law.

²⁴ The bow and arrow was more accurate, reliable, and quicker to re-load than guns (Gwynne 2010; Silverman 2016). The US unsuccessfully prohibited the sale of firearms to Indigenous people (Blocher and Carberry 2020).

²⁵ It specified the Congressional appointment of a Territorial Governor; an elected territorial legislature when population reached 5,000 voting-age males; finally, incorporation as a state when the population reached 60,000 people.

Evolving US Institutions and Implications for Indigenous Nations

The land area of the United States has grown beyond its 1783 borders. Often, it is assumed that the public domain increased with the Louisiana Purchase (1803), the Florida Acquisition (1819), the Texas Annexation (1845), the Oregon Country (1846), the Mexican Acquisition (1848), the Gadsden Purchase (1853), the Alaska Purchase (1867) and the annexation of Hawaii (1898). Indeed, American economic history texts show the territorial expansion of the Republic demarcated by these acquisitions as in Figure 2. The most recent Historical Statistics of the United States (2006: Table Cf1 3-345) gives acreage in the public domain as the land area of these intra-European transfers. Not only is this incorrect, it distorts reality. What was acquired by the United States was not land but rather a monopsony right to treat with the sovereign Indigenous nations whose land lay within these European defined boundaries. The expansion of the Republic is captured rather by treaties conducted with individual Indian nations. In other words, treaties with Indigenous nations were required to bring land into the public domain.²⁶ Transfers of Indigenous sovereign territory, shown in Figure 3, delineate land transfers by decade and thus the growth of the United States.²⁷

The expansion of US territory reflected the conjuncture of changes in the legal recognition of Indigenous sovereignty and the decline in the (relative) bargaining position of Indigenous nations. We unpack this process by documenting the challenge of delineating border lands, describing how the Marshall court changed the legal landscape, and how squatters and railroads impacted rights on the ground. Locational differences in these factors implied locationally-specific differences in the relative bargaining power of the parties, which in turn implied that the pace and terms of dispossession differed by location. Following this discussion, we introduce quantitative evidence that shows how treaty terms, and the process of cessions reflected these changes in bargaining power.

Borders

The public domain - land owned by the federal government – was an ever changing region, representing a boundary/border area between land held by the United States Government and land held by Indigenous nations. At any point in time, the public domain comprised land that

²⁶ See Lee (2017) for detailed analysis of the costs of acquiring the Louisiana lands from Indigenous owners.

²⁷ Treaties compiled by the Bureau of American Ethnology in 1899 under the guidance of Charles C. Royce, digitized by Claudio Saunt (2014). The 1850s land transfers in California in the 1850s never ratified by Congress are discussed in Section 5. Nuances such as these are often lost in depictions of the cession data.

had been surveyed and due for sale and land not yet surveyed and thus not yet available for sale. That this land would eventually move into private hands led some to squat illegally putting pressure both on the Federal government and Indigenous nations.

Borders are core to the definition of sovereignty. Land transfers by treaties with Indigenous nations moved the physical border between the United States and that nation. Once transferred, land had to be surveyed and sections registered by surveyors at the land office, only then was it brought to public auction.²⁸

The reality of border definition was complex as an example from a treaty with the Creek August 7, 1790 illustrates. The description of the land ceded reads:

Beginning where the old line strikes the river Savannah; then up the said river to a place on the most northern branch of the same, commonly called the Keowee, where a NE. line to be drawn from the top of the Occunna mountain; thence to the source of the main south branch of the Oconee river, called the Appalachee; thence down the middle of the said main south branch and river Oconee to its confluence with the Oakmulgee, which form the Altamaha; and thence down the middle of the Altamaha to the old line on the said river, and then along the said old line to river St. Mary's. The Creek ceded all claim N. and E. of the foregoing boundaries.²⁹

Defining boundary lines was vital in reducing potential disputes but this required knowing the exact location of the 'confluence' or the 'top of the Occunna mountain. These issues bedeviled surveyors as they sought to turn physical descriptors into a rectangular grid.³⁰ Guarding the interest of the nation meant guarding the integrity of these boundaries. Writing to Commissioner Josiah Meigs (May 24 1817), Governor Cass, Governor of the Michigan Territory, stated that "the Treaty of Detroit secured to the Indians Several tracts of land in this Country, upon the Miami, the River Raisin, and the River Huron of Lake St. Clair. In the surveys, which you are now making, I am informed that no respect has been paid to these reservations, and a formal application has been made to me by the Indians, to secure to them the rights guaranteed by Treaty."³¹ He further noted that the tracts secured to the Indians "hold scites (sic) of ancient villages, and it is therefore necessary, they should be surveyed with references to these villages

²⁸ Claims issued to French and Spanish settlers prior to a treaty had also to be adjudicated. See Territorial Papers of the United States, Vol 10 for a discussion of this issue. Lewandoski (2019) documents how some Indigenous communities acquired title from France or Spain or Mexico.

²⁹ See Annual report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution, p. 652 of 997, August 7, 1790. Libecap and Lueck (2011) on metes and bounds.

³⁰ See as example Edward Tiffin to Josiah Meigs, October 4, 1817, pages 706-708 The Territorial Papers of the United States, v.10.

³¹ Territorial Papers, v.10, p.699.

and not with reference to the artificial lines of the general survey.”³² He ordered that the surveyors know of his views and that an interpreter be employed to explain the process and to satisfy any inquiries the Indians might want to make. The surveys were “no[t] only to be done in conformity with the stipulations of the treaty, but if possible done in a manner satisfactory to the Indians themselves.”³³ The reality was that the survey-to-auction process could take years.

Although the correspondence emphasized that the boundary between Indian and White territory in Michigan be respected and that Indigenous rights be taken into account, there was, at the same time, as in 1838, pressure to encourage Indigenous Michigan communities to move further west. Some communities sent representatives to see the land, some chose to go, some were not impressed, and some from the Sault area refused stating: “We do not wish to go West: we object to it entirely: this is all we have to say.”³⁴ In the end only 651 people from an indigenous population of 7,600-8,300 ever moved west. In 1850, there were 6,000 Indigenous, either on reservation land - the L’Arbre Croche and Grand River reservations - or on land in the broader community purchased in public land sales with funds saved from annuity payments for land ceded.³⁵

The Michigan correspondence documents in microcosm the ways in which the Federal Government sought to uphold its Treaty obligations ensuring that Indigenous reserved land was respected; at the same time, it reveals that the reservation provisions were seen as impermanent. Indigenous communities in Michigan more successfully resisted removal, probably because, given land quality and climate, White demand for land was lower than in other regions.

Supreme court – Marshall Trilogy

In 1790 the Federal Government declared Indigenous territory as the sovereign jurisdiction of tribal nations, but its position gradually shifted until, in 1871, Congress declared it would no longer treat with Indigenous nations (the end of treaty making). Subsequent land acquisitions would be accomplished solely by Executive action and Statute. Banner (2005) argues that there were two determinant factors between 1790 and 1830 that transformed a view of Indigenous property rights from sovereign freehold ownership until ceded, to rights only of occupancy, and

³²Territorial Papers, v.10, p.699.

³³ Pearce (2004, pp. 138,144, 148) and Nichols (2018). Surveyors were reminded not to trespass on Indigenous territory in any of their work.

³⁴Quoted in Neumeyer (1971, p. 280). The experience of the Michigan communities is another example of what Lewandoski (2019) calls ‘small nations’ –those able to use the US legal system to carve out land tenure arrangements.

³⁵Territorial Papers, vol 10 p. 275,278,281, 283. Indigenous communities also petitioned levels of government against removal in some cases with the support of local White communities (p.283). Annuity payments brought monies into the region.

then to rights of occupancy that could be unilaterally terminated by the US federal government.³⁶ The first was the growing (physical) distance between decision makers and local populations at the border/frontier. The second was the pressure that squatters on un-surveyed territory put on Congress.

Three landmark decisions of the Marshall Supreme Court (the ‘Marshall trilogy’ decided in 1823, 1831 and 1832) are widely viewed as key determinants for the changed federal position on Indian land title and sovereignty, but Banner argues that an earlier decision, *Fletcher v Peck*, 10 US 87 (1810), presaged these later decisions and began the alteration of the legal landscape. That case concerned the sale of unceded land in the State of Georgia. The Court decision recognized Georgia’s right to sell a future right to land despite Indian ownership, setting new limits on the title and sovereignty of the Indigenous owners of the land. Chief Justice Marshall argued that the existence of (undefined in the decision) Indian title did not preclude the legislature from granting the land subject to that title - essentially laying out Georgia’s Right to Preemption. In a dissenting opinion, Justice Johnson argued that Georgia had only the right to acquire a fee-simple *when* the proprietors should agree to sell. Although, the Marshall decision dealt with the question of Indian title only briefly, but the basis for the argument can be seen in the pleadings. Responding to the argument that the State of Georgia had no right to sell unceded lands, Peck’s lawyer, arguing that Georgia had the right to sell Indian land, asked (c. 94): “What is the Indian title? It is a mere occupancy for the purpose of hunting. It is not like our tenures; they have no idea of a title to the soil itself. It is overrun by them, rather than inhabited ...” This argument completely ignored the reality that the Cherokee were (slave-owning) farmers. Despite the brevity of the *Fletcher* decision, it was cited in subsequent cases (Watson 2012, p.273).

In 1823, Marshall used the case of *Johnson v M’Intosh* (21 US 543 (1823)) to more thoroughly articulate the Court’s position on the question of Indian title and sovereignty. Here, both Johnson and M’Intosh claimed title to the same land in Illinois - Johnson having purchased it from Indian nations in 1773 and 1775, while M’Intosh had purchased it from the federal government in 1818. The Chief Justice found for M’Intosh. Marshall wrote that “[Indigenous nations] were admitted to be the rightful occupants of the soil, with a legal as well as just claim to retain possession of it, and to use it according to their own discretion; but their rights to complete sovereignty, as independent nations, were necessarily diminished, and their power to dispose of the soil at their own will, to whomsoever they pleased, was denied by the original fundamental principle, that *discovery gave exclusive title to those who made it*” [i.e. Europeans]

³⁶This is a large and complex issue. Our discussion largely follows Banner (2005).

(italics added).³⁷ Ford (2010 p.136) argues this “created a new judicial philosophy of indigenous subordination”.

Using the premise that federal acquisition and sale of Indian lands was too slow, Georgia passed legislation in an attempt to acquire Cherokee territory. In response, the Cherokee used the institutions of the US government to adjudicate their claim.³⁸ In *Cherokee Nation v Georgia*, (30 US 1 (1831)), the Cherokee nation claimed that the Supreme Court could prohibit State actions by virtue of Article 3 of the Constitution which gives the Court jurisdiction over cases “between a State or the citizens thereof, and foreign states, citizens, or subjects”. Chief Justice John Marshall, expanding his earlier position, wrote that the Cherokee nation were neither a “state” nor a “Foreign nation” but rather a “domestic dependent nation”, arguing that while the Court could determine who owned a piece of land, it would not control the broader legislative power of a State. In *Worcester v Georgia* (31 US 515 (1832)), the Supreme Court found that the laws of the State of Georgia had no force in the territory of the Cherokee nation due to the inherent sovereignty of the Cherokee nation, but this reiteration of Indigenous sovereignty was not found to constrain the power of the State and, in particular, did not constrain the determination or ability of the State of Georgia to force the removal of the Cherokee Nation. That determination was supported by Andrew Jackson. In 1830, Congress passed the Indian Removal Act (4 Stat. 411) which reiterated the government’s support for exchanging lands west of the Mississippi in exchange for Indigenous lands within state borders (see Table 1). More significantly the legislation gave explicit additional support by, for the first time, appropriating funds to support such ‘removal’.

