

# Late Homesteading: Native Land Dispossession through Strategic Occupation

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**U**.S. homesteading has been linked to establishing federal sovereignty over western lands threatened by the Confederacy, foreign powers, and the Indian Wars in the last half of the nineteenth century. However, the bulk of homesteading actually took place in the early twentieth century, long after these threats to federal ownership ceased. We argue that this “late homesteading” was also an effort to enforce federal rights, but in response to a different threat—a legal one. Questionable federal land policies in the late nineteenth century dispossessed massive amounts of Indigenous lands, and exposed the federal government to legal, rather than violent, conflict. Late homesteading was used to make the dispossession permanent, even in cases where a legal defeat eventually occurred. Examining the qualitative evidence, and using data on the universe of individual homesteads and federal land cessions across the 16 western states, we find evidence consistent with this hypothesis.

*[w]here non-Indian settlers flooded into the opened portion of a reservation and the area has long since lost its Indian character, we have acknowledged that de facto, if not de jure, diminishment may have occurred.*

[*Solom v. Bartlett* 465 U.S., at 471 (1984)]

## INTRODUCTION

Homesteading in the United States was created through the 1862 Homestead Act and ended in 1934.<sup>1</sup> The Homestead Act is arguably the most significant land disposal legislation in U.S. history, resulting in 270 million acres of land transferring from the public domain to private parties.<sup>2</sup> Historians tend to divide the homesteading era in two: the first phase, 1862–c.1890; and the second, c.1890–1934 (e.g., Edwards, Friefeld, and Wingo 2017, 12). Economists and political scientists have mostly focused on the first 30 years of homesteading.<sup>3</sup> This difference no doubt arises from an

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<sup>1</sup> Officially, homesteading lasted until the Federal Land Policy and Management Act in 1976, but very few claims were filed after the passage of the Taylor Grazing Act and Indian Reorganization Act in 1934.

<sup>2</sup> See <https://www.nps.gov/home/learn/historyculture/bynumbers.htm>.

<sup>3</sup> Southey (1978), Stroup (1988), and Anderson and Hill (1983; 1990) were concerned with dissipations caused by homesteading’s inducement to race, and made no distinction regarding when the

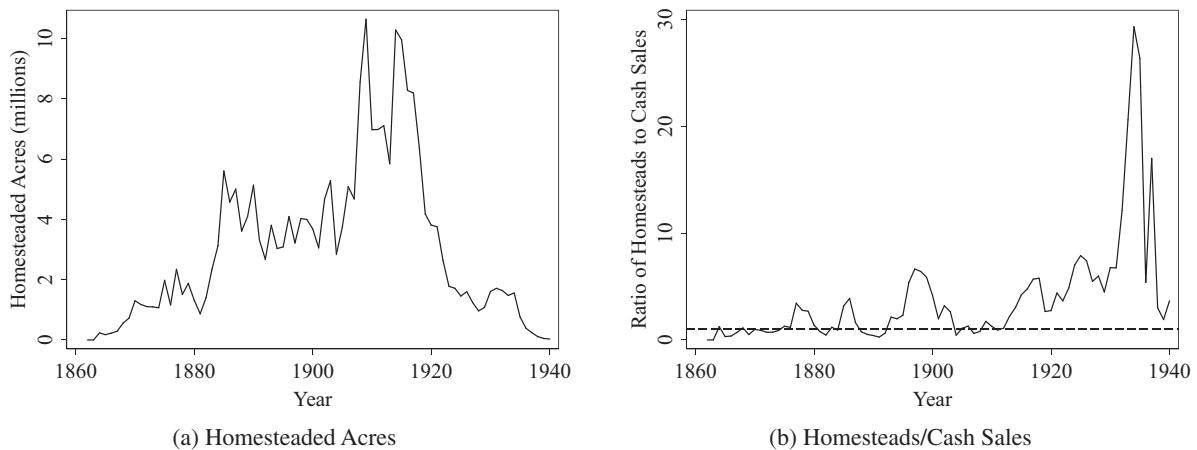
interest in methods of establishing federal *de facto* rights, and homesteading’s signature wealth dissipation caused by the rush to make a claim (Anderson and Hill 1990).

In fact, the bulk of homesteading took place between 1900 and 1930. Figure 1 shows the prevalence of homesteading over time. Panel (a) depicts *acres* of patented homesteads in the 16 most western states between 1862 and 1940, and shows there were actually three major periods of homesteading. Cash sales were the main alternative to homesteads in transferring title to private individuals, and panel (b) plots the ratio of the *number* of homestead patents to private land sale patents. Until c.1900, there was a cycle in the relative amounts: homesteading dominated first, followed by land sales in several waves until c.1900. Then, homesteading relative to cash sales took off, and by the early 1930s, there were more than 20 times the number of homesteads being patented relative to cash sales. We call the surge in absolute and relative homesteading that began c.1900, “late homesteading.”

Late homesteading presents an interesting political economy puzzle for three reasons. First, late homesteading was incongruent with the Progressive era, and the general sense that resources in the West had become too scarce to give away and the “open” frontier was supposedly “closed.”<sup>4</sup> By the 1890s, the western lands had mostly been inventoried through surveys,

homesteading took place. Allen (1991; 2019) and Barzel (1997) were concerned with the initial phase of homesteading to establish property rights in light of violent threats to U.S. sovereignty. Frymer (2014; 2017) studied nineteenth-century homesteading as an exemplar of territorial expansion in light of weak state capacity. See also Alston et al. (2021).

<sup>4</sup> Frederick Turner, citing the 1890 census, famously declared the “closing of a great historic movement.” By 1890, “the frontier” was no longer “a place in the census reports” Turner ([1893] 1966, 199).

**FIGURE 1. Homestead Arrivals by Year**

*Note:* Using data on individual land patents from Allen and Leonard (2021), we count total acres patented as homesteads in panel (a) and the ratio of homestead patents to cash sale patents in panel (b).

mappings, and measurement of natural resources. Concurrently, the federal government restricted open-ended privatization of the west: national parks, forests, and grasslands were created and a general philosophy of federal land management to avoid “corruption,” “exploitation,” and “speculation” was developed.<sup>5</sup>

Second, late homesteading took place under and after revised homesteading laws. From 1890 to 1916, Congress passed a series of new homestead laws that expanded homesteading on some dimensions, but greatly constrained it on others. The systematic alteration of homesteading legislation indicates that late homesteading was the result of a deliberate choice by the federal state, not a matter of simple inattention to existing policy.<sup>6</sup>

Finally, late homesteading seems inconsistent with the general explanations of preemption (De Soto 2000; Murtazashvili 2013) and earlier homesteading (Allen 1991; 2019; Barzel 1997; Frymer 2014; 2017). These works argue that the state encouraged squatters and homesteaders to rapidly settle, organize, and develop territories claimed by others. Occupation through squatting, and then early homesteading, established

This era was dominated by the Republican Party, which controlled 15 of 20 Congresses between 1896 and 1934.

<sup>5</sup> See Hays (1999, 67–8) or Gregg (2019, 258–60) for discussions of how Progressive philosophy affected federal western land policy.

<sup>6</sup> A traditional explanation of homesteading is that it was the result of a populist movement that began with Jefferson’s nation of small yeoman farmers, took hold in the early nineteenth century through the various preemption and warrant acts, found political strength in the Free Soil Party, and then *just carried on*. Such a narrative has many problems, but most significantly, as Frymer (2014; 2017) documents, it is inconsistent with the federal political record and land policies up to 1850. He argues that the Homestead Act was the culmination of a long series of acts (e.g., the Armed Occupation Act [1842]) used to defeat other contenders to the land. This theory also cannot explain the rise of late homesteading, nor its sudden end in 1934.

meaningful and feasible property rights to the frontier for the United States and therefore encouraged U.S. land sales and other development. However, by 1890, the west was secure; the Confederacy, the British, and others were gone; and there was no serious threat of violence from Native tribes who had been decimated through military conflict, dispossession, and loss of numbers (Anderson and Mc Chesney 1994; Spirling 2012).

In light of the Progressive era, the legal revisions, and the emergence of the plenary state, why did the federal government continue the dissipating practice of homesteading? We develop a hypothesis that complements the earlier theories by drawing on the literature on extensive Native land dispossession starting c.1880. Whereas early homesteading took place mostly on lands ceded through treaties with Native tribes, we suggest late homesteading was a response to potential internal legal threats against the federal government that arose out of dubious Native land dispossessions after failed attempts to renegotiate earlier treaties.

Although the federal government entered into hundreds of treaties with tribes, over the course of the late nineteenth century many were signed under duress, others later unilaterally changed, and still others were simply never ratified and ignored by the federal government—all leading to lands effectively “taken” from the tribes (Clark 1994; Pommersheim 2012; Spirling 2012).<sup>7</sup> Legal challenges and political opposition over these takings arose immediately, and the federal claims over the land—both in the short and long term—were uncertain (Clark 1994). Allowing a flood of settlers who were required to occupy the lands in question lead to “*de facto*, if not *de jure* diminishment” of the Native

<sup>7</sup> We use the term “taken” to describe lands that were ceded in a way that left the door open to a future court challenge of a treaty violation.

rights to the land.<sup>8</sup> Hence, the distinguishing feature of homesteading—the requirement to occupy the claim—continued to serve the federal government's strategic interests long after the threat of violent conflict had abated.

