Supplementary Material For: Late Homesteading: Native Land Dispossession Through Strategic Occupation

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Abstract

This appendix provides additional historical and legal context, supplementary information regarding the data, additional empirical evidence of the robustness of the core results, referenced maps and figures, and complete coefficients estimates for all regressions presented throughout the paper. Replication package available at https://doi.org/10.7910/DVN/C8V44A

Contents

A Additional Historical Context and Analysis **2**
- i Late Homesteading and National Politics . . . 2
- ii The 1851 Fort Laramie Treaty . . . 2
- iii Supreme Court Cases Regarding Illegitimate Takings . . . 4
- iv The Enlarged Homestead Act . . . 6

B Data Sources, Summary Statistics, and Extra Regressions **7**
- i Data Sources and Summary Statistics . . . 7
- ii Alternative Coding of "Taken" Variable . . . 8
- iii Mediation Analysis of Land Value Channel . . . 9
- iv Evidence on Alternative Explanations for Late Homesteading . . . 12

C Complete Coefficient Estimates **17**
- i Coefficient Estimates for Results from Main Paper . . . 17
- ii Coefficient Estimates for Results from Appendix B . . . 23

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A Additional Historical Context and Analysis

i Late Homesteading and National Politics

Figure A1 depicts the total number of acres homesteaded in each year, along with the dates of major revisions to the Homestead Act. Solid red lines correspond to legislation that introduced restrictions to homesteading with no corresponding relaxation of constraints (e.g., removing mineral rights or withdrawing lands from settlement altogether). These include the 1894 Carey Act that withdrew a significant amount of land from public offering and granted it to states for sale to settlers, the 1910 Withdrawal Act that took all coal, oil, and phosphate-rich lands out of entry, the 1912 Three Year Homestead Act that extended the time to commute a homestead (paying to obtain title early) from six months to three years, and the 1934 Taylor Grazing Act, which instituted rangeland management on the public domain and effectively removed most remaining land from offered settlement.

Dashed red lines represent legislation that limited some aspects of homesteading while relaxing others. These include the 1873 Timber Culture Act, which allowed up to 320 acres to be claimed if settlers planted trees, as well as the 1904 Kinkaid Act, the 1906 Forest Homestead Act, the 1909 Enlarged Homestead Act, and the 1916 Stock-Raising Homestead Act, which all increased the amount of land that could be homesteaded under various conditions while reserving mineral and timber rights for the federal government.

The darkest shaded regions represent years when the Democratic Party held a majority in both houses of Congress as well as the presidency. The medium shading indicates years when Democrats held a majority in both houses of Congress with a Republican president, and the lightest shading represents years when Democrats held a majority in only on house of Congress. In unshaded years, Republicans held a majority in both houses of Congress.

There are several observations of note in Figure A1. First, in general, Republicans dominated national politics over the late homesteading era. In all but a handful of years, Republicans held a majority in both houses of Congress, and the transition to Democratic dominance in the 1930s is associated with the de facto end to late homesteading. Second, three of the four restrictive homestead revisions occurred when Democrats had a majority in at least one house of Congress. Moreover, the Taylor Grazing Act was passed in 1934 when Democrats controlled both congress and the presidency.[1] Third, periods of Democratic control of Congress appear to be associated with declines in homesteading, although there is substantial variation in the overall level of homesteading across years when Republicans dominated national politics as well.

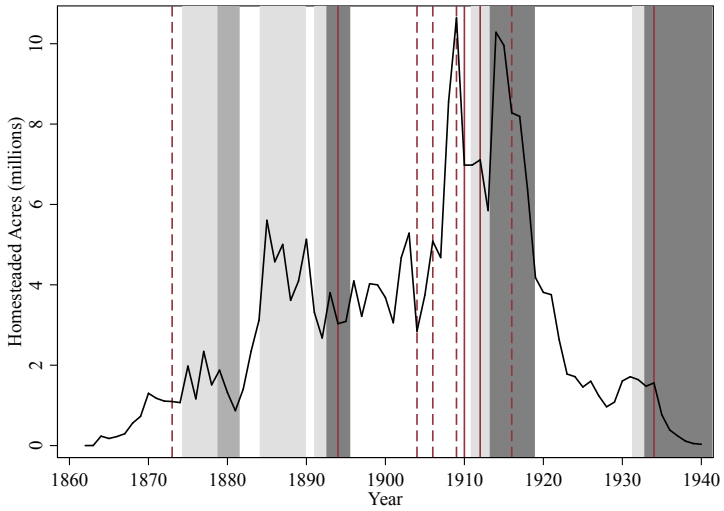
As we note in the paper, the Republicans were dominated by Progressive politics during this period, and yet their dominance during the period did not lead to an end of homesteading. The Democrats, on the other hand, were more sympathetic to homesteading, but when in power often restricted its use. Both parties revisited homesteading, both parties had opportunities to terminate it, but both parties generally behaved similarly: a restricted form of homesteading was developed and allowed to flourish during the period.

