

INDIGENOUS NATIONS AND THE DEVELOPMENT OF THE US ECONOMY: *Land, Resources, and Dispossession**

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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. We argue 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.

Introduction

A standard account of the growth and development of the United States describes an evolution from struggling European 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, the 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

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

² Cain et al. 2018, pp. 1, 4, 13.

³ 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).

Robinson, 2012; Cain et al. 2018), must be questioned or at least amended.⁴

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 forces have led to high incomes and wealth for many, but have left many in poverty.⁵

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.”⁶ 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 Indigenous nations 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.⁷ 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 broad themes and more specifically in the context of rights to land. Some recent papers never mention Indigenous people or use Indigenous land merely as an instrument or as a robustness check.⁸ Models that claim to understand or predict the evolution of property rights, wealth, or economic development while simultaneously ignoring Indigenous proprietors of the land distort the history.

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) or that “the land was not held by recognized parties” (Libecap, 2018, p. 173), none of these statements are correct.. 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 the connection to de jure laws and de facto norms in the context of Indigenous nations and the Federal Government.⁹

We bring together decade-by-decade data on land cessions, treaties (ratified and unratified), reservation land, and data on population densities to chronicle the pattern of land transfer from Indigenous nations. We use these data to provide evidence that the acquisition of Indigenous land

⁴ We use Indigenous, Native American and Indian interchangeably.

⁵ Figure A1 in the online Appendix demonstrates that Indigenous nations are among the poorest populations in North America and income growth in recent years has been limited.

⁶ *Democracy in America*, vol 2, pt3, ch 21 (1840) p.1140.

⁷ Exceptions include Anderson and McChesney (1994) and Allen and Leonard (2021).

⁸ Examples include Hornbeck 2010; Miller 2011; Bleakley and Ferrie 2016; Mattheis and Raz 2019; Bazzi, Fiszbein and Gebresilas 2020. We do not mean to single out these authors; rather we present these papers as typical of the approach taken in the discipline.

⁹ 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 McChesney (1994).

not only changed the boundaries of the US, but that even low levels of settlement of adjacent areas accelerated the transfer of land. When combined with evidence of worsening treaty terms for Indigenous nations, this suggests that increases in the threat point of the United States progressively eroded the ability of Indigenous nations to maintain sovereign jurisdiction over 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.¹⁰ Papers in this literature focus on 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.

We first present the conceptual framework used to structure our discussion, distinguishing between the concepts of sovereignty and property. 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 diminished the relative bargaining power of Indigenous nations vis-à-vis the federal government - the legal system, squatting, immigration, railways, and violence - a providing descriptive and empirical evidence. Finally, we summarize the implications of this paper for understanding the dispossession of Indigenous nations and US economic growth.

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 discuss the distinction between the two and 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).¹¹ Fee simple ownership, sometimes called ‘complete’ property rights, means that the owner has full and irrevocable ownership of the land and/or buildings.¹² Distinct from fee simple ownership, occupation or possession of land could refer to socially recognized possession such as rental or leasing, or unlawful occupation such as squatting.

Blackstonian rights over land can be allocated to individuals or a collective. The strength of any given property right can be measured by the probability the right is enforced (Alchian, 1991). 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.

¹⁰ 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). Exceptions include Wishart (1995), Gregg (2009), and Gregg and Wishart (2012) on the Cherokee economy and their removal.

¹¹ This characterization is common amongst economists but more debated amongst legal scholars. See Merrill and Smith (2002).

¹² 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).

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.¹³ The laws specified and enforced by sovereigns relate to property and criminal and civil laws. As such, transfers of sovereignty convey not merely land but also the authority to specify rights and enforce the “rules of the game.” 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. When two members of different sovereignties transfer land rights, it might have a marginal impact on the effective sovereignty of both. However, 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. 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 that can have implications for another collective’s effective sovereignty (Dennison, 2017). Additionally, changes in territorial size may lead to increasing demands for more land, while, conversely, a decrease in territory puts 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 but also changed the balance of power for nations beyond those that signed the documents.

Good institutions

Property rights, institutions and growth are intertwined. Sokoloff and Engerman (2000) argued that differences in the long-term development of the United States relative to the West Indies reflected the impact of differences in the initial distribution of land ownership (family farm vs plantation) on political structures. Similarly, Acemoglu, Johnson, and Robinson (2005, p. 395) define good economic institutions as those “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 of 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. We follow Banner (2005) in noting that there was no sharp distinction between voluntary and involuntary transactions in US-Indigenous treaty-making, but rather transactions lay on a spectrum that extended from mutually beneficial and free exchange to outright theft. Thus “good institutions” would be those negotiated

¹³ The concepts of sovereignty and of jurisdiction have been matters of long debate amongst legal historians. See, for example, Benton (2001, p. 279) Dennison (2017), and Ford (2010).

and enforced to maintain a level playing field and provide a foundation for future investment. The terms of a contract reflect the relative bargaining power of the parties and for parties whose outside options diminish, the terms of the contract typically worsen. In a world of “good institutions”, however, once a contract is signed, further changes in a party’s position would not lead to forced renegotiation.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). What the map makes clear is just how many different Indigenous nations comprised the “Indian” population, and that while population density was unevenly distributed throughout the continent reflecting the distribution of natural resources, the entire continent was claimed as the sovereign territory of at least one nation.

Twentieth century estimates of the population at the time of contact for North America north of urban Mexico to the Arctic range from 1.2 to 18 million.¹⁶ These estimates are based largely on 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, reduced the upper end of the range to 6.1 million (Milner and Chaplin 2010, p. 708).

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. Computed from the earliest skeletal remains, Indigenous societies were progressively less healthy prior to contact: as in Europe, greater urbanization and settled agriculture had negative health consequences.

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.¹⁷ 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

¹⁴ These same 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.

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

¹⁷ See Denevan (1992), Koch et al. (2019), and Mann (2005).

(Hohokam) in what is 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 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 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 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 fishing rights, beaver ponds, weapons, or jewelry were personal, family, 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 often appointed or elected through tribe-specific mechanisms rather than inherited. Although the power structure appeared diffuse to Europeans, it was well defined within nations. After contact, 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 – specifically when that transfer may have implications for sovereign jurisdiction

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), was waning in European legal and popular thinking. Nonetheless, colonists came to the Americas with promises of land from colonial companies.¹⁸ 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

¹⁸ We focus only on English colonies.

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 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 became 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 the crown moved to a position allowing only nation-to-nation transactions of purchase – as in the Royal Proclamation of 1763.¹⁹

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 Crown ceded its rights to lands west of the Allegheny Mountains (some of which colonies claimed under their charter rights) - plus land held in what is known today as Canada - while maintaining their rights over the Louisiana territory. Settlers in the thirteen colonies had anticipated opening this land for colonial settlement (indeed some colonists believed that their charter gave them rights to the land) but the Royal Proclamation declared it Indigenous territory.²⁰ Although the Proclamation changed only which European power had the right to treat with Indigenous nations, 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.²¹ 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 Royal Proclamation of 1763 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: “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.”²² Neither the Proclamation nor the Non-Intercourse Act stopped individual settlers from trying to buy land from Indigenous people but that land would not have legal title and could not be registered or used as collateral (Priest 2021).