We are certainly not the first to note the connection between Westward Expansion, homesteading, and Native land dispossession.<sup>9</sup> Previous scholarship has identified the various homestead acts as part of a larger set of colonial policies designed to encourage settlement of the American frontier without particular regard to Native Americans' prior use of land and other natural resources (Banner 2007; Edwards, Friefeld, and Wingo 2017; Frymer 2014; 2017). Our contribution is to provide new quantitative and qualitative evidence on the particular importance of *late* homesteading in the context of potential legal challenges to U.S. territorial claims, as opposed to a focus on the importance of early waves of homesteading in shaping more direct violent confrontations with tribes.

First, we review the stylized facts of homesteading and U.S. land disposal policy. Second, we show that changes to the internal structure of homesteading were consistent with our hypothesis. After reviewing the qualitative evidence, we use the universe of General Land Office homestead land patents and cash sales from 1862 to 1940, matched with land cessions, treaties, and reservations across 16 western states, to show that late homesteading primarily took place on lands taken and where the threat of legal challenges was greatest. Finally, we assess the plausibility of alternative explanations for late homesteading.

## LATE HOMESTEADING FACTS

### Brief History

Homesteading, created in the nadir of the Civil War and designed for those who never took up arms against the Union, very quickly moved from a policy of northern occupation of the West against the Confederacy, to white occupation on ceded lands to push Native tribes onto reserves. During this early era (1862–c.1890), the General Land Office was mostly concerned with occupation by an “actual settler,” even if proper protocols were not followed.<sup>10</sup> Indeed, every accommodation was made to squatters to become homesteaders without penalty, and all land, mineral, and timber rights on the plot of the settler’s choosing were transferred.

Late homesteading, by contrast, generally did not grant rights to minerals and timber (Gregg 2019, 259).

<sup>8</sup> This was the language used to describe legally dubious land takings in *Solem v. Bartlett*, 465 U.S. 463 (1984), in which the U.S. Supreme Court developed the “diminishment doctrine.”

<sup>9</sup> For an introduction to the history of Native land dispossession, see Miller (2012). For a quantitative analysis of the strategic placement of reservations away from valuable resources, see Dippel (2014) and Farrell et al. (2021).

<sup>10</sup> This term is found throughout early documents regarding western settlement, and it meant someone actually living on the land.

Furthermore, the General Revision Act (1891) repealed the Preemption Act (1841), which removed squatting and forced late homesteaders to settle on only surveyed lands. Late homestead lands had to be unappropriated, not be mineral in character, and not be withdrawn, reserved, incorporated, or otherwise embraced for trade or business (General Land Office 1926, 2). This Act also changed the amount of time to commute a homestead from 6 to 14 months (Hibbard 1939, 389), and granted the federal government the right to remove public lands from entry.<sup>11</sup>

At the turn of the twentieth century, other federal acts placed more control over homesteads. The Kinkaid Homestead Act (1904), the Forest Homestead Act (1906), the Enlarged Homestead Act (1909), and the Stock-Raising Homestead Act (1916) all increased the amount of land that could be homesteaded, while reserving the mineral and timber rights to the federal state.<sup>12</sup> These larger plots, combined with irrigation projects stemming out of the Reclamation Act (1902), made dryland farming viable in areas previously constrained to 160-acre homesteads, but reduced the ability to commute and extract timber or minerals without a market purchase. The Three Year Homestead Act (1912) extended the commuting time to 3 years, and drastically reduced the ability to assemble large tracts of land quickly through homesteading.

During the early twentieth century, the Progressive Republican party dominated national politics, but the larger homesteading restrictions tended to occur when Democrats held greater power—as depicted in Supplementary Figure A1 and discussed in Appendix A of the Supplementary Material. Thus, both parties during the transition to late homesteading re-examined the policy and chose to redesign rather than terminate it. Throughout these revisions, what remained was the fundamental character of homesteading: land ownership through first *occupancy* by a settler. The amount of legislation, over a long period of time, suggests that late homesteading was not accidental, not an unintended consequence of some other land policy, and not driven by specific state interests.

Table 1 lists various totals of the number of different types of homesteads in our 16 state sample. Of the 1,271,372 total homesteads in our sample, 798,339 (63%) were after 1895. Although there were many types of different homesteads that corresponded to specific legislative acts, the vast majority of late homesteads were created through the original 1862 Act.

There was wide variation in the amount of late homesteading across the West, as reported in the lower panel of Table 1. Montana had the most late homesteading of any single state, both in terms of totals and

<sup>11</sup> By 1897, 40 million acres had been removed (Clawson 1983, 29), and T. Roosevelt later withdrew another 234 million acres (Hibbard 1939, 474).

<sup>12</sup> The Withdrawal Act (1910) took all coal, oil, gas, and phosphate lands out of entry. The Carey Act (1894) granted lands to the states, which then developed irrigation projects and sold water to farmers. The Enlarged Homestead Act also explicitly restricted where homesteaders could go.

**TABLE 1. Early versus Late Homesteading by State**

	All	Late
All homesteads	1,271,372	798,339
Original	1,041,149	651,095
Stock-raising	83,341	83,337
Timber culture	88,210	9,139
Desert land	28,614	24,731
Enlarged	19,017	18,996
Reclamation	11,041	11,041
Dakotas	225,125	122,820
Montana	139,462	130,864
Colorado	134,520	94,867
Wyoming	67,070	63,138
Oklahoma	85,361	71,648
Arizona	18,476	16,916
Nevada	5,244	4,424

Note: A late homestead is defined as being after 1895.

percentages. Within states, there was also great variation in the amount of late homesteading. For Montana, the percentage of late homesteads out of all land patents varied from as low as 5% in Glacier county, to as high as 80% in Hill county. Figure 2 shows the share of late homesteads relative to all homesteads plus cash sales in each 6×6-mile township in our sample. The darker areas show more intensive late homesteading.

## Logistics of Land Disposal

Understanding late homesteading and how it competed with cash entries requires a knowledge of public land disposal during the era.<sup>13</sup> The process began with a land survey, after which lands that were not sold at auction or reserved by the government became “lands offered for private entry” and were available for both private purchase or homesteading. In each case, the land was claimed by the first person who could register at the local land office for a particular plot of land. For a cash entry, the patent was fee-simple immediately for \$1.25 per acre. In contrast, a homestead patent was only granted after continuous 5-year occupation that involved land improvements and the construction of a home and out-buildings. After this “proving up,” homestead ownership was also fee-simple. Homesteaders were required to farm, and therefore homesteaders were only interested in farmland. Cash entrants potentially could have valued lands with commercial or future development potential.

Whether land was purchased or homesteaded depended in part on the net present value of the land,  $V$ , for each type of claimant. If offered lands had a negative value,  $V < 0$ , then no homestead or cash claim would be made and the lands remained owned by the state. Lands that had a positive value for farming but

were worth less than the minimum price,  $0 < V < 1.25$ , were subject to racing *only among homesteaders*. However, if the value of offered lands became greater than the minimum price,  $V > 1.25$ , then both cash and homestead entrants raced to claim. Since each type of claimant had different land valuations and costs for a given parcel, there is no reason *a priori* to think that one type of claimant would dominate the other when  $V > 1.25$ .<sup>14</sup>

There are two important implications. First, generally speaking, *all* lands offered for private entry were available to both cash and homestead entrants; lands were not typically “set aside” for just homesteading. Second, the minimum price for cash entry meant that for lands valued less than this price, homesteaders had no cash entrant competitors.

## A THEORY OF LATE HOMESTEADING

Our theory is that late homesteading was the result of a time-consistency problem on the part of the U.S. federal state vis-à-vis its treaty relations with Native tribes, combined with the threat of future legal action over dispossessed lands.