ii The 1851 Fort Laramie Treaty

As an example of how large the mid-nineteenth century Native treaty lands were, and how much the illegitimate takings drastically reduced these lands, consider the 1851 Fort Laramie Treaty with the Cheyenne, Sioux, Arapaho, Crow, Assiniboine, Mandan, Hidatsa, and Arikara. Although these tribes, in total, likely

[1] The Indian Reorganization Act, which ended the allotment of tribal lands, was also passed in 1934.

Figure A1: Republican Party Control During the Late Homestead Era



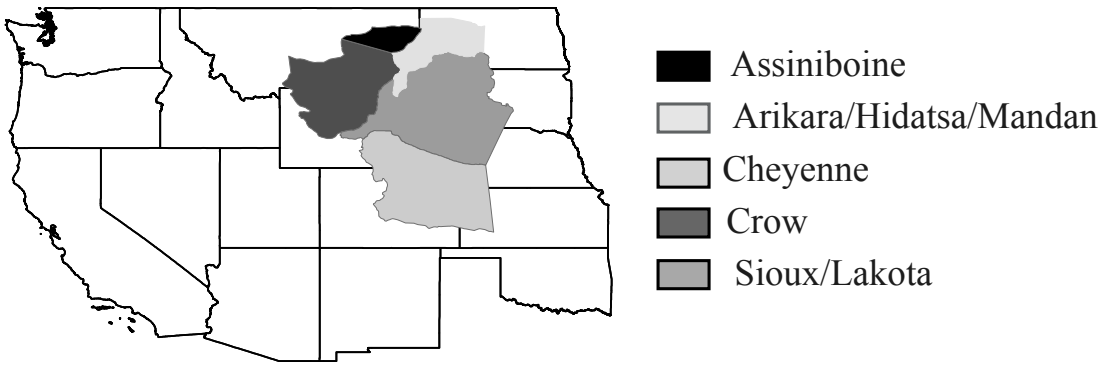
Notes: This figure depicts the total number of acres homesteaded in each year, along with the dates of major revisions to the homestead act. Solid red lines correspond to legislation that introduced limitations to homesteading with no corresponding relaxation of constraints (e.g., removing mineral rights or withdrawing lands from settlement altogether), whereas dashed red lines represent legislation that limited some aspects of homesteading while relaxing others (e.g., allowing for more acreage but removing mineral lands). The darkest shaded regions represent years when the Democratic Party held a majority in both houses of Congress as well as the presidency. The medium shading indicates years when Democrats held a majority in both houses of Congress with a Republican president, and the lightest shading represents years when Democrats held a majority in only on house of Congress. In unshaded years, Republicans held a majority in both houses of Congress.

did not exceed 130,000 people in 1850 (Hämäläinen, 2020), their use and management of horses in warfare made them a serious force to contend with. Thus, in exchange for safe passage for settlers destined for California and the Oregon territory along with rights to roads and forts, the tribes were granted an annuity and recognition of their traditional territorial lands (Paragraph 69, *Report to the President*, 1868). The lands given in 1851 spanned seven states, and the initial 1851 land allocation was enormous (see Figure A2).

However, the discovery of gold in parts of the west, and the increased influx of settlers ahead of official surveys meant that the 1851 treaty was broken quickly and considered void by the U.S. government. Subsequently, Native lands that were included in the 1851 treaty were taken away over time.