The new Republic, thus, recognized Indigenous nations as sovereign. While consistent with English legal tradition, it was also expedient. For a Federal Government with little by way of fiscal resources, lacking a standing army, and fearing invasion from Canada, bargaining power lay with Indigenous nations. The Federal government saw Indigenous nations both as potential allies and

¹⁹ Conflicts over land would continue, as colonists claimed title to land through indigenous wives and children (Borsk, 2020).

²⁰ This was not an Indian Reservation as stated in Atack and Passell (1994, p.251) rather recognized Indigenous sovereign territory.

²¹ The end of French sovereignty in the region did not mean the end of the threat from competing European powers.

²² “An act to regulate trade and intercourse with the Indian tribes” Act of July 22, 1790, Pub.L. No. c. 33 Stat.137,138. The act also provided that any US citizen who committed a crime per US law in Indian territory would be punished under US law not Indian law.

as potential foes who could align with other European powers. Furthermore, the new nation saw land as a solution to its daunting fiscal woes. Land was an asset and land sales a possible source of revenue, while conflict over land was a potential 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 their land.²³ 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).

Yet, 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. 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.

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 often 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 an exclusive right to treat with the sovereign Indigenous nations whose land lay within these boundaries. The expansion of the Republic is captured rather by treaties conducted with individual Indian nations; treaties with Indigenous nations were required to bring land into the public domain.²⁴ Transfers of Indigenous sovereign territory, shown in Figure 3, delineate land transfers by decade and thus more closely represents the actual territorial expansion of the United States.²⁵

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,

²³ 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).

²⁴ See Lee (2017) for detailed analysis of the costs of acquiring the Louisiana lands from Indigenous owners.

²⁵ Land transfers compiled by the Bureau of American Ethnology in 1899 under the guidance of Charles C. Royce, digitized by Claudio Saunt (2014). 1850s land transfers in California never ratified by Congress are discussed in Section 5. Nuances such as these are often lost in depictions of these data.

describing how the Marshall court changed the legal landscape, and how squatters and railroads impacted rights on the ground. Variability 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 area between land sold at public auction or held by States or Territories and the land of Indigenous nations. At any point in time, the public domain comprised land that had been surveyed and due for sale and land not yet surveyed and thus not yet available for sale. The expectation that this land would eventually move into private hands led some to squat illegally, putting pressure on both the Federal government and Indigenous nations.

Borders are core to the definition of sovereignty. Land treaties with an Indigenous nation moved the physical border between the United States and that nation. Once transferred, the land had to be surveyed and sections registered by surveyors at the land office, only then was it brought to public auction.²⁶ The reality of defining borders was complex, as an excerpt from a treaty with the Creek from 1790 illustrates:

Beginning where the old line strikes the river Savannah; then up the said river to a place on the most northern branch ..., 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 cede all claim N. and E. of the foregoing boundaries.²⁷

Demarcation of boundary lines was vital in reducing potential disputes, but it 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.²⁸ The reality was a survey-to-auction process that could take years.

Guarding the interest of the nation meant guarding the integrity of these treaty boundaries. For example, Commissioner Josiah Meigs (May 24 1817), wrote to Lewis Cass, Governor of the Michigan Territory, noting Indigenous concerns that the reservation rights were not being respected especially those that "hold scites (sic) of ancient villages." Cass required that the area be surveyed with references to these villages and not merely with reference to the artificial lines of the general survey"²⁹ and "if possible done in a manner satisfactory to the Indians themselves" hiring an interpreter to satisfy Indian concerns.³⁰

²⁶ 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.

²⁷ 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.

²⁸ See as example Edward Tiffin to Josiah Meigs, October 4, 1817, pages 706-708 The Territorial Papers of the United States, v.10.

²⁹ Territorial Papers, v.10, p.699.

³⁰ Pearce (2004, pp. 138,144, 148) and Nichols (2018) show the survey to be off grid. Surveyors were reminded not

Although Cass emphasized the integrity of Indigenous territory in Michigan, by 1838, Indigenous Michigan communities were being encouraged to move further west. Most refused stating: “We do not wish to go West: we object to it entirely: this is all we have to say.”³¹ In the end only 651 people moved west from an Indigenous population of 7,600 – 8,300. By 1850, there were 6,000 Indigenous living on reservation land - the L’Arbre Croche and Grand River reservations - or on land purchased in public land sales with funds saved from annuity payments for land ceded.³²

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

Supreme Court – The Marshall Trilogy

In the 1790 Non-intercourse Act, the Federal Government declared Indigenous territory to be the sovereign jurisdiction of tribal nations, but this position shifted gradually until, in 1871, Congress declared it would no longer treat with Indigenous nations. Subsequent land acquisitions would be accomplished solely by Executive action and Statute. Banner (2005) argues that between 1790 and 1830 two determinant factors transformed a view of Indigenous property rights from sovereign freehold ownership until ceded, to rights only of occupancy, and then to rights of occupancy that could be unilaterally terminated by the US federal government.³³ One was the growing (physical) distance between decision makers and local populations at the frontier. The second was the pressure that squatters on un-surveyed territory put on Congress. These forces had, however, to be supported by the law.

Three landmark Supreme Court decisions (the ‘Marshall trilogy’ decisions in 1823, 1831 and 1832) are widely viewed as key for the changed federal position on Indian land title and sovereignty. Banner, however, argues that an earlier decision, *Fletcher v Peck*, 10 US 87 (1810), in which the Court recognized Georgia’s right to sell a future right to land that had not been ceded began the alteration of the legal landscape.³⁴ In his decision, Chief Justice Marshall argued that the existence of Indian title did not preclude the legislature from granting the land subject to that title (undefined in the decision) - essentially laying out Georgia’s Right to Preemption. Dissenting Justice Johnson argued that Georgia had only the right to grant a fee-simple title *when* the proprietors should agree to sell. Despite the brevity of the *Fletcher* decision, it was cited in subsequent cases (Watson 2012, p.273).

In *Johnson v M’Intosh* (21 US 543 (1823)) 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 claimed purchase from the federal government in 1818. The Chief Justice found in favor of M’Intosh consequentially crafting “a new judicial philosophy for Indigenous subordination,”

to trespass on Indigenous territory in any of their work.

³¹ Quoted 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 obtain legal title. .

³² Territorial Papers, vol 10 p. 275,278,281, 283. Annuity payments brought monies into the region.

³³ This is a large and complex issue. Our discussion largely follows Banner (2005).

³⁴ Peck’s lawyer, arguing for Georgia’s right to sell Indian land, described ‘Indian title’ as “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 ...” (c.94) His argument completely ignored the reality that the Cherokee were (slave-owning) farmers.