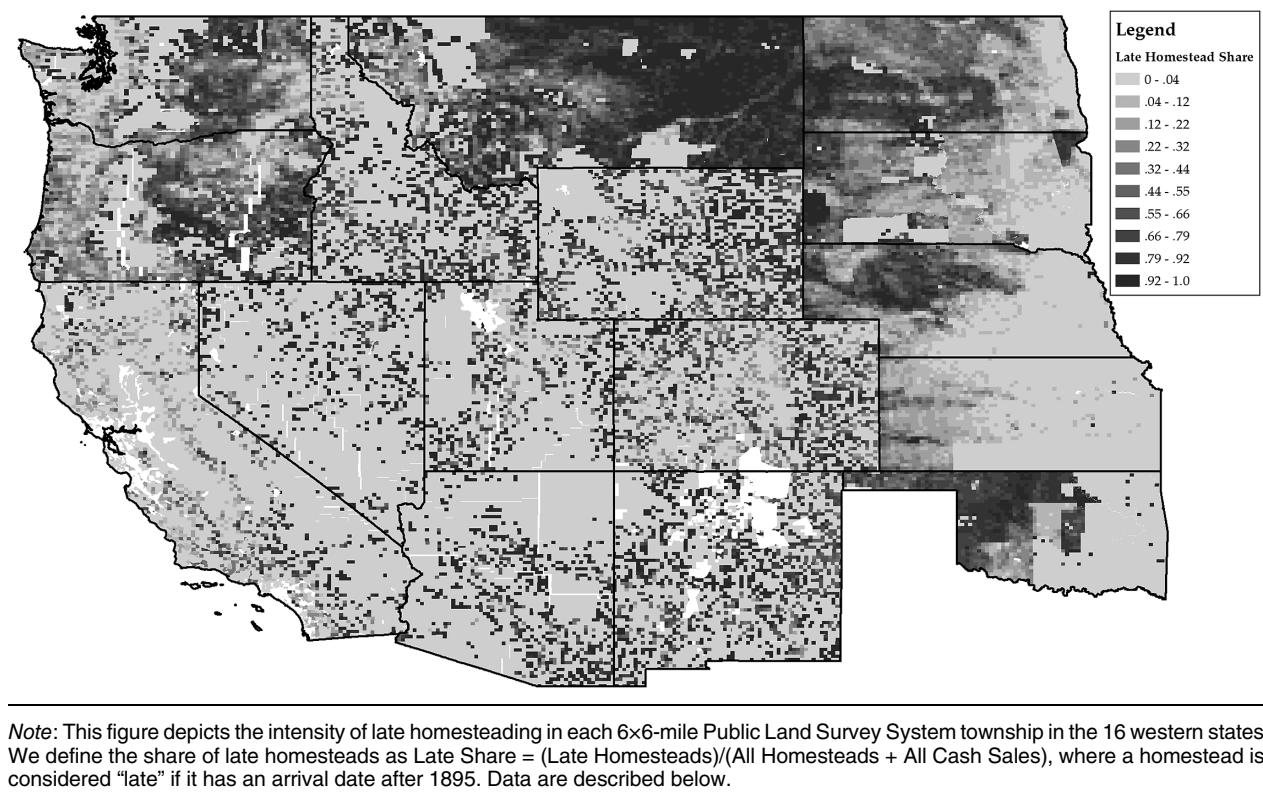
The U.S. federal government had made treaties with Native tribes since the Revolution, and throughout the first half of the nineteenth century, treaties were made with western tribes for eastern tribe relocation; to secure trails to the west coast; and to establish forts, Indian reserve lands, and locations for white settlement. Prior to c.1870, these treaties were made because it was in the U.S. government’s interest to do so—it lacked the plenary power to confiscate the lands (Frymer 2014). Given their relative strengths at the time, several Great Plains tribes ended up with massive tracts of land in exchange for concessions to the United States.

After the Civil War, the situation changed rapidly. The relative military strengths continuously moved in favor of the federal government. Political forces in western states—driven by farming, ranching, and mining interests—clamored for more lands to be opened up for settlement, and lands set aside as Indian Territory were constantly encroached on (Carlson 1978). Furthermore, transcontinental railroads and their spur lines increased land values and induced westward migration (Allen 2019). Within this context, attempts to renegotiate earlier treaties were made, but by c.1870 it became evident that this would not be possible, as tribes refused to engage.

These unexpected and dramatic changes meant that earlier treaties were no longer self-enforcing, and by the late nineteenth century, the federal state could, *de facto*, confiscate tribal lands on a wide scale, and it began to do so. There were hundreds of legislative and executive acts, with the series of allotment acts perhaps the largest and most infamous. There was only one thing that stood in the way: the rule of law. Lands questionably taken by

<sup>13</sup> A detailed description of public land disposal is Barnett (1919) (see also Evans and Frye 2009).

<sup>14</sup> Throughout the era, homesteading always dominated where land was marginally valued (Allen 2019).

**FIGURE 2. Geographic Distribution of Late Homesteading**

the federal government could be reclaimed through the courts, creating significant legal uncertainty.

Late homesteading did not arise because lands were set aside for homesteading. In principle, most lands offered for private entry could be claimed by either homesteaders or cash purchasers. However, the questionable legal status of lands “taken” reduced their value, and made it more likely they were worth less than \$1.25 per acre, and therefore unattractive for purchase. Thus, the legally questionable land confiscations that created large amounts of low valued land, combined with the logistics of land disposal, *selected* homesteaders over cash entrants.

But this begs the question: why would the state be interested in allowing homesteaders on these lands rather than cash entrants? An alternative policy might have been to hold the lands until land values increased to the point where cash entrants were willing to purchase them, and thus avoid the dissipation of rushing. Given that the federal government was reviewing and altering the homestead laws, and that the progressive Republican party dominated national politics during this period, it was feasible to eliminate homesteading altogether.

The answer is found in the signature characteristic of homesteading: *occupation* by actual settlers. Settler occupation disrupted tribal land uses, physical development, and infrastructure; it also created vested political interests in maintaining non-native settlement. These *irreversible* effects of settlement meant that even

a future legal loss could only result in a payment to tribes, not the return of the land. This reduction of the tribal land base furthered federal efforts to continually diminish tribes’ sovereignty, which was inextricably linked to their ownership of the lands that comprised their territories (Carlos, Feir, and Redish 2022). By using homesteading to occupy these particular lands, any legal threats against dispossession became moot; any future court settlement effectively became a forced sale of the land.<sup>15</sup> Thus, the federal state strategically allowed homesteading to continue in order to solidify the transfer of *lands* away from tribes. This strategy complemented the various political forces that wanted lands to remain in the hands of non-native settlers.

Since homesteading dominated land sales when land values were low, we predict late homesteading arose where there was a possibility of dispossessed treaty lands returning to tribes. These lands were where homesteaders were likely to be most prevalent relative to cash purchases due to decreased land values, and they were precisely the lands where the government most wanted to ensure occupation. Thus, the probability of

<sup>15</sup> Explicit historical statements supporting the claim that “free” land and occupation was dependent on Native threats are found as far back as 1799 in a Mississippi petition arguing that free land for settlement “...would in turn assure to the Nation the necessary manpower to protect the territory against Indian as well as foreign attacks.” (U.S. Department of the Interior 1962, 5–6). See also Frymer’s (2014) discussion.

homesteading should increase with increases in the probability of losing a court challenge: the more legally dubious the land taking, the more likely the lands will be homesteaded rather than sold.

## QUALITATIVE EVIDENCE FOR THE LATE HOMESTEADING HYPOTHESIS

### The Evolution of Indian Land Policy

Until the early nineteenth century, tribes held an independent sovereignty, with usufruct and transfer rights to land, along with the ability to enter international treaties (Ball 2016, 10; Fouberg 2000, 3). In the 1820s–1830s, three Supreme court cases known as the “Marshall trilogy,” significantly redefined this understanding: no independent sovereignties could exist within the United States, despite historical treaties; tribes were ruled wards of the state and domestic dependent nations; and tribes were recognized as distinct nations with their own institutions and self-governance, but Congress was recognized as having a plenary right to protect tribes from state law. Thus, although Native American tribes occupied lands, and could enter treaties, the ultimate ownership rested in the federal state (Ball 2016, 11, 20–1; Royce 1899, 528), and therefore tribes did not have the right to sell their lands.<sup>16</sup>

These three cases set the stage for the period of eastern tribal removal. The Indian Removal Act (1830) gave the federal government the authority to move eastern tribes west of the Mississippi in exchange for lands, annuities, and other support. The process of moving eastern tribes across the Mississippi required the arrangement of treaties with western tribes. Although these treaties transferred millions of acres of Indigenous lands to the federal government, they also established legal property rights to large amounts of land for both western and eastern tribes under U.S. law (Calloway 2013, 172–3). However, the arrival of eastern tribes, the steady flow of squatters and wagon trains, and the general absence of military enforcement led to a series of conflicts across the Great Basin, Southwest, and Great Plains. Earlier treaties were often considered void, and new treaties were then negotiated. Prior to 1870, even these later treaties still contained large tracts of Indigenous lands that reflected the substantial tribal power of the time. Appendix A of the Supplementary Material discusses the example of the 1851 Fort Laramie Treaty.

Immediately following the Civil War, the Indian Peace Commission set out to reconcile tribes to the coming American settlement.<sup>17</sup> The Medicine Lodge

Treaties (1867) and the second Fort Laramie Treaty (1868) further reduced the land holdings of western tribes, but still left substantial areas under tribal control. Seldom were the terms agreed to by all parties, and terms negotiated by treaty agents were often altered unilaterally by the Senate. Furthermore, in practice and despite the treaties, the U.S. government often continued taking Indigenous lands. According to Calloway (2013, 213) “Medicine Lodge was the last great treaty council held on the Southern Plains and it was one of the very last treaties.”

After 1870, the power balance between the western tribes and the U.S. shifted dramatically in the latter’s favor. Spirling (2012) uses a textual analysis of all six hundred tribal treaties in the United States and finds that over time the treaties became harsher in terms of language and land loss, and that this was due to “the general trend of rising American government power ...” (85).<sup>18</sup> The 1871 Indian Appropriation Act ended the acknowledgment of tribal nationhood and terminated the treaty process. The BIA ceased to recognize tribes’ “domestic dependent nation” status, and all Native Americans were held subject to the laws of the United States.

Native lands continued to be transferred to the federal government and subsequently placed into the public domain for settlement. These transfers came through agreements, legislation, and executive orders. Within the context of the Indian Wars of the time, if the federal terms were not met, lands were simply taken. Sometimes these takings were explicit, as in the 1877 extinguishment of Sioux off-reservation rights that shrank their lands from 134 million acres to just 15 million (Calloway 2013, 234). Other times, the lands were quietly expropriated.