Consider the Crow Nation whose original territory spanned parts of Wyoming and Montana (section 3 of Figure A2). Figure A3 shows the Crow territory as described in the 1851 Treaty which included 38 million acres. Over time, as federal Indian policy changed, the Crow territories were reduced multiple times. In 1868 the second Fort Laramie Treaty reduced Crow lands to 8 million acres. In 1882 an act of Congress reduced the lands again, and granted some of the lands to the Northern Pacific Railroad. In 1891 there was another 2 million acre reduction, and in 1904 the Crow reservation was diminished to its present size of 2.3 million acres.

Figure A2: 1851 Fort Laramie Treaty Lands



Notes: The numbers on the map refer to lands given to specific tribes. Area 1: Assiniboine; 2: Arikara, Hidatsa and Mandan; 3: Crow; 4: Lakota; and 5: Arapaho and Cheyenne.

Figure A3: Crow Lands 1851–1904

Notes: This map depicts the evolution of Crow lands over subsequent waves of treaties.

iii Supreme Court Cases Regarding Illegitimate Takings

The paper briefly discusses the *Lone Wolf* case to point out the questionable dealings that took place during the treaty negotiations, the general contemporary awareness of the issues, and the immediate legal response. However, other cases are relevant to the theory in our paper.

In *Hagen v. Utah* the court summarized the law in determining whether or not Indian lands had been "diminished" (the court's term for a legitimate transfer to the federal state).

> ... our precedents in the area have established a fairly clean analytical structure, directing us to look to three factors. The ... statutory language used to open the Indian lands. ... the historical context surrounding the passage of the surplus land Acts, ... Finally, "[o]n a more pragmatic level, we have recognized that who actually moved onto opened reservation lands is also relevant to deciding whether a surplus land Act diminished a reservation.
>
> [at 411, 1994]

Thus, the occupation of Indian lands was a factor in determining whether their legal claims to the land had been extinguished, and as the court acknowledged, this was not a matter of law but of practicality. In *South Dakota v. Yankton Sioux Tribe* the court found that non-Indian occupation was relevant for diminishment:

> The Yankton population in the region promptly and drastically declined after the 1894 Act, and the area remains predominantly populated by non-Indians with only a few surviving pockets of Indian allotments.
>
> [at 331, 1998]

A similar reasoning is found in *Rosebud Sioux Tribe v. Kneip*:

> The longstanding assumption of jurisdiction by the State over an area that is over 90% non-Indian, both in population and in land use, not only demonstrates the parties' understanding of the meaning of the Act, but has created justifiable expectations which should not be upset by so strained a reading of the Acts of Congress as petitioner urges.
>
> [at 430, 1977]

In these cases, the policy of flooding Indian lands with homesteaders and other settlers contributed to the long run ownership rights of the federal government.

However, this policy has not always worked. In the *Hagen v. Utah* dissent, Justice Black noted that "Great nations, like great men, should keep their word, ... and we do not lightly find that Congress has broken its solemn promises to Indian tribes." (at 422, 1994). In *Nebraska v. Parker* the court noted that the Omaha

> ... Tribe was almost entirely absent from the disputed territory for more than 120 years. ... does not enforce any of its regulations ... . Nor does it maintain an office, provide social services, or host tribal celebrations or ceremonies [on the disputed lands]...
>
> [at 1081, 2016]

However, the court concluded that this "... demographic history cannot overcome our conclusion that Congress did not intend to diminish the reservation in 1882. And it is not our role to "rewrite" the 1882 Act in light of this subsequent demographic history." (at 1082, 2016). In this case the tribal rights to the lands long taken were upheld.

Although occupation heavily influences the chance that the federal land takings remain, it has never determined it. In his *Hagen* dissent Justice Black noted "we never have relied upon contemporary demographic or jurisdictional considerations to find diminishment." (at 441, 1994). Indeed, two particular cases explicitly demonstrate that large tracts of Indian lands can revert back to tribal ownership.

In *United States v. Sioux Nation of Indians* (448 U.S. 371, 1980), the court upheld the rights to the Great Sioux Reservation that included the Black Hills, which were part of the 1868 Fort Laramie treaty. In 1876, after a series of battles Congress forced the Sioux to cede the Black Hills. Litigation began in 1920, and culminated in the 1980 case where the U.S. Supreme Court held that the 1876 Senate Bill S590 which removed much of the Sioux territory from their control was not valid. Rather, the Fort Laramie Treaty of 1868 which had granted these lands was still valid. Although the Sioux were given a financial compensation, *they were not given back the land*.