(Ford, 2010 p. 136). Marshall argued 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 whosoever they pleased, was denied by the original fundamental principle, that *discovery gave exclusive title to those who made it*” [i.e. Europeans].³⁵

Less than ten years later, using the premise that federal acquisition and sale of Indian lands was too slow, Georgia passed legislation to acquire Cherokee territory. In response, the Cherokee took the case to the Supreme Court.³⁶ In *Cherokee Nation v Georgia*, (30 US 1 (1831)), the Cherokee nation asked the Supreme Court to nullify Georgia’s action 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”. Following on previous rulings, Chief Justice John Marshall wrote that the Cherokee nation was neither a “state” nor a “Foreign nation” but rather a “domestic dependent nation” and that while the Court could determine who owned a piece of land, it would not control the broader legislative power of a State. The next year, in *Worcester v Georgia* (31 US 515 (1832)), the Court argued that while 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, such sovereignty did not constrain the State of Georgia in its removal of the Cherokee Nation (Banner, 2005, p. 222). An action supported by President Andrew Jackson. In 1830, Congress passed the Indian Removal Act (4 Stat. 411) permitting the exchange of lands west of the Mississippi for Indigenous lands within state borders (see Table 1). Significantly, for the first time, the legislation appropriated funds to support such ‘removal’.

Cherokee lands were valuable.³⁷ They were cultivated and productive and, in the early 1830s, a gold discovery on part of the Nation’s territory further increased their 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 voluntarily agreed to move. Although the Nation argued that the treaty was invalid, and it was not under Cherokee and US law, the Federal Government stated that it could not protect the Cherokee and allowed the Army to march Indigenous members of the Five Tribes still living in Georgia to Oklahoma in the now infamous ‘trail of tears’ (Calloway 2013, pp.121,151; Gregg and Wishart 2012) .

The Marshall cases changed US legal recognition of Indigenous title to the land from that of a sovereign nation to domestic dependent nation, changing relative bargaining power between Indigenous communities and the Federal Government.

Land Policies and Squatting

Settler pressure for land showed up in part through Court cases and pressure on Congress, and more directly on the frontier through conflict between Indigenous nations, squatters, and government agencies on the ground.

The slow pace of land sales combined with the price of land contributed to the scale of squatting. Surveying and registering ceded land took time and an initial auction price per acre (\$1) and the large minimum plot size (680 acres) meant land was generally unaffordable for settler families. Despite changes in price and quantity minimums, land remained unobtainable for many.

³⁵ U.S. Reports: *Johnson v. McIntosh*, 21 U.S. (8 Wheat.) 543 (1823); p.574. Italics added.

³⁶ Ablavsky (2016) discusses Indigenous use of US federal courts and legal structures to assert their rights and sovereignty in the early Republic.

³⁷ Wishart (1995) using data from the 1835 Cherokee census demonstrates that the Cherokee produced surpluses in excess of subsistence requirements.

In 1820, for example, the price was \$1.25 for a minimum 80 acres but cash-only terms. In 1820, the agricultural wage in Massachusetts was \$1.00 a day. As the white settler population grew, from natural increase and immigration, from under 3 million in 1780 to 38 million by 1870, growing particularly rapidly in the 1840s and 1850s, the demand for land put more pressure on the boundary between Indigenous land and already ceded land, whether surveyed or un-surveyed.³⁸ Non-Indigenous population density, shown for selected census years in Figure 4 [figure omitted; see working paper], maps the expanding white settler population.³⁹ 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.

Squatting was illegal. In 1807, Congress passed legislation allowing the use of military force to remove squatters to protect federal and Indian lands. Though rarely used it indicated a desire to enforce the border, but as population numbers grew, squatters gained political power and successfully lobbied for preemption rights which encouraged further squatting (Allen 1991; Kanazawa 1996; Gailmard and Jenkins 2017). Congress initially responded with acts pertaining to particular groups or locations. Then, in 1830, the first of a set of two-year general preemption acts (1832, 1834, 1838) was passed and finally in 1841, a permanent preemption act (see Table 1). These acts legalized squatting and permitted an individual squatter first right to buy 160 acres at the minimum price when the land came to auction.⁴⁰ The Homestead Act of 1862 is, perhaps, the culmination of the acceptance of squatting.⁴¹ 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 in order to put pressure on those communities that had not yet ceded their territory, thereby affecting the power structure between Indigenous and Non-Indigenous peoples.

Railways

Pressure on Indigenous communities and their land was further exacerbated by railway development. We focus here on perhaps the most iconic railroad, the Union Pacific.⁴² Non-Indigenous population growth in the Midwest and along the Pacific coast drove a demand to connect the two coasts, separated by Indigenous territory, resulting in the passage of the Pacific Railroad Act in 1862 (12 Stat. 489). The Act supported the financing of the construction of the railroad by granting the company land in alternate sections along the route. Thus the railroad didn't just cross through Indigenous territory but brought settlers to those territories, bringing the US into direct conflict with major nations of the Great Plains.

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, traversed Indigenous land (White 2012, p.25).⁴³ Congress recognized this. 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). Figure 5 shows

³⁸ See Carter et al. (2006), the Historical Statistics of the United States, Millennial Edition, Table Aa7.

³⁹ All analyses of county data use 2010 county borders. See the online appendix for a discussion of the impact of using 2010 county borders for historical analysis.

⁴⁰ In contrast to preemption rights, the Right of Preemption deals with the rights of the government, federal or state.

⁴¹ Title was not transferred until the conditions of the Act were met and registered at the Land Office.

⁴² We use the term to include the Central Pacific section from the west coast to Promontory Point Utah.

⁴³ Other legislation passed in 1862 included the Morrill Act which granted public lands to universities (Lee and Ahtone (2020) and Ehrlich et al. (2018)) and legislation (25 USC 72) which permitted the President to abrogate treaties with Indian tribes in hostility with the United States.

the footprint of the railroad from the passing of the Act to the completion of the railroad which was lined by the land grants. Even with the rapid pace of land cessions, part of the route in Nevada crossed land not yet ceded when the line was completed in 1869.⁴⁴

By the 1860s, the bargaining power of Indigenous nations had declined and, perhaps because of this, Congress began to question the treaty process. The House of Representatives opposed the Treaty process arguing that it enabled the Indian office to work with the Senate removing House jurisdiction over what should be Public Lands. At the same time, the House was routinely asked to approve appropriations for 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. In 1871, 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)). This ended formal treaty making by the Federal Government with Indigenous nations. Subsequently, land became part of the public domain through unilateral executive orders of the President or by statute (Spirling 2012). Indigenous nations could now essentially acquiesce, try to work within the US political system, or fight.

Violence, the Evolution of Power, and Treaty Terms

Violence and war, implicit or actual, were a threat point in all treaty negotiations and occurred throughout the century.⁴⁵ We define war (distinct from violence) as the use of soldiers maintained and paid from federal revenues. Violence and its threat occurred at a more local level. Skirmishes between individuals on both sides of the frontier reflected either attempts at redistribution or a willful disregard of property rights and could lead to war, for example, the Seminole wars (1835-42) or the Rogue River Wars (1855-56).⁴⁶ There was also state sponsored 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 particulars of time and place.

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, the rights and protections afforded to Indigenous nations and pressure on resources led to increasing skirmishes, battles, and long-running war in the northern Great Plains and along the southwest border with Mexico especially after 1865. In part because, in the aftermath of the Civil War, 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 were flashpoints. In Figure 6, [figure omitted, see working paper] we map Paulin’s (1932) subset of major US-Indigenous battles by decade from the Revolution to 1890 (that is, all those we were able to geocode - 101 of his 160

⁴⁴ The route through California traversed land ceded in Treaties negotiated but not ratified by Congress. The land area taken by the railroad includes both the track bed and the land grant.