### Legal Challenges to Land Takings

While *all* Western lands were ultimately taken from tribes in various ways, our focus is on takings that were potentially dubious from the standpoint of U.S. law. Court challenges made by tribes over lost treaty rights are common, and challenges to lands taken in the late nineteenth century were immediate. Early cases include *US v. Kagama* (1886), *Lone Wolf v. Hitchcock* (1903), *US v. Winans* (1905), and *US v. Winters* (1908). Indeed, *Lone Wolf* provides an exemplar of the legal threat to the practice of dispossession and the general public awareness of this threat.<sup>19</sup>

In 1890–91, the Jerome Commission began negotiations for allotment with various tribes in Indian Territory, including the Kiowa who frustrated negotiation

<sup>16</sup> The President’s right to make treaties lasted until 1871. Subsequent dealings between tribes and the federal government became agreements enacted either through executive order or congressional legislation. Spirling (2012, 85) notes that this change made little effective difference.

<sup>17</sup> According to Fowler (2015), the subsequent treaties related to the failed 1851 Fort Laramie Treaty were intended by Congress to obtain the cession of most of the treaty lands (374), and were considered a

“swindle” by the tribes. She argues that the Sand Creek massacre in 1864 was the direct product of the failed treaty process (375–85).

<sup>18</sup> Calloway (2013), referring to the late nineteenth century, notes that although U.S. Indian policy had started out “fair and honorable,” it was “reduced, finally, to American armies harrying hungry women, children, and old people through the snow and rounding them up for exile to Indian Territory” (228).

<sup>19</sup> The details of this case and the politics surrounding it are documented in Clark (1994).

efforts by refusing to deal. Not deterred, the commissioners dictated an agreement to the secretary of the commission. Then,

[t]he Jerome Commissioners departed. Once safely in Washington, D.C., the commissioners switched versions of the agreement, substituting their altered copy for that which had been partially signed at the councils. The changed agreement in the commissioners' hands, ...ultimately contained only counterfeit signatures. ...Even with the alterations to it, the Jerome Agreement was between 21 and 91 signatures short .... (Clark 1994, 48–9)<sup>20</sup>

Lone Wolf, a Kiowa band chief who had been coerced to take an allotment of land in the deal, went to court to halt the process. He was not alone in his opposition. The Office of Indian Affairs opposed ratification in 1892, and an independent agency called the Indian Rights Association (IRA) began to investigate and eventually helped fund the legal challenge.<sup>21</sup>

The case went to the Supreme Court, which ruled in favor of the state in 1903, much to the surprise of those involved.<sup>22</sup>

For our purpose, *Lone Wolf* demonstrates three key points: that the federal government breached good faith; many in government and in the public were aware of and opposed to this; and legal challenges were immediate.<sup>23</sup> Court cases continued throughout the twentieth century, and there have been at least eight cases involving the question of “reservation diminishment.” In Appendix A of the Supplementary Material, we discuss these cases in more detail and argue that they demonstrate: (i) how uncertain the claims of federal sovereignty are, (ii) that occupation by non-tribal residents is

a factor in determining ultimate ownership, and (iii) that sometimes the tribes are victorious.<sup>24</sup>

## The Allotment Era

Federal policy regarding Indigenous lands during late homesteading was dominated by the General Allotment Act (1887)—and subsequent Acts and court decisions that amended it—which gave the federal government the power to unilaterally abrogate past treaties and divide tribal lands into individually owned parcels, varying in size from 80 to 320 acres (Ball 2016, 24). The act gave the Secretary of the Interior the power to assign an allotment, even to tribal members who refused to participate. These lands were transferred to individual tribal members, who were intended to take up agriculture and assimilate.<sup>25</sup>

The Allotment Act (aka the Dawes Act) was extended and supplemented over time. It was applied on a tribe-by-tribe basis, and during the nearly 50 years that the Act was in force, roughly half of western reservations were allotted (Wall 2010). Tribes generally opposed these transfers, and litigation continues to this day over their legitimacy. The allotment era was a low point in the respecting of tribal rights by the federal government, even as laid out in *Worcester*, and ended in 1934 with the passage of the Indian Reorganization Act.

Once a reservation was selected for allotment, all tribal members on that reservation were given allotments. Any excess lands left over were declared “surplus” and were then taken and made available for non-Native settlement. In most cases, these lands were removed from the reservation and governance of the tribe (Dippel, Frye, and Leonard 2022). In total, through the various allotment acts between 90 and 100 million acres of previously recognized Indigenous lands (amounting to two-thirds of the tribal land base) were removed from reservations (Ball 2016, 21; Wall 2010, 6).

Two features of allotment provide strong institutional support for our hypothesis. First, the specific terms under which surplus lands were made available to whites. By law, surplus lands under the Dawes Act were to be sold until the revenues provided enough compensation to the tribes as laid out in the relevant legislation, precluding the use of actual homesteading to settle these lands. However, lands sold under the Dawes Act required the same *occupancy* restrictions as homesteads (Edwards, Friefeld, and Wingo 2017, 118). The fact that lands sold within the areas taken under

<sup>20</sup> See also Pommersheim (2012, 130–3), for a detailed discussion of the “obvious legal problems” of the Jerome commission.

<sup>21</sup> One agent of the association, in a letter to the Washington Post, October 20, 1902, stated:

*It is in evidence by both military and civilian officers of the government that unjust and illegal efforts were made, during the negotiations with the commission, to secure the cession of the lands by the Indian, an alleged agreement being made in 1892, and after passing the House of Representatives two or three times, was finally “railroaded” through both Houses of Congress January 6, 1900. It was conclusively shown...that the necessary three-fourths of the male adult Indians had not signed ...amendments had been incorporated in the measure without any provision for submitting the amendments to the tribe for ratification.”*

<sup>22</sup> The annual reports of the IRA show that they were confident in winning. They also show that they were heavily involved in monitoring Congress on all aspects of Indian policy at the time, as well as bills related to land transfers. The 1889 report opens with “The need of the direct observation of facts in the Indian country, and of assistance and redress for Indians in cases of flagrant wrong and encroachment, increases every year” (Indian Right Association 1889).

<sup>23</sup> Several high-profile contemporary individuals noted warnings of dubious conduct. For example, senator Henry Teller, congressman, Charles Hooker, and Amherst president Julius Seelye who noted “To admit that a treaty with the Indians may be set aside without the consent of the Indians themselves, is to open the door again to the same frauds and falsehoods which have so darkly branded a ‘Century of Dishonor’” (Seelye [1881] 2014, 5).

<sup>24</sup> These other cases are: *Seymour v. Superintendent of Washington State Penitentiary*, 368 U.S. 351 (1962); *Mattz v. Arnett*, 412 U.S. 481 (1973); *DeCoteau v. District County Courts*, 420 U.S. 425 (1975); *Rosebud Sioux Tribe v. Kneip*, 430 U.S. 584 (1977); *Solem v. Bartlett*, 465 U.S. 463 (1984); *Hagen v. Utah*, 510 U.S. 399 (1994); *South Dakota v. Yankton Sioux Tribe*, 522 U.S. 329 (1998); *Nebraska v. Parker*, 136 S. Ct. 1072 (2016).

<sup>25</sup> The lands were held in trust with the federal government for 25 years, or until an individual allottee was declared “competent” to hold full, fee-simple property. Once gaining fee-simple title, many tribal members quickly sold their land to whites (Merriam 1928).

the Dawes Act had homestead occupancy restrictions supports our hypothesis. The lands had to be sold to pay the tribes, but occupancy was *intentionally* added to mimic the one feature of homesteading that the state had maintained throughout the late homesteading era in order to avoid tribal repossession of land.

Second, allotment was abruptly ended in 1934, in large part due to concerns raised by the 1928 “Meriam Report.” Indian Agents were responsible for declaring allottees “competent” to hold fee-simple title, but significant top-down efforts by the federal government—such as the 1906 Burke Act and the “Competency Commission” in the 1910s led to massive conversion of land to fee-simple and subsequent sale to whites (Dippel, Frye, and Leonard 2022). Broad criticism of these rapid and perfunctory transfers and their impact on tribes by Meriam (1928) were partially responsible for the major federal shift away from allotment in 1934. This shift underscores the fact that the federal government was keenly aware of major criticisms leveled at its Indian Policy during the period we study, and that once the flow of low-valued allotted lands ceased, so did the surge in late homesteading.

### The Enlarged Homestead Act

The Enlarged Homestead Act (EHA) of 1909 provides some additional evidence that federal officials were aware of the taken lands issue. The EHA increased the 160-acre restriction on homesteads to 320 acres on lands where irrigation was infeasible. Unlike the original Homestead Act that allowed settlers to select any lands offered for private entry, the Secretary of the Interior *explicitly designated* lands that could be settled under the Enlarged Homestead Act. If late homesteading was meant to encourage physical settlement of legally contestable lands, then we would expect these designated lands to be disproportionately located on taken lands in an attempt to direct homesteaders onto these lands.