Cherokee lands were valuable.³⁹ Not only were they cultivated and productive but, in the early 1830s, a gold discovery on part of the Nation’s territory further increased its value. In 1835, in response to State pressure to sell, Georgia, in contravention of Federal statute, signed the Treaty of New Echota with a group of Cherokee who agreed voluntarily to move. Although the Nation argued that the treaty was invalid, and it was not under either Cherokee or US law, the Federal Government stated that it could not protect the Cherokee and allowed the Army to march those still living in Georgia to Oklahoma in the now infamous ‘trail of tears’ (Calloway 2013, pp.121,151).

The jurisprudence set out in the Marshall cases changed Indigenous title to the land from that

³⁷ U.S. Reports: *Johnson v. McIntosh*, 21 U.S. (8 Wheat.) 543 (1823); p.574

³⁸ Ablavsky (2016) discusses Indigenous use of US federal courts and legal structures to assert their rights and sovereignty in the early Republic.

³⁹ Wishart (1995) using data from the 1835 Cherokee census of the Cherokee demonstrates that the Cherokee produced surpluses in excess of subsistence requirements.

of sovereign nation to domestic dependent nation; changing the relative bargaining power between Indigenous communities and the Federal Government.

Land Policies and Squatting

The pace of land sales, the price of land, and the number of white settlers wanting land each contributed to the scale of squatting. Surveying and registering ceded land took time and when land was brought to auction it was unaffordable for most. In 1775, the Federal Government set a minimum price of \$1.00 per acre and a minimum purchase of 680 acres. Requirements changed over the decades, as shown in Table 1, but often left land unobtainable for many.⁴⁰ For example, in 1820, the price was lowered to \$1.25 for a minimum 80 acres but cash-only terms. In 1820, the agricultural wage in Massachusetts was \$1.00 a day. Even with land banks, purchasing land was difficult. The white settler population grew throughout the nineteenth century, from natural increase and immigration, rising from under 3 million in 1780 to 38 million by 1870 and growing particularly rapidly in the 1840s and 1850s.⁴¹ Changes in non-indigenous population density at the county level, shown for selected census years in Figure 4, map the expanding white settler population. Greater white settler population put greater pressure on the boundary between Indigenous land and land which had already been ceded, whether surveyed or un-surveyed. While an individual squatter might not know, and perhaps could not know, where the boundary between the public domain and Indigenous territory exactly lay, squatting increased tension and conflict between settlers and Indigenous Nations, discussed below.

Squatting was illegal and in 1807, Congress passed legislation allowing the use of military force to remove squatters to protect federal and Indian lands. The legislation was rarely used but indicated a desire to enforce the border. But as population numbers rose, squatters attained greater political power and convinced Congress to acknowledge their claims (Allen 1991; Kanazawa 1996; Gailmard and Jenkins 2017). Congress responded passing preemption acts pertaining to particular groups or locations, but in 1830, Congress passed the first in a set of two-year general preemption acts (1832, 1834, 1838) and finally in 1841, it passed a permanent preemption act (see Table 1). These acts legalized squatting and permitted an individual squatter to buy 160 acres at the minimum price without any competition when the land came to auction. Preemption acts determined who could gain first title to a parcel of land and, because they gave squatters first call on a piece of property, encouraged more squatting on the margin.⁴² The

⁴⁰Data on minimum prices and acreage from Gates (1968). See also Atack and Passell (1994, p. 258-259), Table 9.1.

⁴¹ See Carter et al. (2006), the Historical Statistics of the United States, Millennial Edition, Table Aa7.

⁴² In contrast to preemption rights, the Right of Preemption deals with the rights of the government, federal or state.

Homestead Act of 1862 is, perhaps, the culmination of the acceptance of squatting.⁴³ Allen (1991, 2019) argues that after the Civil War, the Federal Government used homesteading to direct settlement selectively to particular areas where it saw greater Indigenous threat or power to put pressure on those communities that had not yet ceded their territory.

Railways

Pressure on Indigenous communities came not only from squatters but also from railway development. Railways were a technology that efficiently moved people, carrying settlers or new migrants from the coast into the heart of the country. Additionally, railroads, themselves, generated a demand for land which could be met through purchase on the open market and/or through grants of land from the government. Leaving to subsequent research a thorough analysis of the evolution of railroad construction on treaty making, we focus here on perhaps the most iconic railroad, the Union Pacific.⁴⁴ As the non-Indigenous US population grew and population moved to the Midwest and Oregon Country for agriculture and to California for gold, Indigenous nations became squeezed. The drive to connect the two coasts was realized with the passage of the Union Pacific Act in 1862 - *An Act to Aid in the Construction of a Railroad and Telegraph Line from the Missouri River to the Pacific Ocean, and to Secure to the Government the Use of the same for Postal, Military and other Purposes* – and completion of the railroad in 1869.⁴⁵

It is frequently noted that the Union Pacific Act and the Homestead Act were passed in 1862 in a Congress comprising only northern (Union) States, yet few comment on the fact that the projected route traversed land not in the public domain in 1862, that is, over land which was not owned by the Federal Government (White 2012, p.25).⁴⁶ Indeed, the Act states that “the United States shall extinguish as rapidly as may be the Indian Titles to all lands falling under the operation of this act and required for the said right of way and; grants hereinafter made” (12 Stat.489). Even with the rapid pace of land cessions, part of the route in Nevada crossed land not ceded when the line was completed (see Figure 5).⁴⁷ Additionally, the practice of granting alternate sections of land to transcontinental railroads brought the Federal Government into direct conflict with major nations – the Comanche, Ute, Arapaho, Cheyenne, Dakota among

⁴³ Title was not transferred until the conditions of the Act were met and registered at the Land Office.

⁴⁴ We use the term to include the Central Pacific section from the west coast to Promontory Point Utah.

⁴⁵ 6112 Stat 489 – 37th United States Congress

⁴⁶ Other legislation passed in 1862 included the Morrill Act which granted public lands to Universities, see Lee and Ahtone (2020) and Ehrlich et al. (2018), and legislation (25 USC 72) that permitted the President to abrogate treaties with Indian tribes in hostility with the United States.

⁴⁷ The route through California traversed land ceded in Treaties negotiated but not ratified by Congress.

others - as it sought to extinguish Indigenous title.

By the late 1860s, railroads realized that they could acquire land directly in the Treaty process rather than through purchases from the public domain.⁴⁸ One example of many is a proposed Treaty for Osage lands in 1868. The Indian office proposed that rather than put the 8 million acres acquired into the Public Domain, they would be sold directly to a railroad company for 20c/acre (Gates 1968, p. 453) and therefore unavailable to potential settlers who opposed the treaty and with allies in the House of Representatives successfully prevented ratification.⁴⁹

By mid-century, the demand for land from settlers and railroads in conjunction with the diminution of Indigenous rights created an environment in which Indigenous nations were no longer seen as sovereign powers to be treated with. In Congress, the House of Representatives began opposing the Treaty process arguing that it enabled the Indian office to work with the Senate removing House jurisdiction over what could be Public Lands. At the same time, it was routinely asked to approve appropriations Treaty financial commitments. In 1870, the House proposed an amendment to an Appropriations Bill that would have ended Treaty making with Indigenous nations but that bill was defeated in conference. The following year a one-line rider to an Appropriations bill stating that “no Indian nation or tribe within the territory of the United States shall be acknowledged or recognized as an independent nation, tribe or power with whom the United States may contract by treaty” (16 stat. 566 (1871)) thus ending formal treaty making by the Federal Government. Land continued to be transferred after 1871 through executive orders and statutes (Spirling 2012)

Evolution of Power and Treaty Terms

Our discussion of legal changes, squatting, and railroads all speak to declining Indigenous bargaining power. In this section, we present quantitative evidence documenting that declining power in contract negotiations.

We begin with the question of violence. Violence and war, implicit or actual, was a threat point in all treaty negotiations.⁵⁰ We define war as armed conflict using soldiers maintained and paid from federal revenues. Violence and its threat permeated Indigenous/US relations. Low level skirmishes between individuals on both sides of the frontier reflected attempts at

⁴⁸ Some treaties precluded those allocations. The Choctaw treaties of the 1830s required revenue of land sales be held in trust.

⁴⁹H.R. Rep. No. 63, 40th Cong., 2nd Sess. (1868)

⁵⁰ Umbeck (1981) argued that ‘might’ shapes both the formation and distribution of property rights. Anderson and Mc Chesney (1994) model the evolution of treaty making in an environment where the threat of violence and the relative beliefs about each other’s power changed over time.

redistribution or a willful disregard of property rights which could lead to war,⁵¹ for example, the Seminole wars (1835-42) or the Rogue River Wars (1855-56). There was also state-violence such as scalp bounties: California (1859), Minnesota (1863), Arizona (1864), or the use of the US Army in ‘removing’ the Cherokee nation from Georgia in the 1830s. While the threat of violence/war was always present, its scale was tied to the particular circumstances of time and place.

As noted earlier, in the early Republic, Indigenous nations held a military advantage. In 1816, Secretary of War, William H. Crawford, reiterated to military commanders that squatting was not to be condoned: “Intrusions upon the lands of the friendly Indian tribes, is not only a violation of the laws, but in direct opposition to the policy of the government towards its savage neighbors” (cited in Prucha 1962 p. 139). Over time, increasing demand for land from population growth, greater immigration, and increased squatting weakened the rights and protections afforded to Indigenous nations. Transcontinental railroads and the pressure on resources led to increasing skirmishes, battles, and war in the northern Great Plains and along the southwest border with Mexico. Indeed, after the Civil War demobilization, a standing army of 25,000 men remained, with one third in the Military Division of the Missouri.

If treaty negotiations held the potential for violence, borders became the flashpoints. In Figure 6, we map Paulin’s (1932) subset of major US/Indigenous battles by decade (that we could geocode) from the Revolution to 1890, supplemented with additional information on the Apache and Rouge River Wars. The figure illustrates the geographical shifts in conflict over the nineteenth century, mapping into the shifting border. Of course, this subset vastly under-estimate the level of violence. Using US Military records from between 1830 to 1897, Anderson (2021) analyzes over 1,800 incidences of violent conflict between the US military and Indian nations.

A standard representation of the frontier/border is described in terms of the density and spread of white settler population, as shown in Figure , based on data from Bazzi, Fiszbein and Gebresilasse (2020). The pattern of land cessions and evolution of the border suggest an effect from sovereignty spillovers we discussed earlier. To measure this impact more statistically, we estimate a cox-proportional hazard model of the probability of a cession. We combine measures of settler population density by (2010) county at the start of each decade with data on the first year any of the land in a county was ceded, to estimate the effect settler population density had on cessions.

The estimating equation is: $A(y) = A(y_0)e^{x\beta}$, where $A(y_0)$ is the baseline hazard of a

⁵¹We focus here on Indigenous-US battles, not war with other European nations, or battles of Indigenous nations with each other.

transfer and $A(y)$ is the hazard of transfer, x is a vector of: own-county settler population density at the start of the decade where the thresholds are under 2 settlers per square mile, between 2 to 6, 6 to 18, and 18-45, the maximum neighbor settler density at the start of the decade, and the natural log of the square kilometers of the county. We only consider population density in neighboring counties that are not part of the land transfer and limit attention to counties that were transferred after 1790 and before 1871 to focus strictly on the “treaty-making era”.⁵² The results are depicted in Figure 7 with the summary statistics presented in Table 2. The estimation results show that settler population density in neighboring counties decreased the likelihood that a county was not transferred in any given decade (increased the probability that land would be ceded in a given decade). Even in areas with no surrounding settler population, the probability of a land transfer increased substantially in 1860.