⁴⁵ 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.

⁴⁶ We focus here only on Indigenous/US battles, not war with other European nations or between Indigenous nations.

battles), 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 understates the true level of violence.⁴⁷ Thus violence, as pointed out by Anderson and Mc Chesney (1994), was a critical part of the evolution of the distribution of property rights and political jurisdiction in the United States.

The Evolution of Power and Treaty Terms

We have argued that jurisprudence, the pressure of squatting, and demand for and from railroads, individually and collectively altered relative bargaining power. To provide empirical evidence of declining bargaining power on the part of Indigenous nations, we bring together data on land transfers, settler population density, and treaty terms.

First, we document that land was more likely to be transferred from an Indigenous nation to the United States when neighbor settler population density increased, even conditional on local settler population density. To do this we combine measures of settler population density (by 2010 county) at the start of each decade with land transfer data – taking the first year any of the land in a county was ceded – to estimate the effect that settler population density had on the likelihood that land would be transferred between an Indigenous nation and the U.S government. Using the data from 1790-1871, we estimate a cox-proportional hazard model of the probability of a land transfer between an Indigenous nation and the federal government as a function of neighbor county settler population density, conditional on own county population density.

The estimating equation is: $A(y) = A(y_0)e^{x\beta}$,

where $A(y_0)$ is the baseline hazard (probability) of a transfer, $A(y)$ the hazard of transfer, and x a vector of: own-county settler population density at the start of the decade (binned at the levels of under 2 settlers per square mile, 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 area of the county.⁴⁸ The results are quite stark. Figure 7 (summary statistics in Table 2 [omitted, see working paper]) shows that even low settler density in a neighboring county increased the probability that land would be transferred in a given decade. US population growth and a concomitant demand for land increased pressure on Indigenous territory.

Settler population pressures could have increased Indigenous bargaining power in a situation of strong property rights or limited sovereignty spillovers by increasing the value of their land. However, analysis by Spirling (2012) suggests that this was not the case. He conducted a principal components analysis of the text in negotiated contract and created an index using the extent of conciliatory versus harsh language. Spirling's analysis encompassed all Treaties, Executive Actions and Statutes from 1784 to 1911 that transferred Indigenous land into U.S jurisdiction – including those rejected or unratified by Congress.⁴⁹ His delineation of each agreement is depicted in Figure 8.⁵⁰ The index shows a decline over the nineteenth century suggesting a worsening of terms for Indigenous communities. Spirling's analysis and our results -that there was an increasing

⁴⁷ Using US Military records from 1830 to 1897, Anderson (2021) analyzes over 1,800 incidences of violent conflict between the US military and Indian nations.

⁴⁸ See on-line Appendix for further discussion.

⁴⁹ A detailed discussion of these different forms of transfers can be found in Spirling (2012).

⁵⁰ Words such as friendship or peace (conciliatory) relative to relinquish or reservation (harsh). Treaty data from 1784 to 1911 based on 595 documents reported by Deloria and DeMallie (1999) - see Spirling (2012 p. 87). Even after the end of presidential treaty power in 1871, the language in land transfer contracts follow a similar trend (triangles).

likelihood of transfer with increased neighboring settler population density - are consistent with Indigenous nations experiencing decreasing bargaining power and ability to assert their claim to rights and valuable resources.

Spirling's data includes rejected treaties. Once a treaty was signed by Indigenous nations and US officials, the contract was not necessarily upheld. One example is the 18 Treaties signed in 1851 (in the aftermath of the Treaty of Guadalupe Hidalgo) with more than 100 California nations who ceded approximately 66.5 m acres retaining approximately 8.5 m acres in exchange for retained rights and resources (Flushman and Barbieri (1985), Deloria and DeMallie (1999), Miller (2013). California held the balance of power in the Senate. As a result, these treaties were not ratified, indeed they were hidden away, and California nations lost their land without compensation. 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.”⁵¹

The rejection of treaties that Indigenous nations had thought binding and the re-contracting of already signed treaties were not atypical. A growing body of historiography indicates that much (but not all) of this re-contracting was driven by the breaking of treaty terms or agreements by the US, generally to reduce the size of Indigenous territory (Banner, 2005; Hämäläinen, 2019) as in the reduction of the Great Sioux reservation in the Dakotas after the discovery of mineral resources. In Figure 9 we depict the number of times a treaty was re-contracted in a specific 2010 county as measured by the number of “land transfer actions” from the Royce data depicted in Figure 3 - the lightest color represents counties with one transaction, while the darkest represents counties transacted on 5 times (whether by treaty, statute or executive action).

We have taken treaties as a foundation for our analysis but do so acknowledging that treaties lay on a spectrum from freely negotiated to signed under duress, and that treaty terms may have been understood differently by the parties. Regardless, by the late 19th century, the ability of most Indigenous nations to enforce treaty terms had diminished significantly. The complexity of the expansion of jurisdiction of the U.S, its economic consequences and its connection to the treaty process warrant a significant body of literature within economics, and we hope our preliminary analysis here stimulates future research.

US Economic Development: Good Institutions and Indigenous Nations

The standard narrative of nineteenth century US economic development revolves around access to 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

⁵¹ Cited by Flushman and Barbieri (1985, p. 405); original, Cong. Globe 32nd Congress 1st sess 2173 (1852).

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 became even easier over the course of the nineteenth century,” while 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. The political reactions to the scale of immigration, in the 1850s 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, were reactions against the distribution and not against the institutions themselves.

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’. Land for white settlers and open immigration were mirrored in diminishing land resources and opportunities for Indigenous nations. One might equally characterize the US as an extractive regime built on the expropriation of Indigenous and African resources for the unchecked interests of powerful groups (Derenoncourt 2017).

Acemoglu, Johnson and Robinson (2002) argue that global evidence of a ‘reversal of fortunes’ further supports their argument for good institutions with initially-poor regions becoming rich - a poor continental United States as a classic example of the benefits of English settler colonies bringing good institutions to an empty land. Their empirical analysis, however, is at the highly aggregate national level. Using data disaggregated at the state or provincial level, Maloney and Caicedo (2016) examine the extent of reversal of fortune across the Americas. They find that states or provinces heavily populated prior to colonization remain the most densely populated today. We replicate Maloney and Caicedo’s analysis focusing only on the United States at the census tract level comparing population densities in 1500 to current densities. We use estimated Indigenous population density estimates for 1500 plotted against current US population density and find that densely populated localities in 1500 are still densely populated today as shown in Figure 10 panel (a).⁵² When we plot the density estimates for 1500 against current *Indigenous* population density estimates in these localities we find a local reversal of fortune for Indigenous nations, shown in panel (b).⁵³ Wealthy regions remain wealthy - only now with a settler population. As American institutions locked in locational advantages for the settler population, Indigenous nations were moved to less favorable locations with limited access to land and resources.