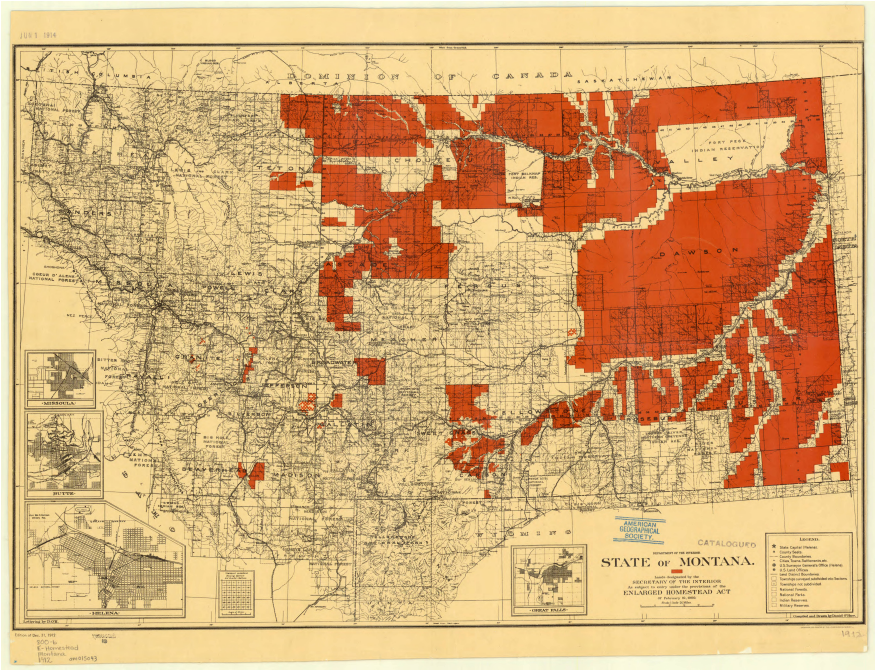
In the more recent case of *Sharp v. Murhpy* (591, 2020), the Supreme Court ruled that the Creek Nation in Oklahoma had not lost title to the lands given in 1866, despite the fact that the lands in question were heavily populated by nonIndians. These lands consist of three million acres in Eastern Oklahoma and include much of Tulsa. In the decision, concern was expressed over how lands occupied by 1.8 million non Creeks could be given back, but the original treaty rights were upheld.

iv The Enlarged Homestead Act

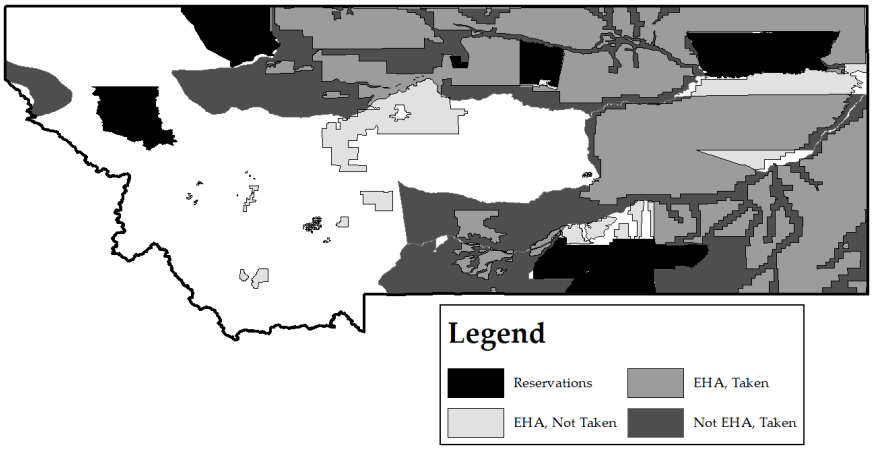
Under the Enlarged Homestead Act (which applied to a limited number of 13 states), the Secretary of the Interior designated specific lands as qualified. Figure A4, panel (a) shows these designated lands (in red) for Montana. In panel (b) the designated lands are overlaid with the boundaries for the taken lands and the modern reservation lands.

In panel (b) the dark red areas are EHA lands that were on ceded lands, while the light red areas are EHA lands on taken lands. Clearly, the vast majority of EHA lands (84%) were on taken lands. Visually, the general pattern of EHA lands matches very close to the taken lands.