A more direct assessment of the decline in the bargaining power of Indigenous nations is provided by Spirling (2012). Using a principal components textual analysis of negotiated contract terms, 1784 to 1911, he created an index of conciliatory versus harshness treaty language (see Figure 8).⁵³ He finds a systematic decline in the quality of treaty terms over the nineteenth century as outside options for Indigenous communities worsened and America’s ability and willingness to use force increased. The linear form of Figure 8 is somewhat misleading because it obscures significant geographic heterogeneity: Treaty terms were the result of local conditions. Forces underpinning treaties in Michigan were very different from forces in Georgia. Moreover, some treaties were systematically re-contracted. Figure 9 depicts the number of times within each (2010) county a treaty was re-contracted: the lightest color represents counties with one transaction, while the darkest shaded counties were transacted on 5 times. The growing body of historiography indicates that much of this re-contracting was driven by US breaking of treaty terms or agreements (Banner, 2005; Hamalainen, 2019) generally to reduce the size of indigenous territory. One example is reduction of the Sioux reservation in the Dakotas after the discovery of mineral resources.

Not all treaties are included in Spirling’s analysis, for example, the eighteen California treaties rejected and hidden by Congress. Specifically, under the Treaty of Guadalupe Hidalgo in 1848, whereby Mexico ceded its rights in the territory of California, land rights acknowledged by Mexico would be upheld by the US government. Some Indians/nations held titles

⁵² See on-line Appendix for more discussion.

⁵³ Words such as friendship or peace (conciliatory) relative to relinquish or reservation (harsh). Treaty data from 1784 to 1911 based on 595 treaties reported by Deloria and DeMallie (1999) discussed in Spirling p. 87. Even after the end of presidential treaty power in 1871, land transfer contracts follow a similar trend (triangles).

acknowledged by Mexico and by Spain (through the Missions) (Lewandoski, 2019). Others lived on lands that had never been the subject of a treaty negotiated by either Mexico or Spain. Between March 1851 and January 1852, US treaty commissioners signed 18 Treaties with more than 100 nations ceding approximately 66.5 m acres and retained approximately 8.5 m acres. (Deloria and DeMallie, 1999). These treaties were not ratified by Congress due to the power of the Californian delegation. As Senator Weller explained:

“We who represent the state of California were compelled, from a sense of duty, to vote for the rejection of the treaties, because we knew it would be utterly impossible for the General Government to retain these Indians in the undisturbed possession of these reservations. Why, there were as many as six reservations made in a single county . . . and that one of the best mining counties in the State. They knew that these reservations included mineral lands, and that, just so soon as it became profitable to dig upon the reservations than elsewhere, the white man would go there, and that the whole Army of the United States could not expel the intruders.”⁵⁴

The unratified treaties were sealed by the Senate and did not surface until pressure from Indian organizations led to their discovery in the archives in 1905 (Miller 2013).

As these treaties were being signed in 1851, the California legislature passed the “Land Claims Act” requiring those holding title granted by Mexican or Spanish authorities to register that title within 2 years for approval. No Indian tribes registered with the result that their land claims were subsequently rejected.⁵⁵ This land entered the public domain in 1853.

The data presented in this section describes a worsening environment for indigenous nations in their interactions with the US government and declining bargaining power. But it must be noted that these patterns do not describe the nature of the distribution of surplus, in fact, increasing settler population density in nearby regions may have increased the value of Indian land and thus the effective price Indigenous nations were able to receive for it. Further research on treaty terms is necessary.⁵⁶

⁵⁴Cited by Flushman and Barbieri (1985, p. 405); original, Cong. Globe 32nd Congress 1st sess 2173 (1852).

⁵⁵In 1886 the California Supreme Court denied a land claim on the grounds that the claim had not been presented to the Land Commissioners as required t. *Thompson v Doaksum* (Flushman and Barbieri (1985, p.431). In *Barker v Harvey* (1901) the Supreme Court also “found that any claims of a “right of permanent occupancy” were lost if not presented to and confirmed under the Land Claims Act (Ibid p.433).

⁵⁶The terms of treaties typically included annual payments for a fixed period (10 years), certain goods and services, retention of certain land use rights (hunting rights) as well as exclusive land reservations.

US Economic Development: Good Institutions and Indigenous Nations

The standard narrative of nineteenth century US economic development revolves around land and good institutions. Acemoglu (2003, p. 29) argues that “in colonies where there was little to be extracted, where most of the land was empty, where the disease environment was favorable, Europeans settled in large numbers and developed laws and institutions to ensure that they themselves were protected ... In these colonies, the institutions were therefore much more conducive to investment and economic growth.” Sokoloff and Engerman (2000, p. 224) write that “In the United States, where there were never major obstacles to acquiring land, the terms of land acquisition [for European settlers] became even easier over the course of the nineteenth century.” Indeed, the practice of “offering small units of land for disposal and maintaining open immigration” (p. 224) crafted an institutional environment conducive to strong property rights, greater equality and growth than elsewhere in the Americas. But not all were necessarily in favor of such policies. By the 1850s, there were political reactions to the scale of immigration exemplified in the No Nothing Party and to the expansion of slavery exemplified in the ‘Free Soiler’ movement to maintain land availability for white settlers. But there was no reaction against the institutions themselves just the distribution.

Good institutions protecting individual property rights and creating a level playing field for white settlers does not describe the rules of the game faced by Indigenous nations where rules changed and contracts ‘re-negotiated’. Available land and open emigration were mirrored in diminishing land resources and opportunities for Indigenous nations. One might equally characterize the US as an extractive regime which was built on the expropriation of Indigenous and African resources and the unchecked interests of powerful groups.⁵⁷

Acemoglu, Johnson and Robinson (2002) argue that global evidence of a ‘reversal of fortunes’ further supports their argument for good institutions. Initially poor regions became rich - a poor continental United States emerging to become a classic example of the benefits of settler colonies bringing their good institutions to an empty land. Using less aggregated data, William F. Maloney and Felipe Valencia Caicedo (2016) find that areas across the Americas that were heavily populated prior to colonization remain the most densely populated today. Assuming population density proxies for wealth, historically rich areas are still rich today, perhaps reflecting locational advantages. We replicated their analysis in Figure 10 panel (a) at the level of the US census tract using estimated 1500 Indigenous population density estimates plotted against current US population density and find that densely populated regions in 1500 are still

⁵⁷ Derenoncourt (2017)

densely populated today.⁵⁸ However, when we plot the density estimates for 1500 against current *Indigenous* population density estimates in these regions shown in panel (b) we find a local reversal of fortune for Indigenous nations.⁵⁹

More direct evidence of Indigenous marginalization is shown in Figure 11. The vertical axis depicts real income per capita in 2014-2018 and the horizontal axis real income per capita 2006-2010. The circles indicate the per capita income of a given reservation and relative sizes of the circles indicate population size. The horizontal lines show real income for White Americans and Black Americans in 2014-2018. Reservation communities, despite some outliers, are some of the lowest per capita income communities in the US. The fact that the highest income communities in a given year are not on the 45-degree line (which would indicate constant income per capita between 2006-2010 to 2014-2018), suggests that in Indian Country, even periods of high income are short lived.

Conclusion

The history of land and sovereignty over lands comprising the contiguous United States is complex and multifaceted, and we have only briefly touched on that history. Furthermore, we recognize that we are writing this in the context of western economic growth. Nevertheless, this paper raises questions for teaching and researching US economic history. Indigenous nations had agency and are not tangential to US economic development. A more inclusive economic history will raise important questions and counterfactuals. How essential was the expropriation of Indigenous resources for modern, largely White, prosperity? Would honoring Indian sovereignty have reduced land available to white settlers or would secure property rights on the part of Indigenous nations have led to other forms of tenure such as leasehold? Although we do not discuss the price of land ceded, how might market valued treaties have changed current income inequality? Indeed, what might have been the composition of economic activity in this alternate universe? What would have been the impact on immigration and settlement patterns? A new cohort of historians has begun to raise such questions. Emilie Connolly (2020, 2021), for example, examines the role of Indigenous land transfers in financial crises (1819, 1837) and the role of State bond purchases by Indian trust funds in financing railways and banks.

Economic history depends on available data, and available data for Indigenous people are scant. Indians were not included in the US census until 1860, and then only those in the general

⁵⁸ Using HYDE gridded population and 2014-2018 American Community Survey (ACS) (both in logs)

⁵⁹ For robustness checks see the on-line Appendix.

populations. They were not deemed US citizens until 1924.⁶⁰ Even the use of maps for visualizing data, as we do here, is problematic.⁶¹ We have chosen to include maps of lands ceded by Treaty because, while perhaps inaccurate in specific detail, such as for California, they effectively convey that the expansion of the US public domain came from the shrinkage of Indigenous territory. But the absence of easily obtainable data has been a challenge economic historians have faced, and faced down, successfully.

We need to incorporate the narrative of territorial acquisition rather than starting from a narrative of an abundant empty land populated by small farmers with good institutions. Such a narrative is not only inaccurate and incomplete but it provides a flawed basis upon which to draw conclusions about the quality of institutions and their role in American economic growth. It also erases a people and their history and undermines a true accounting of the costs of economic development of the United States. We hope that this paper leads to more inclusive models of colonization more broadly and a better understanding of US and Indigenous economic growth.

⁶⁰ For apportioning of representatives to Congress, Indians not paying taxes were deducted from the total count until 1940. See <https://www.census.gov/srd/papers/pdf/ev90-19.pdf>.

⁶¹ Banner, for example, declined to illustrate his legal history of land dispossession with maps because he felt that they could not accurately capture the complexity of the history.

References

- Ablavsky, G. *The Adjudicatory State: Sovereignty, Property, and Law in the U.S. Territories, 1783-1802*. Ph.D. diss., University of Pennsylvania, 2016.
- Acemoglu, D. “Root Causes: A historical approach to assessing the role of institutions in economic development.” *Finance and Development* 40, no. 2 (2002): 27-30.
- Acemoglu, D., S. Johnson, and J. A. Robinson. “Reversal of fortune: Geography and institutions in the making of the modern world income distribution.” *The Quarterly Journal of Economics* 117, no 4 (2002): 1231-1294
- Acemoglu, D., S. Johnson, and J. A. Robinson. “Institutions as a Fundamental Cause of Long-run Growth.” In *Handbook of Economic Growth* 1 Edited by Philippe Aghion and Steven N. Durlauf, 385-472. Amsterdam: Elsevier, 2005.
- Akee, R. “Land titles and Dispossession: Allotment on American Indian Reservations”. *Journal of Economics, Race, and Policy* 3 (2020): 123-143.
- Akee, R. K. and J. B. Taylor (2014). *Social and Economic Change on American Indian Reservations: A Databook of the US censuses and American Community Survey, 1990-2010*. Sarasota, FL: Taylor Policy Group. Retrieved December 28, 2020.
- Alchian, A. A. “Property rights”. In *The World of Economics*, Edited by J. Eatwell, M. Milgate, and P. Newman, 584-590. London: The Macmillan Press Limited, 1991.
- Allen, Douglas W. “Homesteading and Property Rights; or, “How the West was really Won””. *Journal of Law and Economics* 34, no 1 (1991): 1-23.
- Allen, Douglas W. “Establishing Economic Property Rights by giving away an Empire.” *Journal of Law and Economics* 62, no 2, (2019): 251-280.
- Allen, Douglas W. and Bryan Leonard “Late-Homesteading: Native Dispossession Through Strategic Occupation,” March 2021. Personal correspondence.
- Anderson, R. W. (2021). “Politics, Economics, and Native American Conflicts.” *Australian Economic History Review*, 2021, forthcoming.
- Anderson, T. L. and F. S. Mc Chesney. “Raid or Trade? An Economic Model of Indian-White Relations.” *Journal of Law and Economics* 37, no 1, (1994): 39-74.
- Atack, J. and P. Passell. *A New Economic History of American History*. New York: W. W. Norton, 1994.
- Banner, S. *How the Indians Lost their Land: Law and Power on the Frontier*. Cambridge MA: Harvard University Press, 2005.
- Bazzi, S., M. Fiszbein, and M. Gebresilashe. “Frontier Culture: The Roots and Persistence of “Rugged Individualism” in the United States.” *Econometrica*, 88, no 6, (2020): 2329-2368.
- Benson B. L. “Property Rights and the Buffalo Economy of the Great Plains,” in *Self-determination: The other path for Native Americans*. Edited by Anderson, T.L., Benson, B.L. and Flanagan, T. 29-67. Stanford University Press. 2006.
- Benton, L. (2001). *A Search for Sovereignty: Law and Geography in European Empires, 1400—1900*.