Conclusion

The United States was not empty when Europeans arrived and Indigenous people did not simply die or disappear. Indigenous nations held sovereignty over the land and their possession was reflected in improvements ranging from urban agglomerations to settled farms. Nations initially sold lands to individual settlers and then engaged in transfers with other sovereign nations, states, and colonies. For the first decades of the Republic, the balance of power lay with Indigenous nations. We argue that over the nineteenth century, underlying forces such as immigration policy, squatting, jurisprudence, railroads and military power eroded the power of Indigenous nations and provide quantitative evidence to support the descriptive analysis. Accurately depicting US economic development requires a multi-sided understanding of the

⁵² Using HYDE gridded population and 2014-2018 American Community Survey (ACS) (both in logs)

⁵³ For robustness checks see the on-line Appendix.

source of ‘resource abundance’ and the role of ‘good institutions’.

This paper raises questions for teaching and researching American 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, some of which were raised directly above. 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 to white tenants on Indian land? 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. The census, did not include any Indians until 1860, and even after then then did not include those living on reserved lands and Indigenous territory. Indians living on reservations were only included from 1900. None were deemed US citizens until 1924. Even the use of maps for visualizing data, as we do here, is problematic:⁵⁴ while they do effectively convey the broad picture of the expansion of the US public domain and shrinkage of Indigenous territory, they imply a certainty to boundaries many of which remain disputed. However, an absence of easily obtainable and imperfect data has been a challenge economic historians have faced, and faced down, successfully before, so this should not be an excuse for the omission of Indigenous nations from the story of U.S economic development.

American economic history must incorporate the process 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 inaccurate and incomplete and 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 histories 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.

For references, see “[Indigenous nations and the development of the US economy: Land, resources, and dispossession](#)” Ann Carlos, Donna Feir and Angela Redish QUCEH Working Paper Series No. 2021-04

⁵⁴ Banner, for example, declined to illustrate his legal history of land dispossession with maps stating that they could not accurately capture the complexity of the history. And indeed, these data are inaccurate in specific detail such as for California.

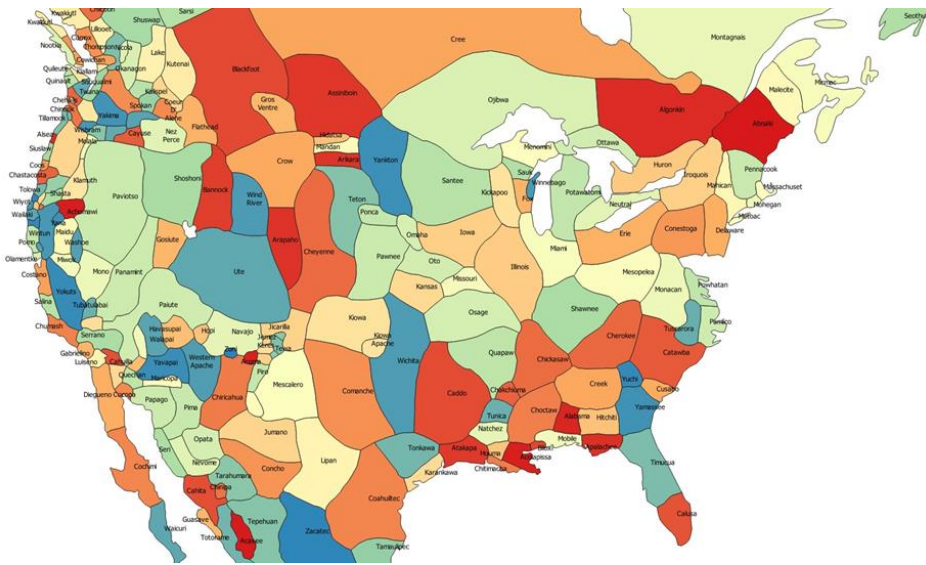
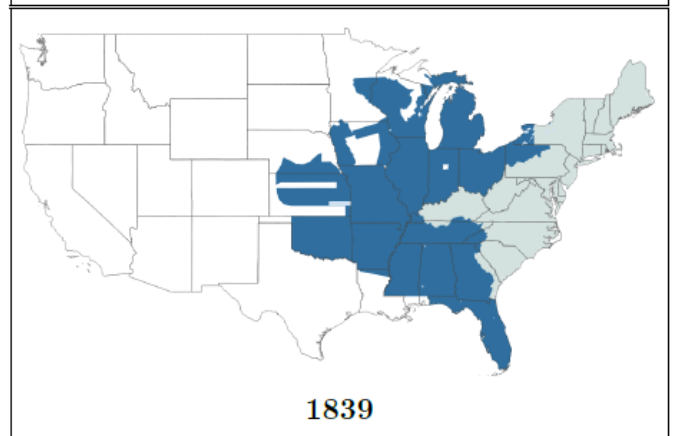
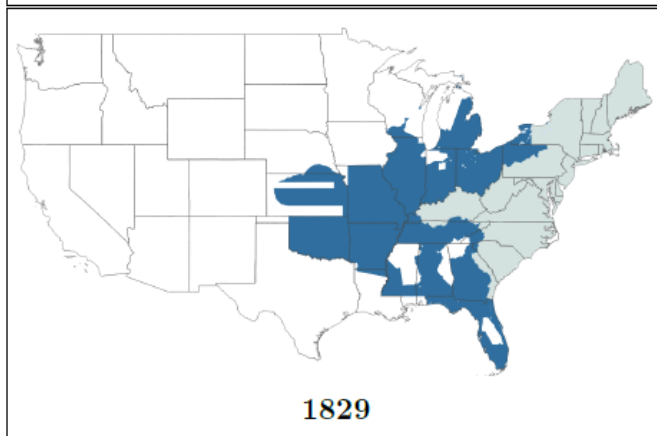
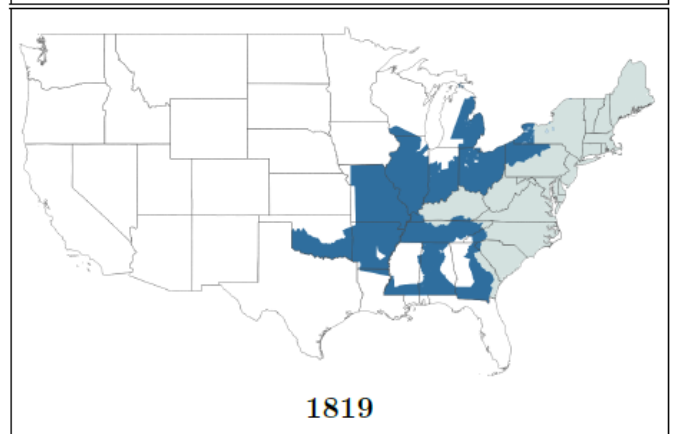
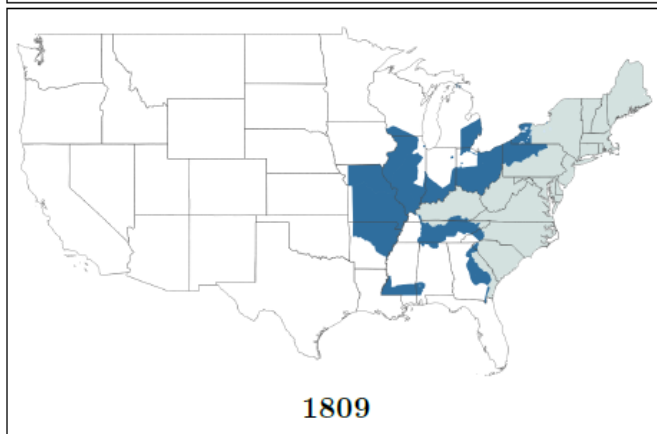
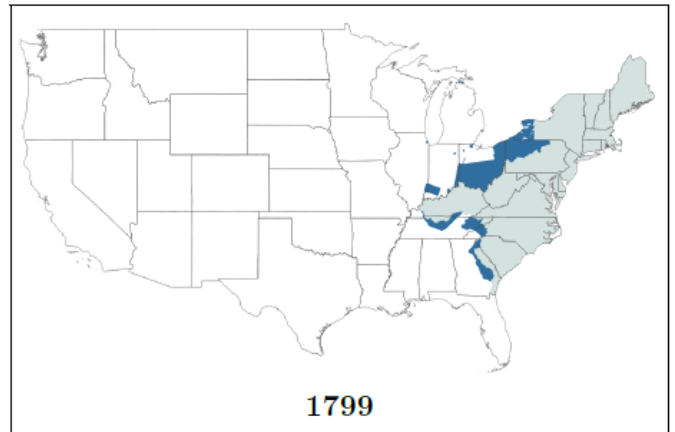
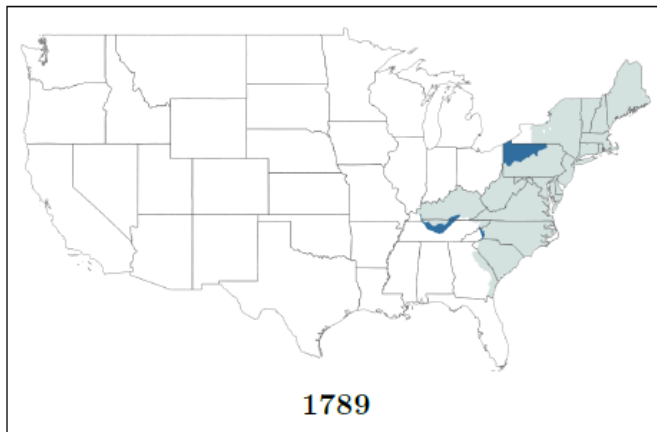