We provide evidence consistent with this hypothesis using a map issued by the Department of the Interior for the state of Montana—where the majority of late homesteading occurred—in 1912.<sup>26</sup> We georeferenced this map to identify the relationship between lands designated under the EHA and those taken by the state. Supplementary Figure A4 depicts the original map and our georeferenced version overlaid with taken versus ceded lands. We estimate that 84% of land designated under the EHA was taken.<sup>27</sup> This provides additional evidence that federal officials at the time were actively seeking to promote homestead settlement on taken land. Next, we provide more formal quantitative tests of this hypothesis.

## QUANTITATIVE EVIDENCE FOR THE LATE HOMESTEADING HYPOTHESIS

### Identifying Taken Lands

To test our theory, an operational notion of “land taking” must be used.<sup>28</sup> Our major historical resource is Royce’s 1899 compilation of Indigenous land cessions (Royce 1899). We use this to determine which lands were ceded through something like a voluntary exchange, and which lands were taken using either illegal, illegitimate, or otherwise legally questionable means. Royce (1899) lists the dates, legal reference, and descriptions of the over seven hundred land cessions, and tracks their evolution as they were modified over time.<sup>29</sup> Most importantly, Royce often provides historical remarks that fill in context and details missing from the technical descriptions of the cessions. For example:

No treaty was ever made with these Indians for the extinguishment of their territorial rights. The U.S. simply took possession of their country, except such portions as have been set apart by executive order for their occupancy. (Royce 1899, 857, in reference to Cession #532)

We use this textual information, along with various histories, to classify particular land cessions as either (legitimately) “ceded” or (illegitimately) “taken.” Although *all* Western lands were ultimately taken from tribes in one way or another, our interest is in distinguishing takings that were possibly subject to redress under U.S. law. We define a land cession as “ceded” if there is evidence it was voluntarily entered into by each side. That is, if there is evidence in the historical record of (i) an actual exchange of lands for some type of consideration, (ii) no indication of duress or *ex post* unilateral change of terms, and (iii) no evidence of outright Native opposition to the cession.

On the other hand, we define a land cession as “taken” if (i) there is evidence of a unilateral action by the federal government, (ii) there is no evidence of consideration, (iii) the treaty was not ratified, but the lands were taken anyway, and (iv) if there was open opposition by the tribes involved with the cession. We relied heavily on the comments in the Royce report. In that report, Royce describes many cessions as “taken possession of without formal purchase” (831); “no formal purchase, treaty not ratified” (825); “Country claimed by ... was taken possession of by settlers ... without purchase of title by the U.S.” (836); “U.S. took possession ... without any treaty” (869).

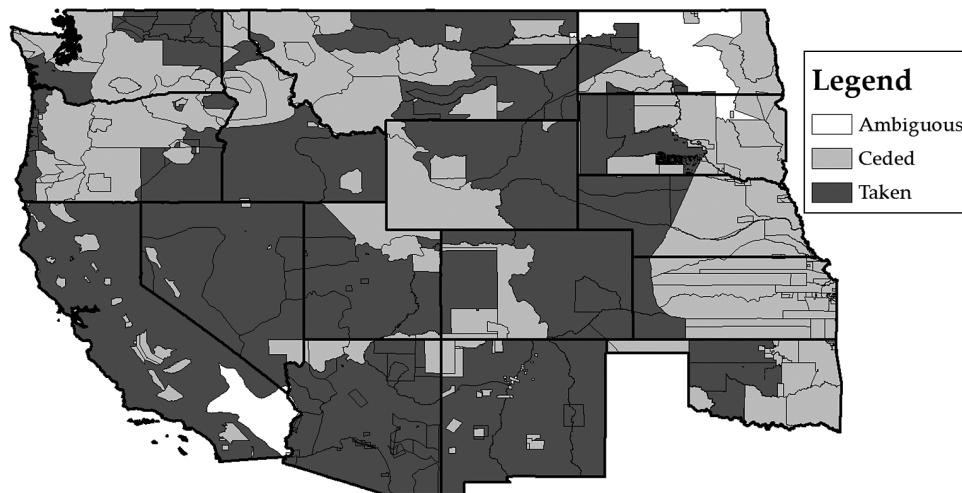
Figure 3 depicts the borders of the various land Cessions from Royce (1899) along with our coding of which cessions were “taken.” The map shows that some cessions were enormous in size, while others were quite

<sup>26</sup> Available at <https://collections.lib.uwm.edu/digital/collection/agdm/id/7231/rec/10>.

<sup>27</sup> Interestingly, though not as relevant for our thesis, 59% of taken lands in Montana were designated under the EHA.

<sup>28</sup> Courts have also struggled with this issue. See, e.g., *Solem* (1984).

<sup>29</sup> Available at <https://www.arcgis.com/apps/webappviewer/index.html?id=fe311f69cb1d43558227d73bc34f3a32>.

**FIGURE 3. Land Cessions and Lands Taken**

Note: Lines show Cession borders, darker shaded areas indicate “Taken” cessions, based on Royce (1899).

small. In total, there were around seven hundred cessions in the United States, with about four hundred taking place in the West—most of them prior to 1890.

## Land Patent Data

Our data on homesteading and cash sales come from the digitized federal land patents originally issued by the General Land Office (GLO).<sup>30</sup> In addition to the issue date and the type of land claim, the BLM data report various characteristics of the patents themselves.<sup>31</sup> Each patent is geographically identified through its Public Land Survey System (PLSS) identifier, which is made up of an aliquot part, section, township, and range numbers. Within each township, there are 36 square-mile (640-acre) “sections” numbered 1 through 36. Each patent was georeferenced using federal government shapefiles of the PLSS to the section level, which means we locate every homestead and cash sale patented issued over 1860–1940 to within a square mile. We overlay the section grid with the land cessions to determine what land cession and treaty lies behind every land patent. This allows us to link lands taken or ceded with each land patent according to the coding of tribal lands from Royce (1899).

We also calculate a variety of geographic characteristics associated with each PLSS section including

elevation, ruggedness, soil quality, and distance to streams and contemporary railroads. Additional details on variable construction are available in the Supplementary Material.

## Empirical Strategy

To test the hypothesis that late homesteading is more likely to occur on tribal lands that were taken by the U.S. government, we construct three different sample comparisons: (i) homesteads after 1895 vs. homesteads before 1895 and all cash claims (late homesteads vs. all other claims), (ii) homesteads vs. cash sales after 1895 (late homesteads vs. late cash sales), and (iii) homesteads after 1895 vs. homesteads before 1895 (late homesteads vs. early homesteads).<sup>32</sup>

The first comparison provides the broadest assessment of our main prediction. The next two comparisons break the sample into two parts for narrower tests. The second comparison narrowly tests whether late homesteading was more likely on taken lands by only considering land patents created after 1895. The final comparison exploits the fact that there were lands taken prior to 1895 as well, coupled with the fact that the differential impact of taken land on land values mostly occurred *after* the U.S. government’s plenary sovereignty emerged at the end of the nineteenth century. Taken together the results test whether late homesteading depended on the fact that lands were taken combined with the emergence of large amounts of taken land at the turn of the century.

<sup>30</sup> Currently available through the Bureau of Land Management, Eastern States Office (BLM) at <https://glorecords.blm.gov/search/default.aspx>.

<sup>31</sup> These include whether they convey subsurface rights, how many separate individuals are associated with the patent, and whether the patent was associated with an irregular “metes and bounds” survey. Following Allen and Leonard (2021), we assume that the arrival date for homesteads is 5 years prior to the patent signature date because homesteaders had to occupy their claim for 5 years prior to perfecting title.

<sup>32</sup> The “break” to define late homesteading is a compromise. Empirically, the bulk of late homesteading didn’t start until c.1910. Alternatively, historians define the break in the early 1890s. It makes almost no difference to the results if late homesteads are defined as starting in any year between 1890–1900.

For all three comparisons, we estimate a linear probability model of the form:

$$1(LateHomestead)_i = \beta_0 + \beta_1 1(Taken)_i + \lambda \vec{X}_i + \varepsilon_i, \quad (1)$$

where  $1(LateHomestead)_i$  is an indicator that is equal to 1 if a plot of land was homesteaded after 1895, and 0 otherwise, and  $1(Taken)_i$  is an indicator equal to 1 if a plot of land falls within a territory that was taken by the federal government.  $\vec{X}_i$  is a vector of control variables and  $\varepsilon_i$  is a random error term.

Identification of  $\beta_1$  is primarily threatened by two factors. First, unobserved determinants of land takings may be correlated with homesteading. That is, something like good farmland may have been more likely taken, and may also have been more likely homesteaded. This is unlikely for two reasons. First, as noted, homesteading was more likely on marginal lands. Second, previous studies have found that the U.S. desire for lands were primarily driven by relative military capacity and politics (Anderson and Mc Chesney 1994; Spirling 2012), and not agricultural viability. Both suggest that “taken” territories were not selected on land characteristics. Still, we control flexibly for a variety of geographic characteristics to limit the possibility of omitted variable bias. Moreover, our comparisons of late homesteads to late cash sales are less likely to suffer from this problem, as cash sales and homesteads tended to have similar land characteristics within states (Allen and Leonard 2021).