- Cambridge: Cambridge University Press, 2001.
- Bleakley, H. and J. Ferrie. "Shocking Behavior: Random Wealth in antebellum Georgia and Human Capital across Generations." *The Quarterly Journal of Economics*, 131, no 3, (2016): 1455-1495.
- Blocher, J. and C. Carberry. "Historical gun laws targeting "dangerous" groups and outsiders." *Duke Law School Public Law Legal Theory Series*, No. 2020-80 (2020):1-13.
- Borrows, J. and M. Coyle. *The Right Relationship: Reimagining the Implementation of Historical Treaties*. Toronto: University of Toronto Press, 2017.
- Borsk, M. "Conveyance between Kin: Settler States, Indigenous Nations, and the Politics of Property in North America after 1763." *Queen's University Department of History Working Paper*, 2020.
- Cain, Louis P., Price V Fishback, and Paul W Rhode, editors. *Oxford Handbook of American Economic History*, Volume 1. Oxford: Oxford University Press, 2018.
- Calloway, C. G. *Pen and Ink Witchcraft: Treaties and Treaty Making in American Indian history*. Oxford: Oxford University Press, 2013.
- Cameron, C., P. Kelton, and A. Swedlund, editors. *Beyond Germs: Native Depopulation in North America*. Amerind Studies in Archaeology. Tucson: University of Arizona Press, 2015.
- Carlos, Ann. M. and Frank. D. Lewis. *Commerce by a Frozen Sea: Native Americans and the European Fur Trade*. Philadelphia: University of Pennsylvania Press, 2010.
- Carlos, Ann. M. and Frank. D. Lewis. "Property Rights, Standards of Living and Economic Growth: Western Canadian Cree." *QED Working Paper No. 1232*, 2010b
- Carlson, L. A. "The Dawes Act and the Decline of Indian Farming." *Journal of Economic History* 38, no 1, (1978): 274-276.
- Carlson, L. A. "Land allotment and the Decline of American Indian Farming." *Explorations in Economic History* 18, no 2, (1981): 128-154
- Carlson, L. A. "Federal policy and Indian land: Economic Interests and the Sale of Indian Allotments, 1900-1934." *Agricultural history* 57, no 1, (1983): 33-45.
- Carter, S. B., S. S. Gartner, M. R. Haines, A. L. Olmstead, R. Sutch, G. Wright, Editors. *Historical Statistics of the United States: Millennial Edition*, Volume 3. Cambridge: Cambridge University Press, 2006.
- Connolly, E. *Indian Trust Funds and the Routes of American Capitalism, 1795-1865*. Ph.D. diss., New York University, 2020
- Connolly, E. "Panic, State Power, and Chickasaw Dispossession" *Journal of the Early Republic* 40, no 4, (2021): 683-689.
- De Zwart, P. and J. L. Van Zanden. *The Origins of Globalization: World Trade in the Making of the Global Economy, 1500-1800*, Cambridge: Cambridge University Press, 2018.
- Deloria, V. and R. J. DeMallie. *Documents of American Indian Diplomacy: Treaties, Agreements, and Conventions, 1775-1979*, Volume 1. Norman: University of Oklahoma Press, 1999.
- Demsetz, Harold. "Towards a Theory of Property Rights." *The American Economic Review* 57, no 2,

- (1967): 347-359.
- Denevan, W. “The Pristine Myth: The Landscape of the Americas in 1492.” *Annals of the Association of American Geographers* 82, no 3, (1992): 369-385.
- Denevan, W. M. “Epilogue”. In *The Native Population of the Americas in 1492*, edited by W. M. Denevan 289-292. Madison: University of Wisconsin Press, 1976.
- Dennison, J. “Entangled sovereignties: The Osage Nation’s Interconnections with Governmental and Corporate Authorities.” *American Ethnologist* 44, no 4, 2017: 684-696.
- Derenoncourt, E. “The Historical Origins of Global Inequality.” In *After Piketty: The Agenda for Economics and Inequality*, edited by H. Boushey, J. B. DeLong, and M. Steinbaum, 491-511. Cambridge: Harvard University Press, 2017.
- Dippel, Christian. “Forced Coexistence and Economic Development: Evidence from Native American Reservations.” *Econometrica* 82, no 6, 2014: 2131-2165.
- Dippel, Christian, and Dustin Frye. “The Effect of Land Allotment on Native American Households during the Assimilation Era.” Working Paper, 2020.
- Dippel, Christian, Dustin Frye, and Brian Leonard. “Property Rights Without Transfer Rights: A Study of Indian Land Allotment.” *NBER working paper* (w27479), 2020.
- Dobyns, H. F. *Their Number Become Thinned: Native American Population Dynamics in Eastern North America*. Knoxville: University of Tennessee Press, 1983.
- Dunbar-Ortiz, R. *An Indigenous Peoples’ History of the United States*, Volume 3. Boston: Beacon Press, 2014.
- Ehrlich, I., A. Cook, and Y. Yin. “What Accounts for the US Ascendancy to Economic Superpower by the Early Twentieth Century? The Morell Act-Human Capital Hypothesis.” *Journal of Human Capital* 12, no 2, (2018): 233-281.
- Feir, D., R. Gillezeau, and M. Jones. “The Slaughter of the North American Bison and Reversal of Fortunes on the Great Plains.” Center for Indian Country Development Working Paper, Federal Reserve Bank of Minneapolis, 2019.
- Flushman, B. S. and J. Barbieri. “Aboriginal title: The Special Case of California.” *Pacific Law Journal*, 17, (1985-1986): 391-460.
- Ford, L. *Settler Sovereignty*. Cambridge: Harvard University Press, 2010.
- Frye, Dustin and Dominic Parker. “Indigenous Self-Governance and Development on American Indian Reservations.” *American Economic Review: Papers and Proceedings*, (2021) forthcoming.
- Gates, Paul Wallace. *History of Public Land Law Development*. Volume 62, Public Land Law Review Commission, 1968
- Greer, A. *Property and Dispossession: Natives, Empires and Land in Early Modern North America*. Cambridge: Cambridge University Press, 2018.
- Gregg, M. T. “Technical Efficiency Estimates of Cherokee Agriculture: A Pre-and Post-Removal Analysis.” *The Journal of Socio-Economics*, 38, no 5, (2009): 826-833.

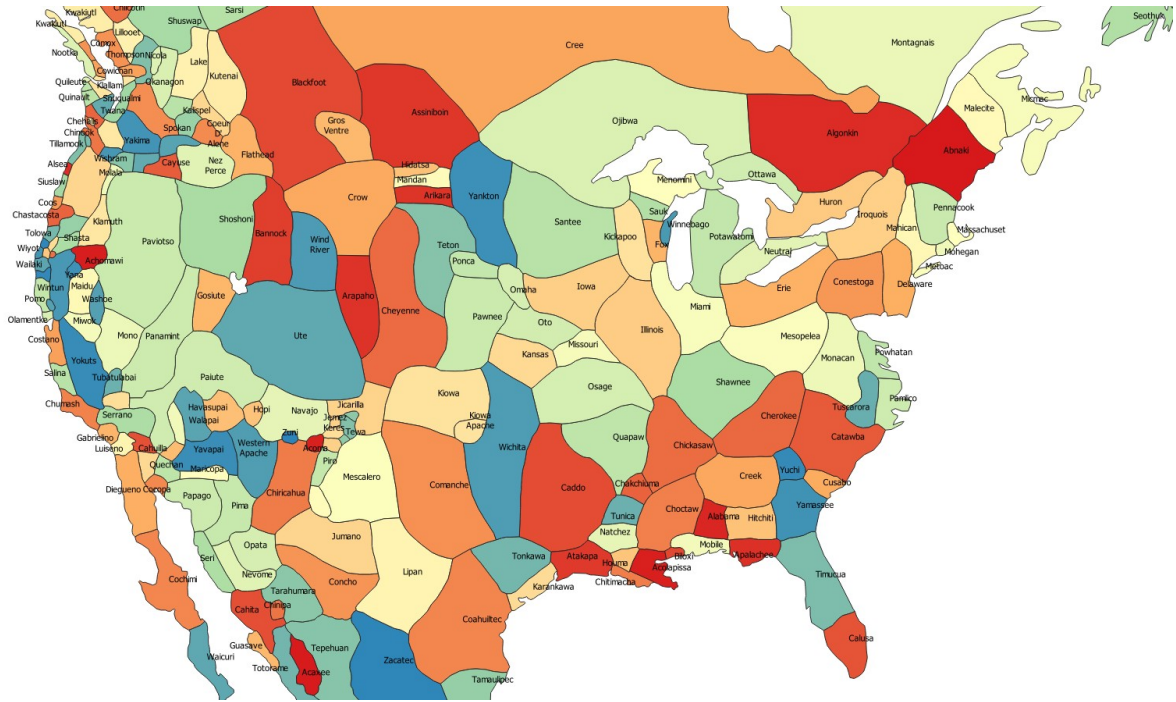
- Gregg, M. T. “The Long-Term Effects of American Indian Boarding Schools.” *Journal of Development Economics* 130, no 1, (2018): 17-32.
- Gregg, M. T. and D. M. Wishart. “The Price of Cherokee removal.” *Explorations in Economic History* 49, no 4, (2012): 423-442.
- Gwynne, S. C. *Empire of the Summer Moon: Quanah Parker and the Rise and Fall of the Comanches, the most powerful Indian tribe in American History*. New York: Simon and Schuster, 2010.
- Hämäläinen, P. *The Comanche Empire*. New Haven: Yale University Press, 2008.
- Hämäläinen, P. *Lakota America: A New History of Indigenous Power*. New Haven: Yale University Press, 2019.
- Harmon, A., C. O’Neill, and P. C. Rosier. “Interwoven Economic Histories: American Indians in a Capitalist America.” *The Journal of American History* 98, no 3, (2011): 698-722.
- Harris, D. C. (2017). “Property and Sovereignty: An Indian Reserve and a Canadian City.” *UBC Law Review*. 50 no 2, (2017): 321-392.
- Hoover, G. A. and E. Washington. “Report: Committee on the Status of Minority Groups in the Economics Profession.” *American Economic Association Papers and Proceedings* 110, no 3, (2020): 737-51.
- Hornbeck, R. “Barbed wire: Property Rights and Agricultural Development.” *The Quarterly Journal of Economics* 125, no 2, (2010): 767-810.
- Isenberg, A. C. *The Destruction of the Bison: An Environmental History, 1750-1920*. Cambridge: Cambridge University Press, 2000.
- Johnsen, D. B. “The Formation and Protection of Property Rights among the Southern Kwakiutl Indians.” *The Journal of Legal Studies* 15, no 1, (1986): 41-67.
- Kanazawa, Mark T. “Possession is Nine Points of the Law: The Political Economy of Early Public Land Disposal.” *Explorations in Economic History* 33, no 2, (1996): 227-249.
- Koch, A., C. Brierley, M. M. Maslin, and S. L. Lewis. “Earth System Impacts of the European Arrival and Great Dying in the Americas after 1492.” *Quaternary Science Reviews* 207, no 1, (2019):13-36.
- Krasner, S. *Sovereignty: Organized Hypocrisy*. New Jersey: Princeton University Press, 1999.
- Lamoreaux, Naomi R. “The Mystery of Property Rights: A US Perspective.” *Journal of Economic History* 71, no 2, (2011): 275-306.
- Larsen, C. S. “In the Wake of Columbus: Native Population Biology in the Post Contact Americas.” *American Journal of Physical Anthropology* 37, no S19, (1994): 109-154.
- Lee, R. “Accounting for Conquest: The Price of the Louisiana Purchase of Indian Country.” *Journal of American History* 103, no 4, (2017): 921-942.
- Lee, R. and T. Ahtone. “Land-Grab Universities. High Country News, March 2020. <https://www.hcn.org/issues/52.4/indigenous-affairs-education-land-grab-universities>
- Leonard, B., D. P. Parker, and T. L. Anderson. “Land Quality, Land Rights, and Indigenous Poverty.”