Figure 1: The Spatial Distribution of Indigenous nations 1600
Source: Martin and O'Leary (1990)



Figure 2: International negotiations of rights

Notes: This map should be understood as US acquisition of monopoly rights to treat with Indigenous nations. See for example 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.



Land Cession Treaties to 1871 (by decade)

Figure 3 (continued)

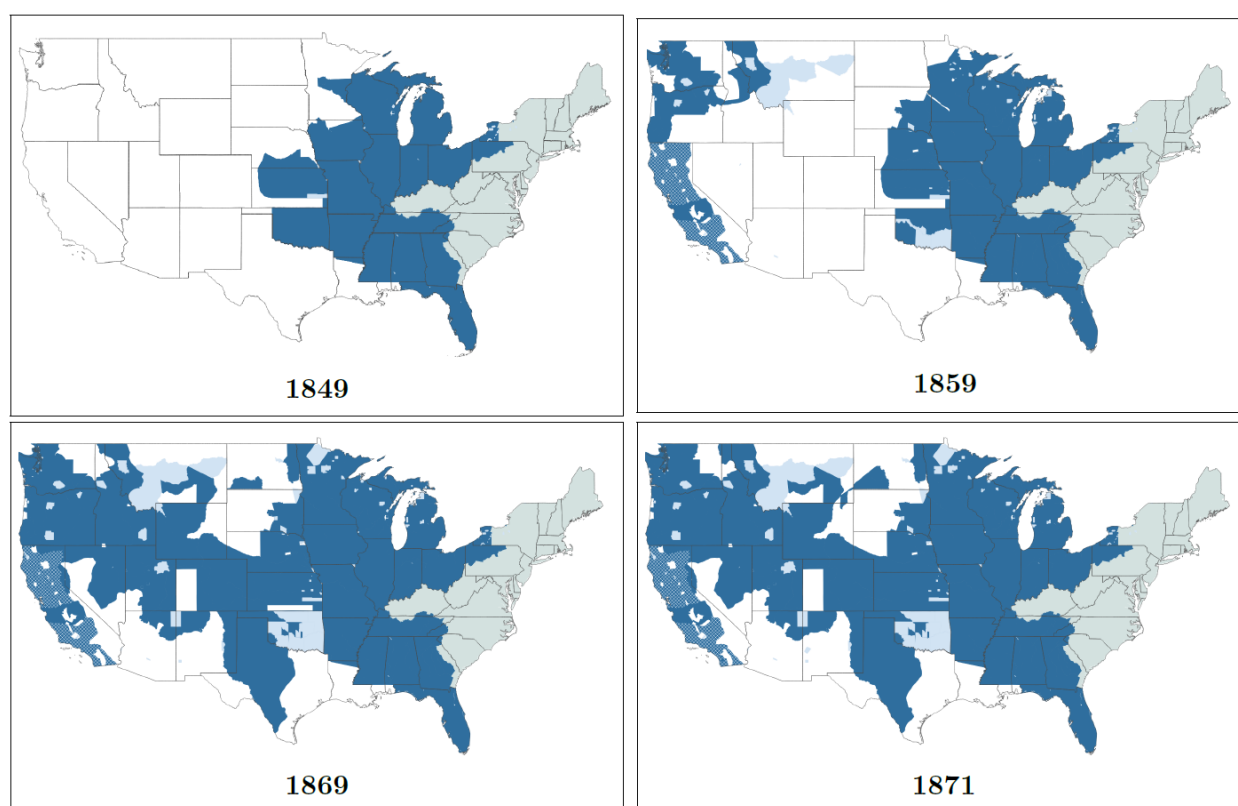


Figure 3: Land Cession Treaties to 1871 (by decade)

Notes: Treaty transfers in dark; reservations depicted in light blue; areas transferred before American independence in gray; the 18 hidden treaties in in California depicted in a different shade of blue – 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).

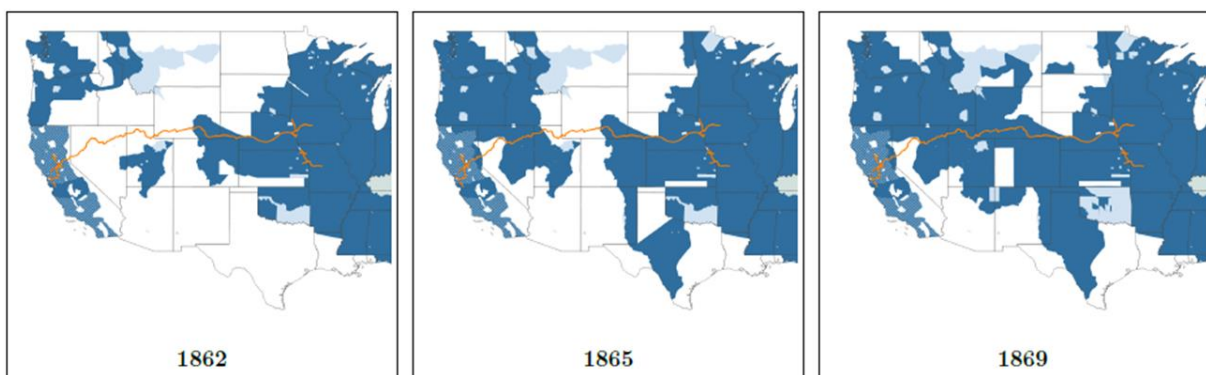


Figure 5: Route of the Completed Union Pacific and Central Pacific Railroad
Source: see text