The second threat to identification is reverse causality. Our interpretation of  $\beta_1$  would be compromised if late homesteaders encroached on tribal lands, prompting the government to take those lands rather than pursue treaties. Three facts make this unlikely. First, the federal government had actively sought out to renegotiate treaties in the 1870s and 1880s, ahead of late homesteading. Second, the General Revision Act (1891) removed the rights of squatters and forced homesteading on surveyed lands. Third, the timing is wrong; most land takings occurred prior to 1895, ruling out reverse causality.

Table 2 reports the results of estimating Equation 1 using ordinary least squares with a variety of specifications across the three different samples mentioned above. Column 1 includes state fixed effects but no controls. Column 2 adds linear controls for ruggedness, elevation, soil quality, distance to the nearest stream, distance to the nearest railroad, and the latitude and longitude of each plot’s centroid. Column 3 adds controls for the number of individuals associated with a patent and indicators for whether a patent included subsurface rights or was surveyed via metes and bounds. Column 4 uses semi-parametric, binned land quality controls by including indicator variables for each decile of each land quality variable (excluding the coordinate controls, which are still included linearly). Column 5 adds dummy variables for distance to the nearest reservation, in 50-mile increments from 0 to 200. Column 6 excludes plots associated with lands that

were taken after 1895, ruling out reverse causality. We cluster standard errors by county in all cases.

Panel A of Table 2 compares late homesteads to all other claims in the sample: homesteads settled before 1895 and all cash sales. The impact of taken territory is positive and significant in all specifications. Hence, plots in taken territory were more likely to be late homesteads compared to any other type of claim in the sample. The column 6 estimates imply that taken plots were  $0.185/0.436 = 42.4\%$  more likely to be late homesteads.

In Panel B, the sample is restricted to homesteads and cash sales with an arrival date after 1895, so the comparison is between late homesteads and late cash sales. Across all six specifications, taken territories are associated with a statistically significant increase in the probability that a plot settled after 1895 was homesteaded rather than purchased. The coefficient estimates range from 0.045 to 0.1. Adding additional controls reduces the magnitude of the coefficient somewhat. In our preferred specification in column 6, taken lands are associated with a 8.4 percentage-point increase in the probability that a plot was homesteaded—a 10.7% increase relative to the baseline probability of 77.9%.

Panel C of Table 2 compares late homesteads to early homesteads, restricting the sample to only include homesteaded plots. Across all specifications, taken territory is associated with a statistically significant increase in the probability that a plot was homesteaded late, rather than early. Our preferred estimates in column 6 indicate that plots in taken territory prior to 1895 were  $0.210/0.684 = 30.7\%$  more likely to be homesteaded late, rather than prior to 1895.<sup>33</sup>

Although we control for a variety of geographic and institutional factors, there may remain *unobserved* characteristics that are correlated with late homesteading and taken lands. To assess the extent to which unobserved confounders could be driving our results, we calculate Oster’s (2019)  $\delta$  for each specification that contains controls and report the results in Table 2. Oster’s  $\delta$  formalizes the logic of “coefficient stability” by comparing the change in the coefficient of interest to the corresponding change in the adjusted  $R$ -squared when controls are added to the model. The resulting parameter,  $\delta$ , is a measure of how large selection on *unobservables* would have to be relative to selection on observed covariates to make the coefficient of interest (Land Taken) statistically insignificant. Our estimates of Oster’s  $\delta$  range from 2.5 to 8.7, suggesting that unobserved covariates would have to matter 2.5–8.7 times more than the bundle of included controls to fully explain our estimated effect of Land Taken, which suggests that unobserved covariates are unlikely to undermine our core findings.

<sup>33</sup> See Appendix B of the Supplementary Material for results with an alternative coding of taken lands.

**TABLE 2. The Probability of Homesteading on Ceded versus Taken Land**

	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Late homesteads vs. all other claims</i>						
1(Taken)	0.276*** (0.0253)	0.252*** (0.0239)	0.219*** (0.0222)	0.189*** (0.0235)	0.186*** (0.0234)	0.185*** (0.0245)
Adjusted $R^2$	0.263	0.281	0.339	0.348	0.350	0.353
Observations	3,137,442	2,859,964	2,822,105	2,822,105	2,822,105	2,131,184
Mean dep. var.	0.514	0.490	0.489	0.489	0.489	0.436
Oster's $\delta$		2.856	3.449	8.700	7.754	5.279
<i>Panel B: Homesteads vs. sales after 1895</i>						
1(Taken)	0.100*** (0.0249)	0.0785*** (0.0261)	0.0527** (0.0257)	0.0448* (0.0250)	0.0453* (0.0246)	0.0839*** (0.0253)
Adjusted $R^2$	0.116	0.132	0.176	0.184	0.189	0.154
Observations	2,070,715	1,818,802	1,790,374	1,790,374	1,790,374	1,169,872
Mean Dep. Var.	0.767	0.758	0.759	0.759	0.759	0.779
Oster's $\delta$		4.129	2.562	3.315	3.368	4.271
<i>Panel C: Late vs. early homesteads</i>						
1(Taken)	0.353*** (0.0332)	0.328*** (0.0231)	0.316*** (0.0231)	0.265*** (0.0242)	0.264*** (0.0243)	0.210*** (0.0250)
Adjusted $R^2$	0.310	0.359	0.381	0.400	0.401	0.395
Observations	2,085,647	1,861,225	1,836,235	1,836,235	1,836,235	1,360,204
Mean dep. var.	0.773	0.752	0.752	0.752	0.752	0.684
Oster's $\delta$		2.873	2.723	5.329	4.981	4.705
<i>N</i> fixed effects	14	14	13	62	62	61
Land quality controls	None	Linear	Linear	Binned	Binned	Binned
State FE	✓	✓	✓	✓	✓	✓
Patent controls			✓	✓	✓	✓
Reservation distance bins					✓	✓
Early takings only						✓

Note: Results of estimating Equation 1. Land quality controls include elevation, ruggedness, soil quality, distance to nearest stream, distance to railroad, and the latitude and longitude of a section's centroid (the latter is included linearly in specifications where we bin the other land quality controls). Patent controls include the number of names associated with a patent and indicator variables for whether a patent included mineral rights and whether it was part of an irregular survey. Early takings are those that occur before 1895. Supplementary Tables C1–C3 present coefficient estimates for all control variables. Standard errors are clustered by county and reported in parentheses. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

## The Land Value Mechanism

Appendix B of the Supplementary Material provides suggestive evidence for the specific mechanism in our theoretical framework. Using county-level data on average land value per acre from the U.S. Census of Agriculture, we perform a simple mediation analysis and confirm that uncertainty about the legal title to taken lands reduced their value, making late homesteads relatively more likely. We relegate this exercise to the Supplementary Material because average farm values are only a proxy for the value of a specific land plot embodied in our theory, and because we lack the ability to interpret these results causally.

## ALTERNATIVE HYPOTHESES

Here, we examine several alternative explanations for the practice of late homesteading. First, the “safety

valve” hypothesis that westward expansion helped the United States absorb major waves of immigrants arriving during the late nineteenth and early twentieth centuries (Ferrie 1997; Turner [1893] 1966). Second, that late homesteading incentivized settlement in coordination with new irrigation projects being developed by the Bureau of Reclamation, which was established in 1902. Finally, we explore several other confounding factors that may be associated with late homesteading.

## A Safety Valve?

It has long been argued that that homesteading was used to reduce the impact of large waves of immigrants on eastern settled states, and in 1920, close to 14 million Americans were immigrants.<sup>34</sup> Immigration at the turn

<sup>34</sup> The notion of a homesteading safety valve comes from early nineteenth-century popular culture and land reformers, such as Horace Greeley. In the mid-twentieth century, historians examining

of the twentieth century mostly included people from southern and eastern Europe. Thus, if late homesteading was the result of immigration pressures, the homesteaders should have been made up of people from these regions. One method to test for a difference is to simply look at the distribution of homesteader names before and after 1895, as reported in the GLO land patent data. Supplementary Figure B1 suggests there was little difference in surnames over time by comparing two density functions of the prevalence of last names for early and late homesteaders. There is no statistical difference in the distribution of names across the two periods.

We also use county-level census data to formally test the immigration hypothesis. The U.S. Census reports the total population as well as the “foreign-born” population for each county in every decade. We assemble a panel from 1870 to 1920 and calculate the change in the foreign-born population as a share of the total change in the population in each county in each decade to characterize the intensity of immigration at the county level, which we can then match with plots settled in each county in each decade. If homesteading was a mechanism for absorbing waves of immigration, then late homesteads should be more likely than cash sales over the period of 1895 to 1920 in counties where a larger share of the change in population is attributable to foreign-born individuals.

Panel A of Table 3 formally tests the immigration channel by regressing the late homestead indicator on the foreign share of county population change associated with the county and decade corresponding to the time and place a given plot was settled. The sample is homesteads and cash sales after 1895 only. The specifications mimic those found in columns 1–5 of Table 2. In column 6, we add the *Taken* indicator to test whether the relationship between taken lands and late homesteading remains after controlling for foreign immigration. In all specifications, late homesteads are not more likely in counties with a larger share of foreign immigration in any given decade. Moreover, controlling for immigration actually increases the strength of the relationship between taken lands and homesteading in column 6 (compared to column 5 of Table 2).