- Journal of Development Economics* 143, no 1, 2020:102435.
- Lewandoski, J. M. *Small Victories: Indigenous Proprietors Across Empires in North America, 1763-1891*. Ph.D. diss., University of California, Berkeley, 2019.
- Libecap, G. D. and D. Lueck. "The Demarcation of Land and the Role of Coordinating Property Institutions." *Journal of Political Economy* 119, no 3, (2011):426-467.
- Logan, T. and P. Temin. "Inclusive American Economic History: Containing Slaves, Freedmen, Jim Crow Laws, and the Great Migration." *Institute for New Economic Thinking, Working Paper Series*, 2020.
- Lutz, J. S. *Makik: A New History of Aboriginal-White Relations*. Vancouver: University of British Columbia Press, 2009.
- Maloney, W. F. and F. Valencia Caicedo. "The Persistence of (Subnational) Fortune." *The Economic Journal* 126, no 598, (2016):2363-2401.
- Mann, C. C. *1491: New Revelations of the Americas before Columbus*. New York: Vintage Books, 2005.
- Martin, M. M. and T. J. O'Leary. *Ethnographic Bibliography of North America*, New Haven: Human Relations Area Files Press, 1990.
- Mattheis, Ross and Iizchak T. Raz. "There's No Such Thing as Free Land: The Homestead Act and Economic Development." Harvard University, Working Paper, 2019.
- Merrill, H. E. and T. W. Smith. "What Happened to Property in Law and Economics?" *Yale Law Journal* 111, (2001-2002): 357-398.
- Miller, L. K. "The Secret Treaties with California's Indians." *Prologue Magazine: Journal of the National Archives and Records Administration*, (2013): 38-45.
- Miller, Melinda. "Land and Racial Wealth Inequality." *American Economic Review: Papers and Proceedings*, 101, no 3, (2011): 371-76.
- Miller, Melinda, "Dawes Cards and Indian Census Data." *Historical Methods: A Journal of Quantitative and Interdisciplinary History*, 48, no 4, (2015): 214-229.
- Milner, G. R. and G. Chaplin. "Eastern North American Population at ca. A.D. 1500." *American Antiquity*, 75, no 4, (2010): 707-726.
- Neumeyer, E. "Michigan Indians Battle against Removal." *Michigan History* 55, no 4, (1971): 275-288.
- Nichols, D. A. *Peoples of the Inland Sea: Native Americans and Newcomers in the Great Lakes Region, 1600-1870*. Columbus: Ohio University Press, 2018.
- North, D. C. "Institutions." *Journal of Economic Perspectives*, 5, no 1, (1991): 97-112.
- North, D. C., John J. Wallis, Barry R. Weingast. *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History*. Cambridge: Cambridge University Press, 2009.
- Paulin, C. *Atlas of the Historical Geography of the United States*. American Geographical Society of New York, 1932.
- Pearce, M. W. "The Holes in the Grid: Reservation Surveys in Lower Michigan." *Michigan Historical Review*, 30, no 2, (2004): 135-166.

- Prucha, F. P. *American Indian Policy in the Formative Years*. Cambridge Mass: Harvard University Press, 1962.
- Ramenofsky, A. F. *Vectors of Death: The Archaeology of European Contact*. Albuquerque: University of New Mexico Press, 1987.
- Rao, G. "The New Historiography of the Early Federal Government: Institutions, Contexts, and the Imperial State." *William and Mary Quarterly*, 77, no 1, (2020): 97-128.
- Ray, A. J. *Indians in the Fur Trade: Their Roles as Trappers, Hunters, and Middlemen in the Lands Southwest of Hudson Bay, 1660-1870*. Toronto: University of Toronto Press, 1974.
- Redish, A. "Treaty of Paris vs. Treaty of Niagara: Rethinking Canadian Economic History in the 21st Century." *Canadian Journal of Economics/Revue Canadienne d'Economique*, 52, no 4, (2019): 1325-1348.
- Rohrbough, M. J. *The Land Office Business: The Settlement and Administration of American Public Lands, 1789-1837*, 2nd ed. Columbus: University of Iowa, 1990.
- Saunt, C. "Invasion of America." *ArcGIS Online*. Retrieved from usg.maps.arcgis.com/apps/webappviewer/index.html. 2014.
- Silverman, D. J. *Thundersticks*. Cambridge: Harvard University Press, 2016.
- Sokoloff, K., L. and S. L. Engerman. "Institutions, Factor Endowments, and Paths of Development in the New World." *Journal of Economic Perspectives*, 14, no 3, (2000): 217-232.
- Spirling, A. "US treaty making with American Indians: Institutional Change and Relative Power." 1784-1911. *American Journal of Political Science* 56, no 1, (2012): 84-97.
- Steckel, R. H. "Inequality Amidst Nutritional Abundance: Native Americans on the Great Plains." *Journal of Economic History* 70, no 2, (2010): 265-286.
- Steckel, R. H. and J. M. Prince. Tallest in the World: Native Americans of the Great Plains in the Nineteenth Century. *American Economic Review* 91, no 1, (2001): 287-294.
- Steckel, R. H. and J. C. Rose. *The Backbone of History: Health and Nutrition in the Western Hemisphere*, Cambridge: Cambridge University Press, 2002.
- Taxay, D. *Money of the American Indians and Other Primitive Currencies of the Americas*. Nabu Press 1970.
- Thornton, R. *American Indian Holocaust and Survival: A Population History since 1492*, Columbus: University of Oklahoma Press, 1987.
- Trosper, R. "Territory". In *The Principles of Indigenous Economics*. (2020) Personal correspondence
- Ubelaker, D. H. "North American Indian Population Size, AD 1500 to 1985." *American Journal of Physical Anthropology* 77, no 3, (1988): 289-294.
- Umbeck, J. "Might Makes Rights: A Theory of the Formation and Initial Distribution of Property Rights." *Economic Inquiry* 19, no 1, (1981): 38-59.
- U.S. Commission on Civil Rights. "Broken Promises: Continuing Federal Funding Shortfall for Native Americans." Technical report, Washington, DC., 2018.

- Walker, F. A. *Statistical Atlas of the United States Based on the Results of the Ninth Census with Contributions from many Eminent Men of Science and Several Departments of the Government*. New York J. Bien, lith: United States Census Office. 9th Census, 1870. (1874).
- Watson, B. *Buying America from the Indians: Johnson v. McIntosh and the History of Native Land Rights*. Norman: University of Oklahoma Press, 2012.
- White, Richard. *Railroaded: The Transcontinentals and the Making of Modern America*. New York: W. W. Norton & Company, 2011.
- Wishart, D. M. "Evidence of Surplus Production in the Cherokee Nation Prior to Removal." *Journal of Economic History* 55, no 1, (1995):120-138.
- Wright, G. "The Origins of American Industrial Success, 1879-1940." *American Economic Review* 80, no 4, (1996): 651-668.
- Zedeno, M. N., J. A. M. Ballenger, and J. R. Murray. "Landscape Engineering and Organizational Complexity among late Prehistoric Bison Hunters of the Northwestern Plains." *Current Anthropology* 55, no 1, (2014): 23-58.

Figure 1



The spatial distribution of Indigenous nations 1600

Source: Martin and O’Leary (199)

Figure 2

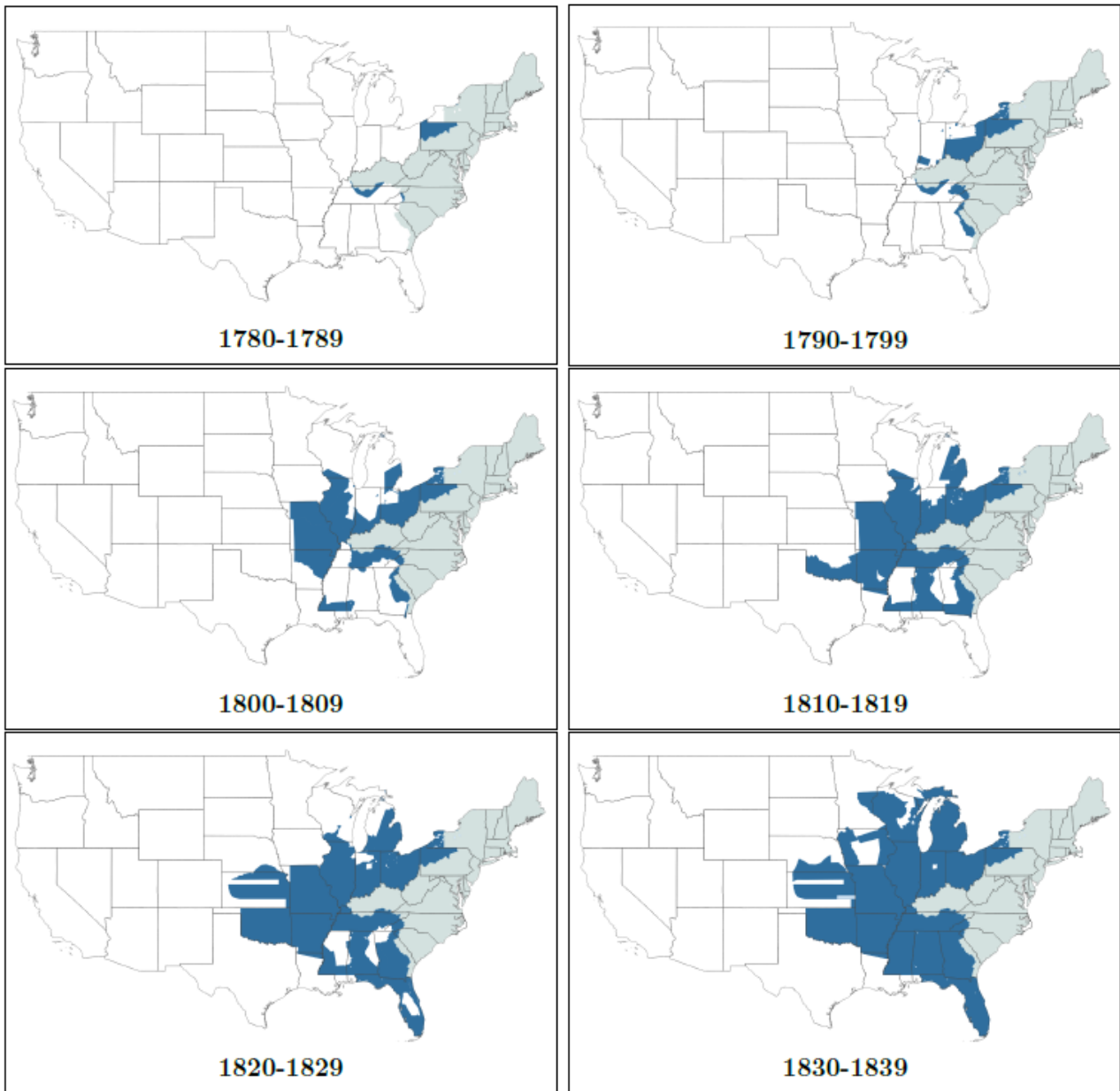


International negotiations of rights

Notes: This map is more accurately understood as US acquisition of monopoly rights to treat with Indigenous nations. See also Figures 9.1 Atack and Passell (1994); Map 8.1 Walton and Rockoff (2013), Figure 5.3 Hughes and Cain (2011).