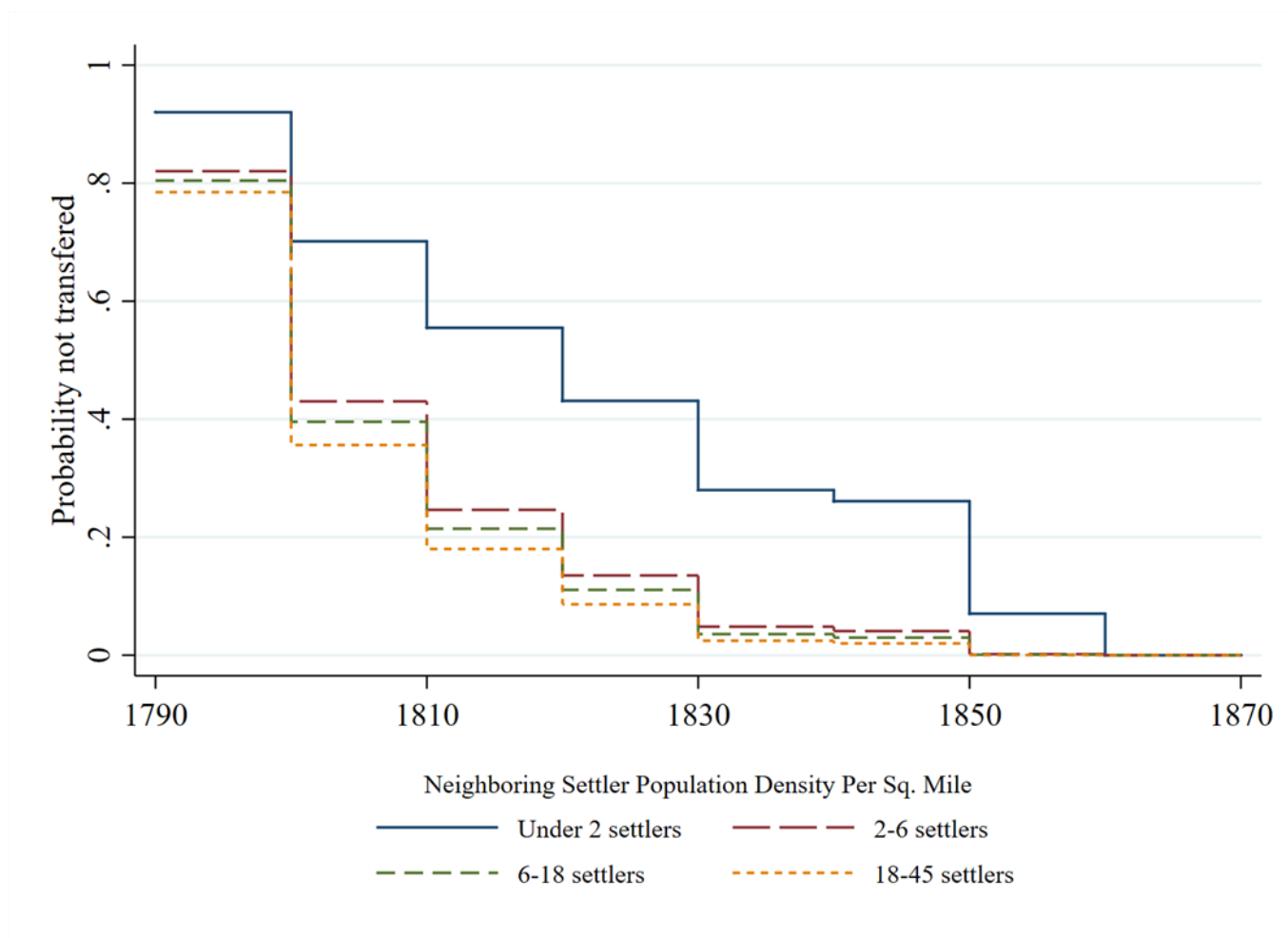


Figure 7: Probability Land Not Ceded
Note: Census 2010 US county files used as geographic unit.

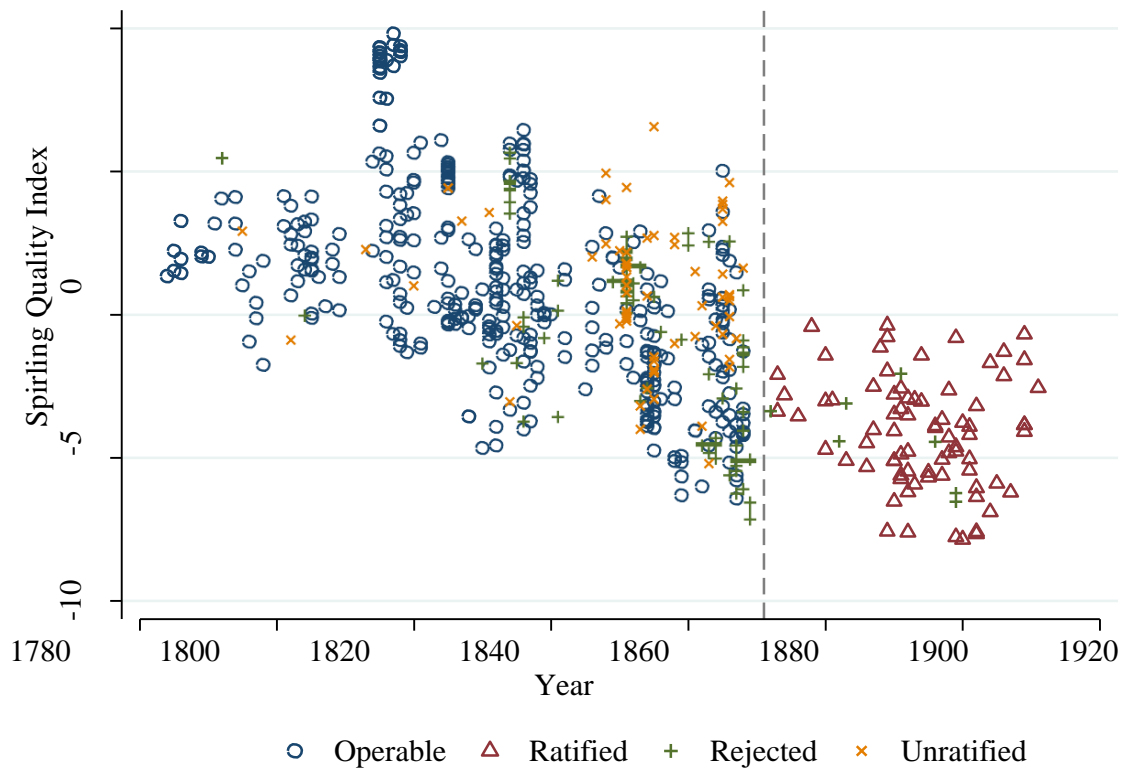


Figure 8: Erosion of Agreement Terms
Source: Spiraling (2012)