In the Supplementary Material, we also show that, if anything, *cash sales* are more closely linked to aggregate U.S. immigration shocks (Supplementary Figure B2) and to county-level population increases than homesteading over 1890–1940.<sup>35</sup> This is consistent with our basic conceptual model of homesteading. Large population shocks would increase the demand for available land, raising its value, and reducing the

aggregate census data noted that it was inconsistent with general settlement patterns (see Shannon 1945, 31, who wrote “...the venerable theory of free land as a safety valve ...is dead,” or Smith 1950). Likewise Deverell (1988) argued that homesteading was unsuccessful if measured as a means of moving excessive eastern workers to western lands.

<sup>35</sup> We do find in Supplementary Table B6 that increases in the number of homesteads are associated with larger population increases at the county level, as would be expected.

total amount of land for which  $0 < V < 1.25$ , where homesteaders held the advantage.

## Reclamation and Homesteading

Congress created the Bureau of Reclamation (BOR) in 1902. The BOR used charges for water deliveries to help finance major dams and irrigation projects (Coman 1911). To have any hope of solvency, a project needed farmers to work the land and pay for water. This, coupled with the desire to avoid speculation on future irrigated lands, led Congress to restrict settlement of BOR lands to homestead entries only (Coman 1911). Perhaps late homesteading was driven by this channel.

To test this, we again use data from the 1910 Census of Agriculture, which reports the number of acres irrigated by BOR projects in each county. This figure was not reported regularly or systematically across censuses, so we focus on cross-sectional variation in BOR acreage. This test is sufficient because if the primary motivation for allowing homesteading was to settle lands serviced by the BOR, it seems unlikely that the government would have allowed homesteading to continue through the 1930s if no relationship between homesteading and BOR lands had emerged by 1910.

In Panel B of Table 3, we regress the late homestead indicator on BOR acreage in a county. As with immigration, the specifications mimic those in Table 2, and column 6 reintroduces the *Taken* indicator. Across all specifications, the relationship between BOR acreage in a county in 1910 and the probability that a post-1895 plot was homesteaded rather than bought is small and statistically insignificant. Column 6 indicates that controlling for BOR acreage does not impact the relationship between taken lands and homesteading.

In Panel C, we include both potential mechanisms, following the same set of specifications and restricting the sample to plots settled after 1895, as in Panels A and B. Once again, there is no detectable relationship between late homestead and either immigration or BOR acreage, while the *Taken* coefficient survives the inclusion of both measures. The *Taken* coefficient is smaller in Panel C than in Panels A and B, and it is marginally significant, but this is primarily driven by changes in the sample associated with imperfect matches between the modern county boundaries reported in the patent data and the historical boundaries in the Census data.<sup>36</sup>

## Other Explanations

Finally, we explore the general relationship between late homesteading and frontier population growth, national politics, racial composition of settlement, and the transition to statehood for Western territories.

<sup>36</sup> Supplementary Table B5 re-estimates column 5 of Table 2 in each relevant sample while omitting the controls for immigration and BOR acres and confirms that the shifts in the coefficients are due mostly to changes in the sample.

**TABLE 3. Alternative Explanations for Late Homesteading**

	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Immigration safety valve hypothesis</i>						
Foreign Share of County Population Change	0.00564 (0.00580)	0.00226 (0.00445)	0.00172 (0.00306)	0.00159 (0.00309)	0.00220 (0.00296)	0.00202 (0.00301) 0.0805** (0.0315)
1(Taken)						
Adjusted $R^2$	0.100	0.119	0.187	0.199	0.207	0.210
Observations	976,797	883,571	861,745	861,745	861,745	861,745
Mean dep. var.	0.761	0.750	0.752	0.752	0.752	0.752
<i>Panel B: Federal irrigation projects</i>						
1000s of BOR irrigated acres in county (1910)	0.00211 (0.00444)	0.00324 (0.00357)	0.00233 (0.00455)	0.00215 (0.00402)	0.00390 (0.00383)	0.00329 (0.00396) 0.0841*** (0.0309)
1(Taken)						
Adjusted $R^2$	0.060	0.091	0.148	0.162	0.168	0.170
Observations	1,020,952	931,593	904,658	904,658	904,658	904,658
Mean dep. var.	0.752	0.744	0.746	0.746	0.746	0.746
<i>Panel C: Both</i>						
Foreign share of county population change	0.00695 (0.00590)	0.00386 (0.00467)	0.00276 (0.00317)	0.00264 (0.00320)	0.00332 (0.00311)	0.00318 (0.00313)
1000s of BOR irrigated acres in county (1910)	0.00241 (0.00422)	0.00258 (0.00339)	0.000796 (0.00415)	0.000872 (0.00379)	0.00246 (0.00352)	0.00217 (0.00363) 0.0556* (0.0299)
1(Taken)						
Adjusted $R^2$	0.054	0.087	0.153	0.162	0.167	0.168
Observations	855,693	774,066	752,929	752,929	752,929	752,929
Mean dep. var.	0.780	0.772	0.775	0.775	0.775	0.775
<i>N</i> fixed effects	13	13	12	60	58	58
Land quality controls	None	Linear	Linear	Binned	Binned	Binned
State FE	✓	✓	✓	✓	✓	✓
Patent controls			✓	✓	✓	✓
Reservation distance bins					✓	✓

Note: This table presents the results of tests for alternative mechanisms. The specifications mimic those in the first five columns of Table 2. In all cases, the sample consists of homesteads and cash sales after 1895. Individual patents are matched to county-level data based on the location of the patent and the arrival date. Supplementary Tables C4–C6 present coefficient estimates for included control variables. Standard errors are clustered by county and reported in parentheses. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

Perhaps late homesteading was an important mechanism for pushing settlers into territories that remained sparsely populated in the 1890s, and had little to do with tribal land takings. Late homesteading may have been related to the dominance of the progressive Republican Party at the federal level, or to the desire of territories to transition to statehood at the local level.

Supplementary Table B8 presents the results of re-estimating our preferred specification from column 6 of Table 2 with a variety of additional controls. Column 1 reproduces column 6 of Table 2 for comparison. Column 2 adds a control for county-level population density in the year a plot was settled, and column 3 controls for Bazzi, Fiszbein, and Gebresilasse's (2020) "total frontier experience" through 1890. Column 4 adds indicators equal to one if Democrats controlled federal Congress, the presidency, or both. Column 5 adds a series of indicator variables for the decade in

which the latest cession or taking associated with a plot occurred, to semi-parametrically control for the timing of Indigenous land transfers. Column 6 includes all of these variables together. The effect of land takings on late homesteading is robust across all columns and all panels in Supplementary Table B8, suggesting that these potentially confounding factors do not affect our core results.

Regarding statehood, Supplementary Figure B3 plots the total number of late homesteads against the date of statehood for all western states and demonstrates only four territories in the sample achieved statehood after 1895 during the "late" period. Moreover, as Supplementary Figure B4 depicts, the majority of late homesteading occurred in states that had already achieved statehood by 1895, such as Montana. Hence, it seems unlikely that territorial/state politics drove late homesteading.

Frymer (2017) suggests that politicians had a strong interest in promoting *white* settlement of western lands, and perhaps homesteading was a way to accomplish this. In fact, there is little reason to think this would be the case, as homesteading had no specific racial restrictions associated with it. This is borne out by the data. Supplementary Figure B5 plots a binned scatter plot of the total number of late homesteads against the change in white population from 1900 to 1940 (both in logs), with no clear correlation or relationship emerging. Supplementary Table B7 tests this more formally, with a county-by-decade panel regression where we regress the decade-by-decade change in the white population share on various measures of homesteading. Once again, we find scant evidence to support this alternative explanation for homesteading.

## CONCLUSION

During the early period of homesteading, large tribal territories were established, and homesteading (along with forced movement) was used to push tribes into these areas. By 1890, the entirety of U.S. policy to exercise sovereignty over the west had been successful. Railroad land grants ended, and the federal government pulled back the reins of transferring lands to private interests during the Progressive era. All land policy made an about-face and headed in the same direction. Except for homesteading.

We claim that the value of homesteading to the federal government always came from one key feature: homesteaders had to live on the land. When land was occupied, homes and barns were built, roads and stores arose, a certain type of development took place, and eventually population growth and cities made “going back” impossible. In the words of Justice Ginsburg, this would “...preclude the Tribe from rekindling embers of sovereignty that long ago grew cold.”<sup>37</sup>

The Indian treaties of the mid-nineteenth century reflected the relative strength of western tribes at that time, and thus created a time consistency problem for the United States later in the century. The plenary power of the state allowed it to ultimately take back most of the tribal lands it had recognized in the earlier treaties, and late homesteading prevented the land from ever going back into tribal hands—even when the federal government’s actions were later ruled in violation. Consistent with this, we find that the location of late homesteading is well explained by the legal standing of the final land cessions that transferred Indigenous lands to the federal government. When those land cessions were more legally dubious, late homesteading took place. Late homesteading, therefore, was a major component of the dispossession of Indigenous lands during the early twentieth century. The large *amount* of late homesteading was a consequence of the enormous and questionable land

transfers that took place in the latter half of the nineteenth century.