Source: National Geographic: *Territorial Gains by the U.S. Maps of landed gained by the U.S.* Accessed from <https://www.nationalgeographic.org/photo/territorial-gains/>, February 26, 2021.

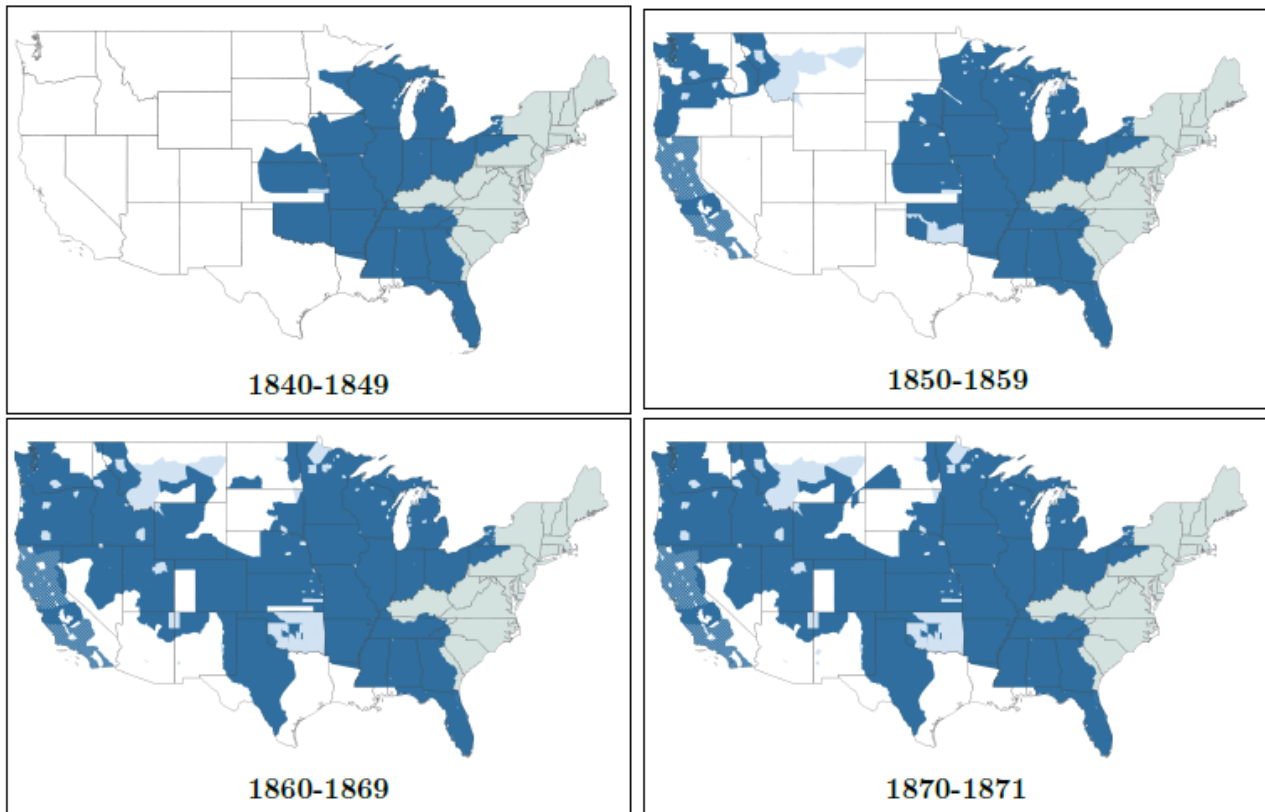
Figure 3



Land Cession Treaties to 1871 (by decade)

(continued)

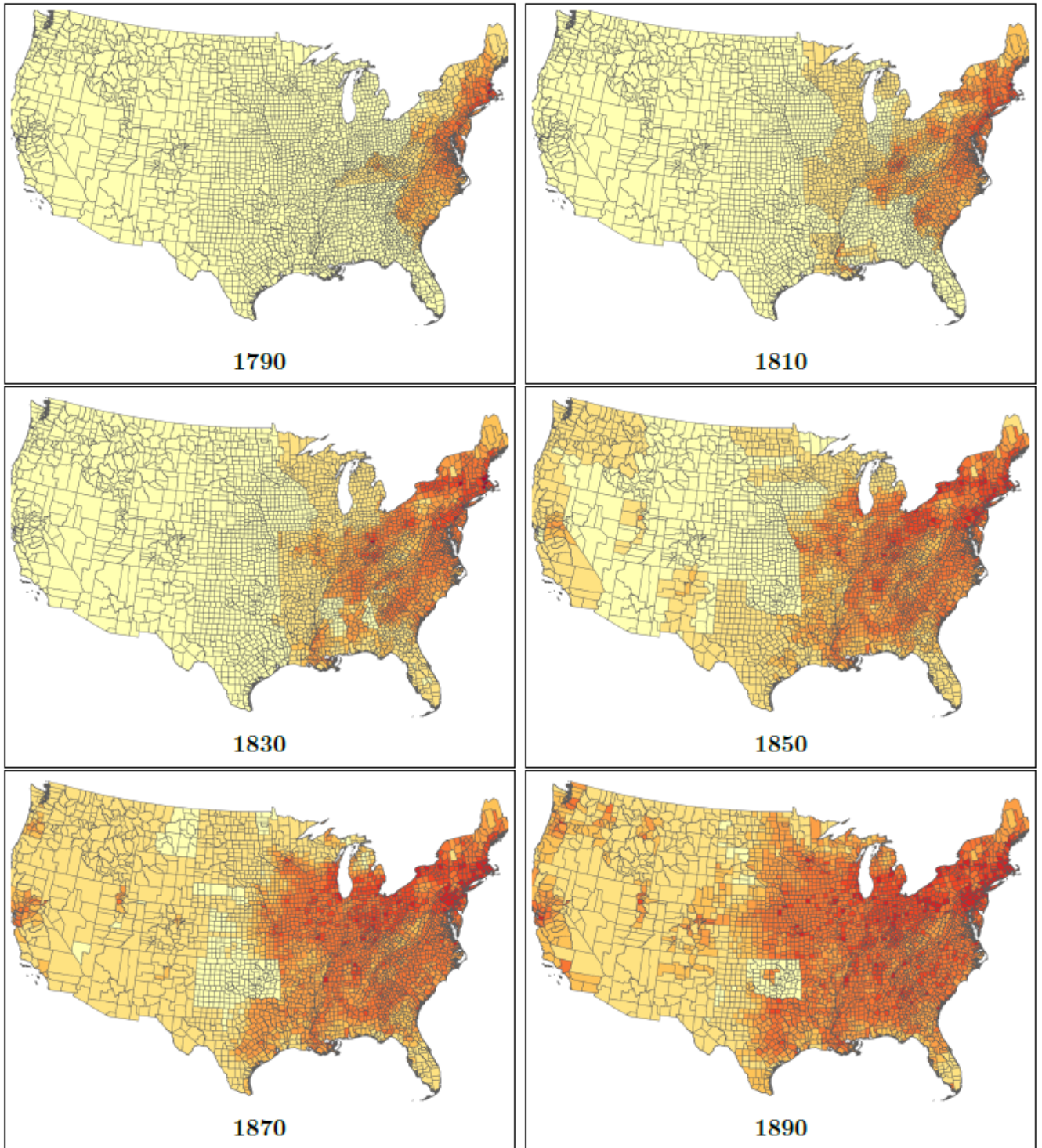
Figure 3 (continued)



Notes: Treaty transfers in dark; reservations depicted in light; hatched regions indicated treaties in California – see text. Use rights could be negotiated as a condition of transfer.

Source: Bureau of American Ethnology in 1899 under the guidance of Charles C. Royce, digitized by Saunt (2014).

Figure 4

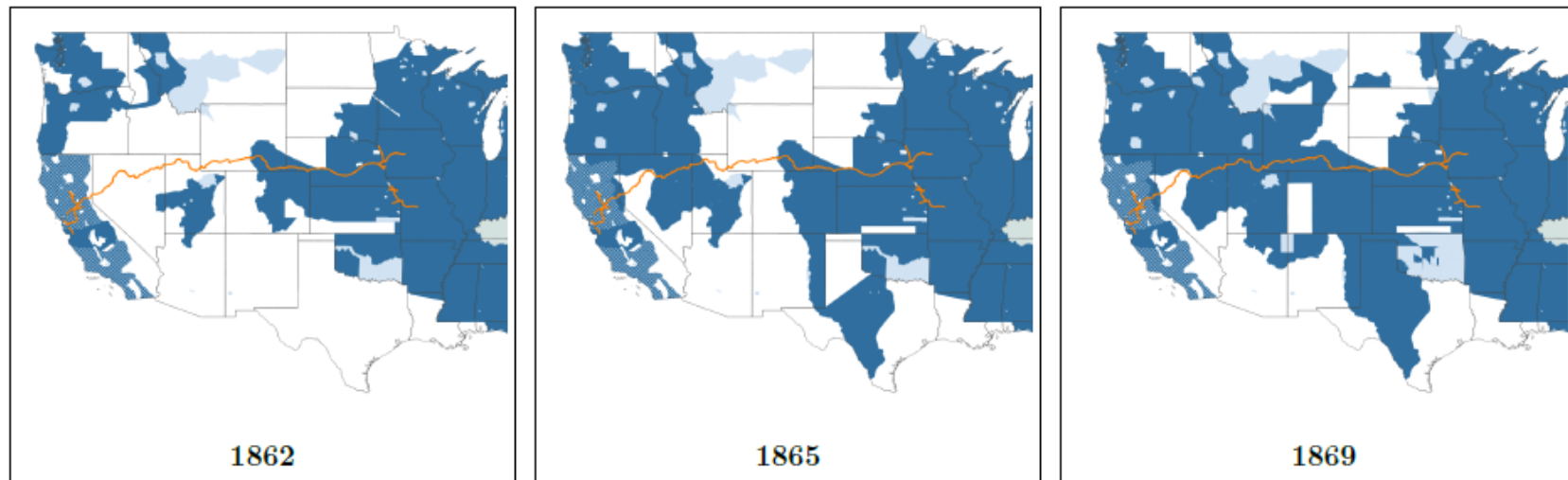


Non-Indigenous US population density (persons per square mile selected decades)

Notes: Lightest to darkest: under 0.01; under 2, 2-5, 6-17, 18-44, 45-90, and 91.