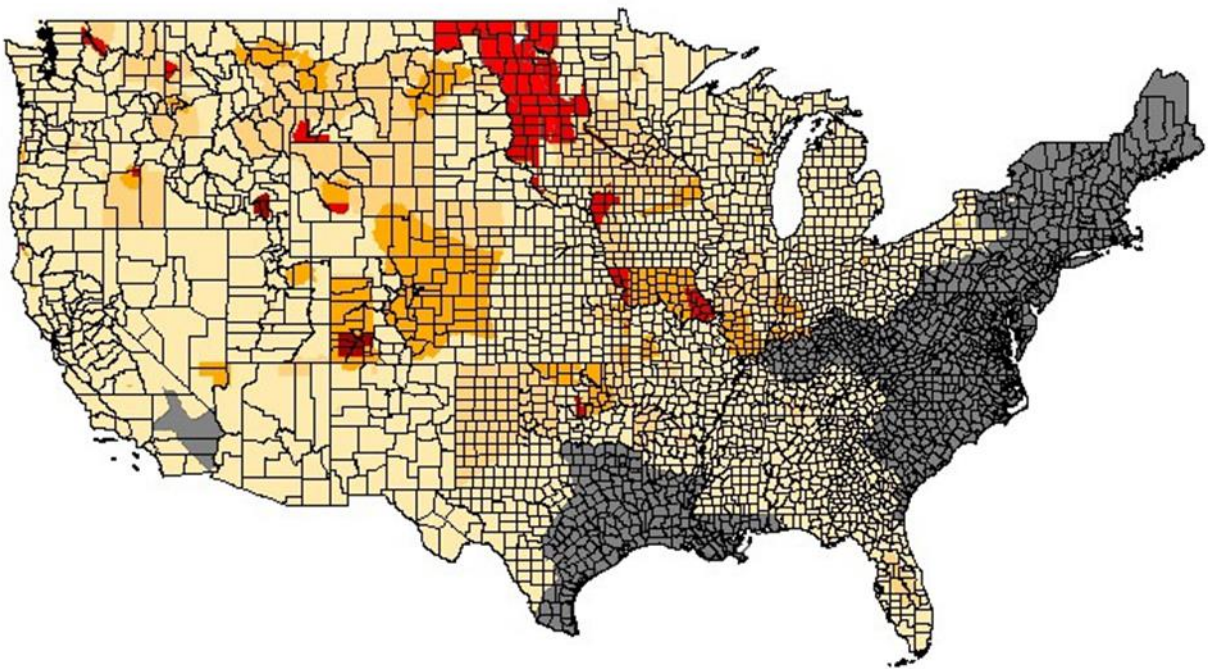
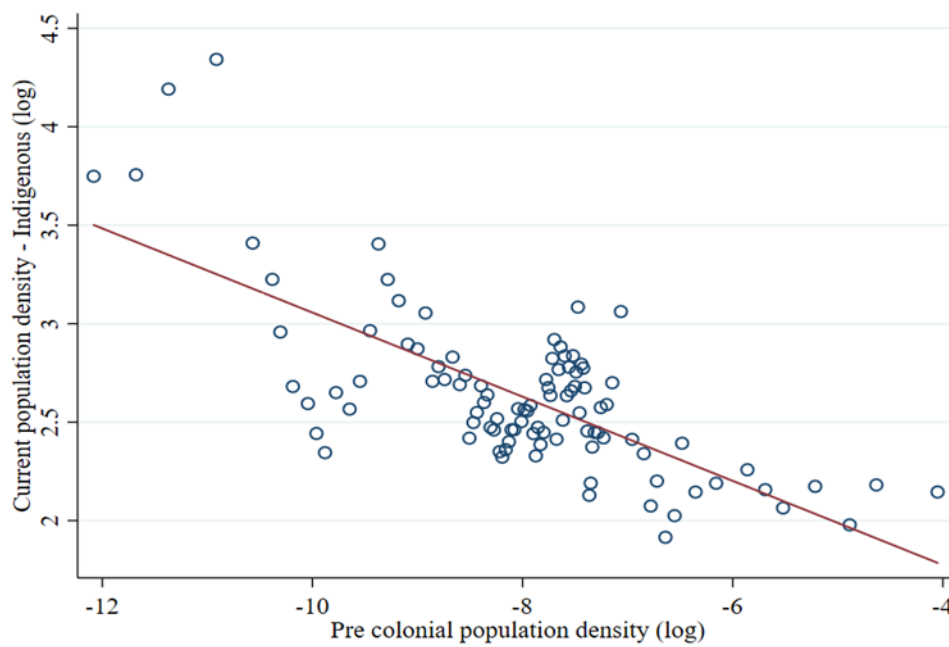
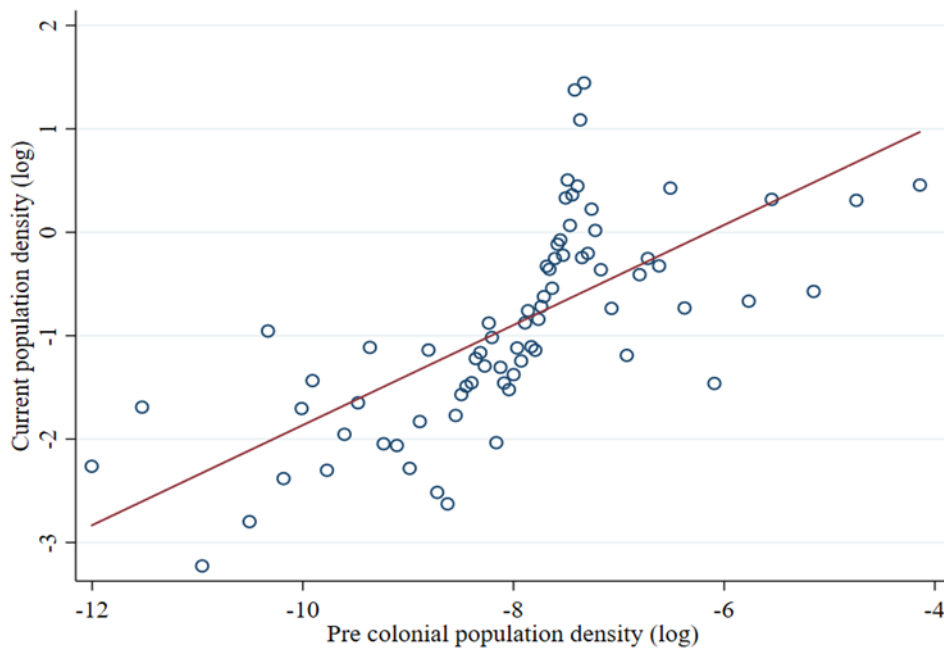


Figure 9: Treaty Re-Contracting 1783 to 1900

Notes: Number of times a county transacted on through Treaty, Executive Order, or Statute. Gray regions not included in Royce, lightest = 1, darkest = 5. Data for the Dakota's were added to Royce's data.



A. Log of Total Population



B. Log of Total Indigenous Population

Figure 10: Persistence or Reversal

Note: 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, 1500.

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 appoints 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. |
| 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; cash 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 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).