## SUPPLEMENTARY MATERIAL

To view supplementary material for this article, please visit <https://doi.org/10.1017/S0003055423001466>.

## DATA AVAILABILITY STATEMENT

Research documentation and data that support the findings of this study are openly available at the American Political Science Review Dataverse: <https://doi.org/10.7910/DVN/C8V44A>.

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## CONFLICT OF INTEREST

The authors declare no ethical issues or conflicts of interest in this research.

## ETHICAL STANDARDS

The authors affirm this research did not involve human subjects.

## REFERENCES

Allen, Douglas W. 1991. “Homesteading and Property Rights; or, ‘How the West Was Really Won.’” *Journal of Law and Economics* 34 (1): 1–23.

Allen, Douglas W. 2019. “Establishing Economic Property Rights by Giving Away an Empire.” *Journal of Law and Economics* 62 (2): 251–80.

Allen, Douglas W., and Bryan Leonard. 2021. “Property Right Acquisition and Path Dependence: Nineteenth-Century Land Policy and Modern Economic Outcomes.” *Economic Journal* 131 (640): 3073–102.

Allen, Douglas W., and Bryan Leonard. 2023. “Replication Data for: Late Homesteading: Native Land Dispossession through Strategic Occupation.” Harvard Dataverse. Dataset. <https://doi.org/10.7910/DVN/C8V44A>

Alston, Eric, Adam Crepelle, Wilson Law, and Ilya Murtazashvili. 2021. “The Chronic Uncertainty of American Indian Property Rights.” *Journal of Institutional Economics* 17 (3): 473–88.

Anderson, Terry L., and Fred S. Mc Chesney. 1994. “Raid or Trade? An Economic Model of Indian-White Relations.” *The Journal of Law and Economics* 37 (1): 39–74.

<sup>37</sup> *City of Sherrill v. Oneida Indian Nation*, 544 U.S. at 214 (2005).

Anderson, Terry L., and Peter J. Hill. 1983. "Privatizing the Commons: An Improvement?" *Southern Economic Journal* 50 (2): 438.

Anderson, Terry L., and Peter J. Hill. 1990. "The Race for Property Rights." *Journal of Law and Economics* 33 (1): 177–97.

Ball, Dewi Ioan. 2016. *The Erosion of Tribal Power: The Supreme Court's Silent Revolution*. Norman: University of Oklahoma Press.

Banner, Stuart. 2007. *How the Indians Lost Their Land: Law and Power on the Frontier*. Cambridge, MA: Harvard University Press.

Barnett, Bruce, ed. 1919. *United States Statutes Annotated*, Volume VII. Chicago, IL: T.H. Flood.

Barzel, Yoram. 1997. *Economic Analysis of Property Rights*. Cambridge, MA: Cambridge University Press.

Bazzi, Samuel, Martin Fiszbein, and Mesay Gebresilasse. 2020. "Frontier Culture: The Roots and Persistence of 'Rugged Individualism' in the United States." *Econometrica* 88 (6): 2329–68.

Calloway, Colin G. 2013. *Pen and Ink Witchcraft: Treaties and Treaty Making in American Indian History*. New York City: Oxford University Press.

Carlos, Ann M., Donna L. Feir, and Angela Redish. 2022. "Indigenous Nations and the Development of the US Economy: Land, Resources, and Dispossession." *Journal of Economic History* 82 (2): 516–55.

Carlson, Leonard A. 1978. "The Dawes Act and the Decline of Indian Farming." *Journal of Economic History* 38 (1): 274–6.

Clark, Blue. 1994. *Lone Wolf v. Hitchcock: Treaty Rights and Indian Law at the End of the Nineteenth Century*. Lincoln: University of Nebraska Press.

Clawson, Marion. 1983. *The Federal Lands Revisited*. Washington, DC: Resources for the Future.

Coman, Katharine. 1911. "Some Unsettled Problems of Irrigation." *American Economic Review* 1 (1): 1–19.

De Soto, Hernando. 2000. *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else*. New York City: Basic Books.

Deverell, William F. 1988. "To Loosen the Safety Valve: Eastern Workers and Western Lands." *Western Historical Quarterly* 19 (3): 269–85.

Dippel, Christian. 2014. "Forced Coexistence and Economic Development: Evidence from Native American Reservations." *Econometrica* 82 (6): 2131–65.

Dippel, Christian, Dustin Frye, and Bryan Leonard. 2022. "Bureaucratic Discretion in Policy Implementation: Evidence from the Allotment Era." *Public Choice*: 1–19. <https://doi.org/10.1007/s11127-022-01019-8>

Edwards, Richard, Jacob K. Friefeld, and Rebecca S. Wingo. 2017. *Homesteading the Plains: Toward a New History*. Lincoln: University of Nebraska Press.

Evans, Richard T., and Helen M. Frye. 2009. *History of the Topographic Branch (Division)*. Number 1341. US Geological Survey.

Farrell, Justin, Paul Berne Burow, Kathryn McConnell, Jude Bayham, Kyle Whyte, and Gal Koss. 2021. "Effects of Land Dispossession and Forced Migration on Indigenous Peoples in North America." *Science* 374 (6567): eabe4943. <https://doi.org/10.1126/science.abe4943>

Ferrie, Joseph P. 1997. "Migration to the Frontier in Mid-Nineteenth Century America: A Re-Examination of Turner's 'Safety Valve.'" Working Paper.

Fouberg, Erin. 2000. *Tribal Territory, Sovereignty, and Governance: A Study of the Cheyenne River and Lake Traverse Indian Reservations*. Abingdon: Routledge.

Fowler, Loretta. 2015. "Arapaho and Cheyenne Perspectives: From the 1851 Treaty to the Sand Creek Massacre." *American Indian Quarterly* 39 (4): 364–90.

Frymer, Paul. 2014. "'A Rush and a Push and the Land Is Ours': Territorial Expansion, Land Policy, and US State Formation." *Perspectives on Politics* 12 (1): 119–44.

Frymer, Paul. 2017. *Building an American Empire: The Era of Territorial and Political Expansion*. Princeton, NJ: Princeton University Press.

General Land Office. 1926. "Suggestions to Homesteaders and Persons Desiring to Make Homestead Entries." Department of the Interior, Washington, DC, July 16.

Gregg, Sara M. 2019. "Imagining Opportunity: The 1909 Enlarged Homestead Act and the Promise of the Public Domain." *Western Historical Quarterly* 50 (3): 257–79.

Hämäläinen, Pekka. 2019. *Lakota America: A New History of Indigenous Power*. New Haven, CT: Yale University Press.

Hays, Samuel P. 1999. *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890–1920*, Volume 40. Pittsburgh, PA: University of Pittsburgh Press.

Hibbard, Benjamin Horace. 1939. *A History of the Public Land Policies*. New York: Peter Smith.

Indian Rights Association. 1889. "The Sixth Annual Report of the Executive Committee of the Indian Rights Association: For the Year Ending December 15th, 1888." Office of the Indian Rights Association.

Merriam, Lewis. 1928. "The Problem of Indian Administration: Report of a Survey Made at the Request of Honorable Hubert Work, Secretary of the Interior, and Submitted to Him." February 21, No. 17.

Miller, Robert J. 2012. *Reservation 'Capitalism': Economic Development in Indian Country*. New York City: Bloomsbury Publishing.

Murtazashvili, Ilia. 2013. *The Political Economy of the American Frontier*. Cambridge: Cambridge University Press.

Oster, Emily. 2019. "Unobservable Selection and Coefficient Stability: Theory and Evidence." *Journal of Business & Economic Statistics* 37 (2): 187–204.

Pommersheim, Frank. 2012. *Broken Landscape: Indians, Indian Tribes, and the Constitution*. Oxford: Oxford University Press.

Royce, Charles C. 1899. "Indian Land Cessions in the United States." *Eighteenth Annual Report of the Bureau of American Ethnology, 1896–1897*.

Seelye, Julius H. [1881] 2014. *A Century of Dishonor: A Sketch of the United States Government's Dealings with Some of the North American Tribes*. Cambridge: Cambridge University Press.

Shannon, Fred A. 1945. "A Post Mortem on the Labor-Safety-Valve Theory." *Agricultural History* 19 (1): 31–7.

Smith, Henry Nash. 1950. *Virgin Land: The American West as Symbol and Myth*. Cambridge, MA: Harvard University Press.

Southey, Clive. 1978. "The Staples Thesis, Common Property, and Homesteading." *Canadian Journal of Economics/Revue canadienne d'Économique* 11 (3): 547–59.

Spirling, Arthur. 2012. "US Treaty Making with American Indians: Institutional Change and Relative Power, 1784–1911." *American Journal of Political Science* 56 (1): 84–97.

Stroup, Richard L. 1988. "Buying Misery with Federal Land." *Public Choice* 57: 69–77.

Turner, Frederick Jackson. [1893] 1966. "The Significance of the Frontier in American History." *Proceedings of the State Historical Society of Wisconsin*.

U.S. Department of Interior. 1962. *The Homestead Law: A Brief Sketch in U.S. History*. Washington, DC: Department of the Interior.

Wall, Stephen. 2010. "The State of Indigenous America Series: Federalism, Indian Policy, and the Patterns of History." *Wicazo Sa Review* 25 (1): 5–16.