Source: Bazzi et al. (2020)

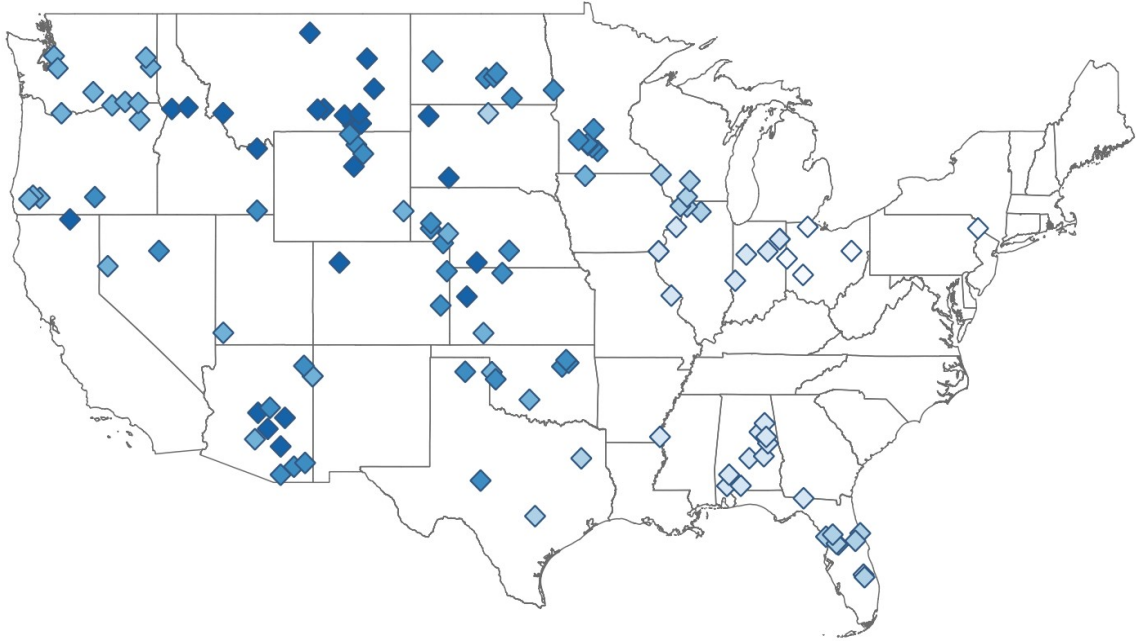
Figure 5



Route of the Completed Union Pacific and Central Pacific Railroad

Source: See Text

Figure 6

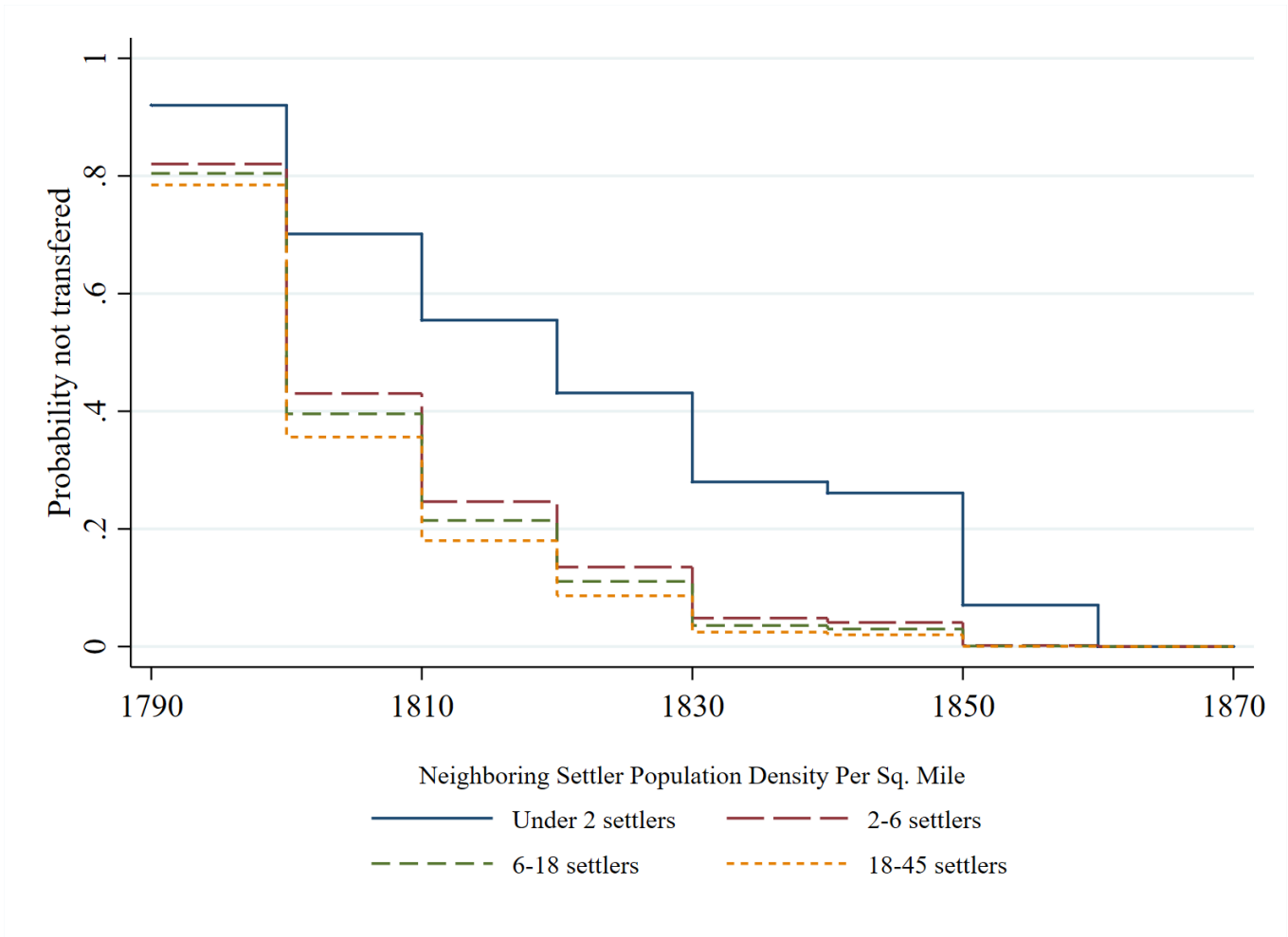


Battles and the Frontier

Notes: Figure shows only battles we could geocode by decade lightest to darkest: 1790-1800, 1801-1820, 1821-1840, 1861-1870, 1871-1890. This underestimates violence and even battles in which US military involved.

Source: Paulin (1932) and Apache Wars and the Rouge River Wars.

Figure 7

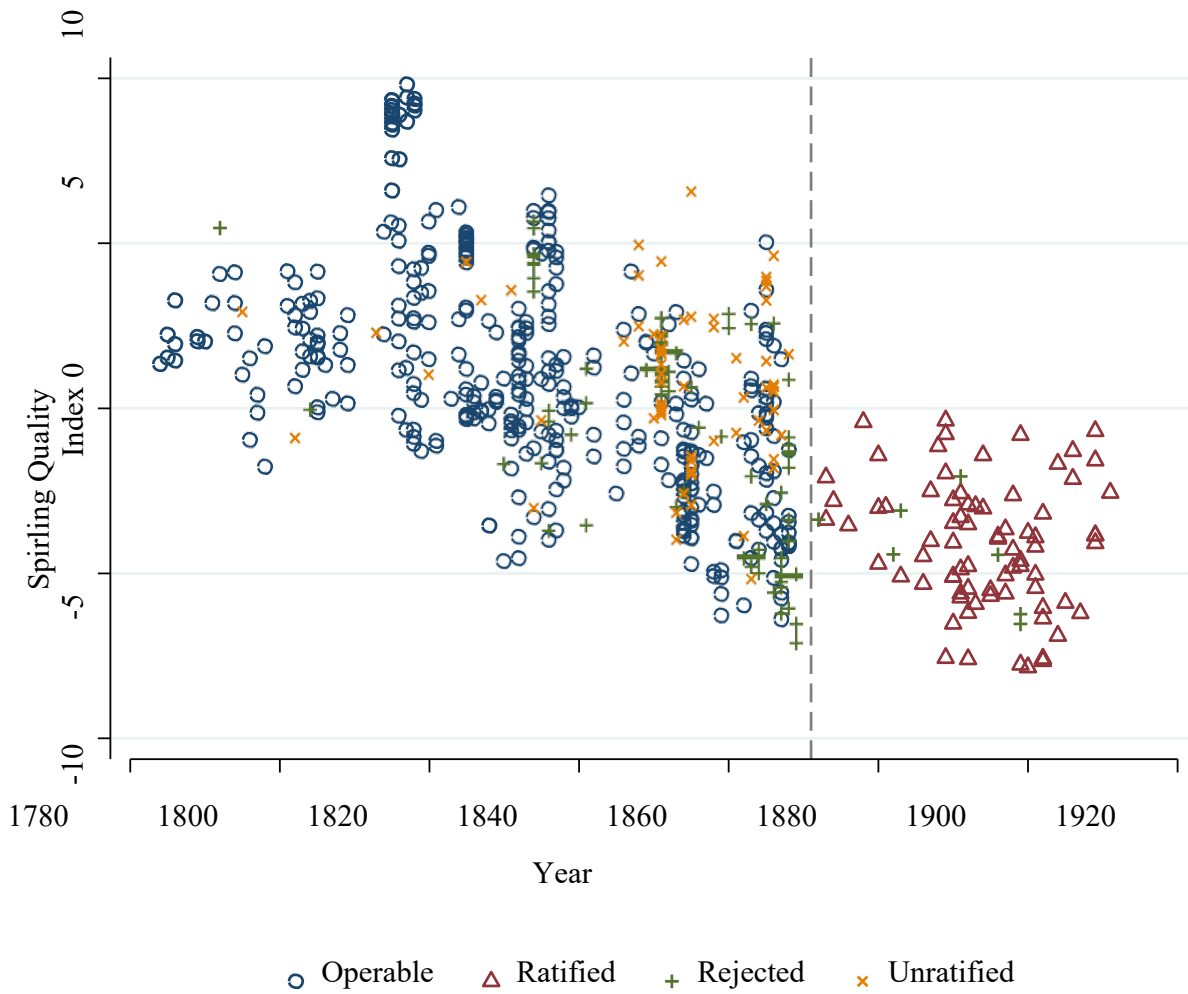


Probability land not ceded

Notes: Census 2010 US county files used as geographic unit.

Source: See text and figure 3

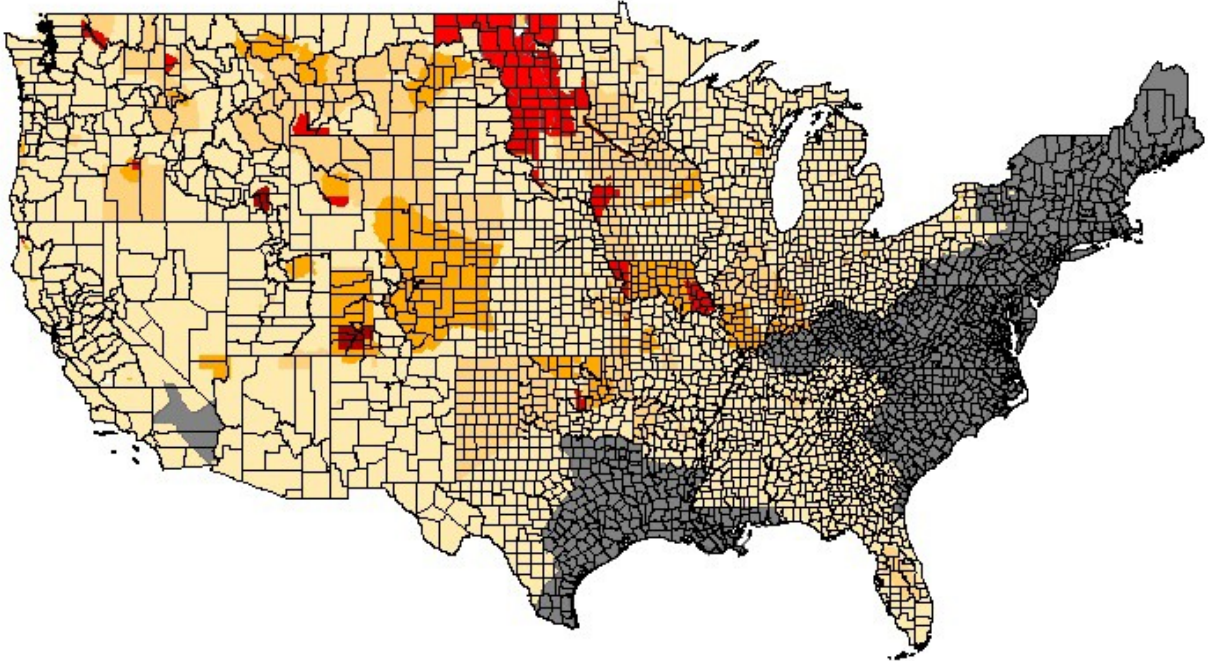
Figure 8



Erosion of treaty terms

Notes: See Text Source: Spiraling (2012)

Figure 9

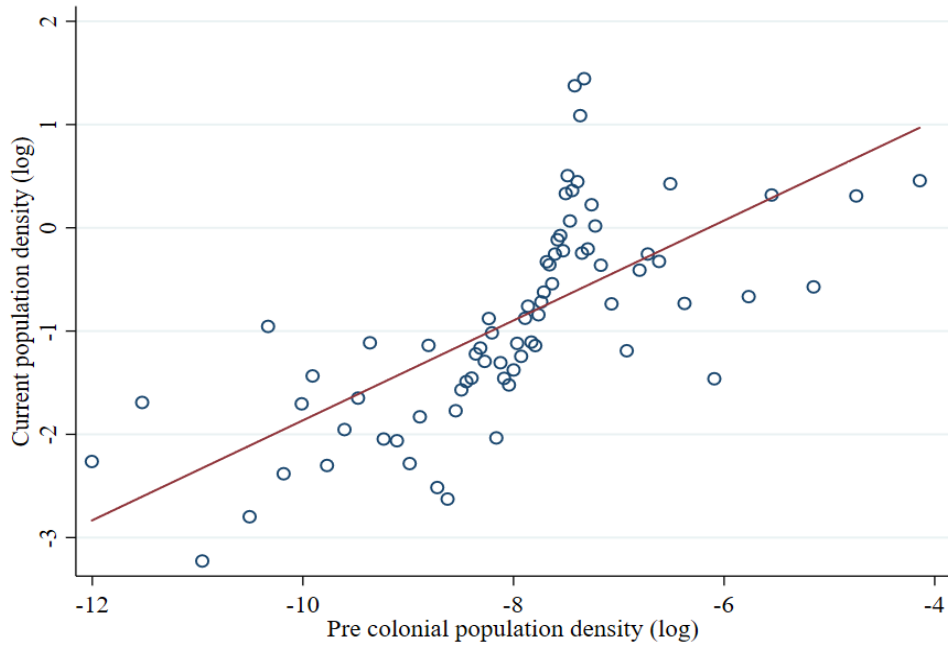


Treaty Re-contacting: 1783 and 1900

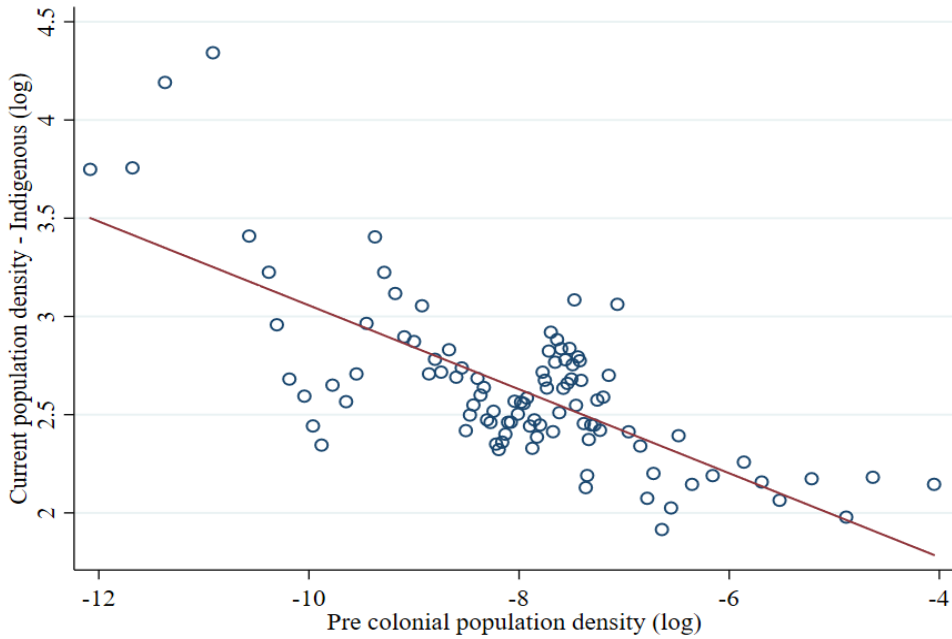
Notes: Number of times a county transacted on through Treaty, Executive Order or Statute. Gray regions not included in Royce, lightest = 1, darkest = 5.

Source: See Figure 3

Figure 10



A: Log of Total Population

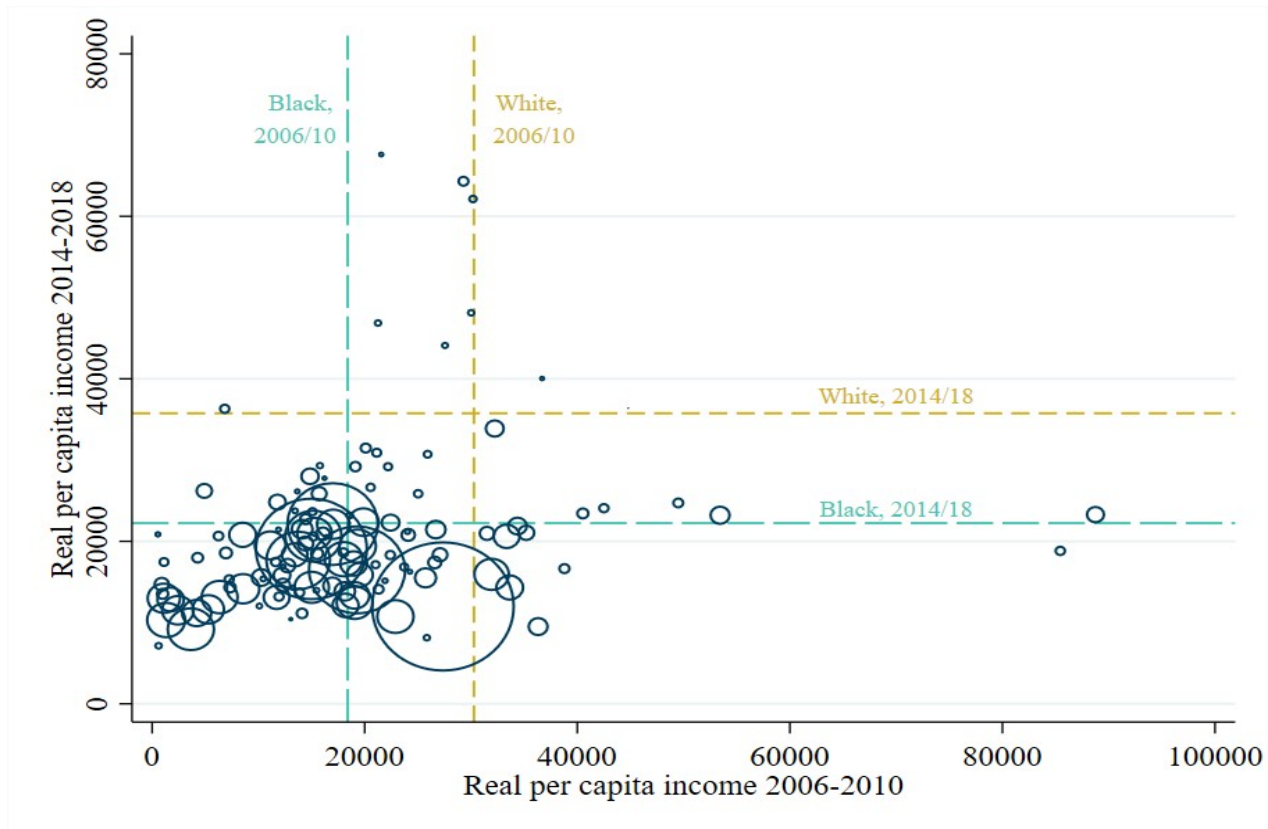


B: Log of total Indigenous Population

Persistence or reversal

Notes: Binned scatter plots of pre-colonial population density on modern income by census tract.
Source: American Community Survey 2014-2018 and HYDE version 3.2 gridded population, 1500.

Figure 11



Indigenous Economic Marginalization

Notes: Circles indicate average reservation population in 2006-2010.

Source: American Community Survey, 2014-2018.

Tables

Table 1: Important US Land Legislation.

Date	Description	Further Details
1785	Land Ordinance	Rules regarding surveying and sale of public land subject to minimum acreage and base price: minimum acreage 640; minimum price \$1/acre.
1787	Northwest Ordinance	Terms under which newly settled land incorporated into political system: Congress appoint territorial Governor; when 5,000 voting-age males elect territorial legislature; 60,000 population to become a state equal to other states.
1801/03/07/08	Targeted Preemption Acts	Preemption acts for prior European settlers – French, Spanish, English.
1804	Land Act	Minimum acreage 160; minimum price/acre \$2; Credit terms of ¼ in 30 days balance in 3 years 6% interest
1807	Squatting	To allow US military force to remove squatters (rarely used).
1812	General Land Office established	General Land Office managed US land issues - surveys, registrations, land sales.
1813	Targeted Preemption Act	All settlers in Illinois.
1814	Targeted Preemption Act	French and Spanish grantees in Louisiana and Missouri.
1824	Targeted Preemption Act	Arkansas granted preemption rights on Cherokee lands in 1817.
1826	Targeted Preemption Act	All settlers in Florida and Mississippi.
1828	Targeted Preemption Act	All actual settlers as of 3/3/1819 in Louisiana.
1830	First General Preemption Act	Two year duration; squatters buy 160 acres at minimum price without competition at land auction.
1830	Indian Removal Act	Authorizing President to negotiate with Indian Nations to exchange land west of the Mississippi River for homelands within existing state borders.
1832	Land Act	Minimum acreage 40 acres; minimum price \$1.25 per acre; case only.
1832/34/38	General Preemption Acts	Two year duration for each act.
1841	Permanent General Preemption Act	Allowed all squatters right to buy legislated specified price and minimum acreage at auction – cash only.
1854	Graduation Act	Land unsold for 10 years could sell for \$1/acre; and if remaining unsold after 30 years at 12.5c/acre.

1862	Homestead Act	Allowed preemption on all unsurveyed public lands (excluding Alaska); minimum price/acre free after five years' habitation and cultivation; minimum acreage 40. Ended 1976.
1862	Morrill Act	Land grants to states based on Congressional representation; fund educational institutions specializing in "agriculture and the mechanical arts."

Notes: Information in this table has been compiled from Allen (1991), Atack and Passell (1994), and Rohrbough (1990).

Table 2: Summary Statistics - Land Transfer and Population Density

	Full Sample Summary Statistics		
# of Counties (2010)	1855		
Average area in sq miles	1002 (1,473)		
Average latitude	38.90 (4.52)		
Average longitude	-94.10 (10.27)		
Decade	Proportion of Counties with First Transfer in Decade, Cumulative	Own Settler pop. dens. at start of decade (people per sq mile)	Highest settler pop. dens. of neighbor at start of decade (people per sq mile)
1790	0.03	0.11	0.24
1800	0.10	0.41	0.71
1810	0.34	0.99	1.77
1820	0.50	2.17	3.60
1830	0.65	3.86	6.21
1840	0.74	6.77	10.33
1850	0.76	10.22	16.03
1860	0.92	15.73	24.98
1870-1871	1.00	21.21	35.45
<i>Notes: Summary statistics underlying Figure 7. Considers counties with a first transfer date 1790 - 1871. Means (standard deviations)</i>			