Figure A4: Lands Designated Under the Enlarged Homestead Acts



(a) Original 1912 Map



(b) Georeferenced Map with Taken Lands

Notes: This depicts land designated for settlement by the Secretary of the Interior in 1912 under the Enlarged Homestead Act of 1909. Panel (a) depicts the original map, and panel (b) depicts our georeferenced version overlaid with taken lands and modern Reservation Boundaries. Source: https://collections.lib.uwm.edu/digital/collection/agdm/id/7231/rec/10.

B Data Sources, Summary Statistics, and Extra Regressions

i Data Sources and Summary Statistics

Elevation data from the National Elevation Dataset (NED, 30-by-30 meter) is used to calculate the mean and standard deviation of elevation, utilizing the latter as the measure of ruggedness (following Ascione, *et al.* (2008), Allen and Leonard (2021)). Average soil quality for each plot is measured using the soil productivity index (PI) grid developed by Schaetzl, *et al.*, (2012). The distance from each plot to the nearest perennial stream and railroad are calculated based on the National Hydrography Dataset and Atack's (2016) railroad shapefile.

County-level data on total population, white population, are from the U.S. Census of Population, obtained via NHGIS.org (Manson et al., 2022). County-level data on land value, and Bureau of Reclamation spending are from the U.S. Census of Agriculture, also obtained from NHGIS.org (Manson et al., 2022). Aggregate U.S. immigration totals are from Campbell J. Gibson and Emily Lennon, "Historical Census Statistics on the Foreign-Born Population of the United States: 1850 to 1990" (Working Paper no. 29., U.S. Census Bureau, Washington, DC, 1999).

Data Sources

1. Federal land patent data: `http://www.glorecords.blm.gov/BulkData/default.aspx`.
2. Jeremy Atack Railroad files: `https://my.vanderbilt.edu/jeremyatack/data-downloads/`.
3. Elevation data: `https://datagateway.nrcs.usda.gov/`.
4. Soil quality data: `http://www.geographer-miller.com/productivity-index-grid/`.
5. County data: `http://www.nhgis.org/`.
6. Immigration data: Campbell J. Gibson and Emily Lennon, "Historical Census Statistics on the Foreign-Born Population of the United States: 1850 to 1990" (Working Paper no. 29., U.S. Census Bureau, Washington, DC, 1999)

Table B1: Plot-Level Summary Statistics

Variable	Mean	Std. Dev.	Definition
Homestead	0.665	0.472	= 1 if land was homesteaded
Late Homestead	0.533	0.499	= 1 if land was homesteaded after 1895
Land Taken	0.780	0.414	= 1 if land cession was legally contestable
Land Ceded	0.231	0.422	= 1 if land cession was voluntary
Stream Distance	8769.306	20431.530	Meters to the nearest stream
Rail Distance	28050.450	30590.280	Meters to nearest railroad (completed by 1912)
Soil Quality	10.179	4.180	Mean of Schaetzl (2012) Soil Productivity Index
Elevation	1114.335	629.652	Mean elevation (meters)
Ruggedness	15.223	20.324	Standard deviation of elevation
Metes	0.002	0.042	= 1 if land surveyed by metes and bounds
Subsurface	0.169	0.375	= 1 if mineral rights reserved by the federal government
Patent Acres	236.675	492.478	Total acres associated with a patent
Plots per Patent	3.588	7.923	Number of unique plots associated with a patent
People per Patent	1.052	0.276	Number of individuals registered on a patent

ii Alternative Coding of "Taken" Variable

Our results in Table 2 omit cases where cessions could not be definitively classified as ceded or taken. Table B2 includes all cessions and adds an indicator, $1(Ceded)_i$ for plots on lands that were clearly ceded via treaty. The omitted category in these regressions includes all plots that could not be clearly assigned to the Ceded or Taken groups. Across all six specifications in all three panels, the results are qualitatively unchanged from Table 2.

Table B2: Alternative Coding of Ceded vs. Taken Lands

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Late Homesteads vs. All Other Claims						
	y = 1(Homestead) x 1(Arrival Date > 1895)					
1(Taken)	0.134***	0.121***	0.0904***	0.0910***	0.0935***	0.107***
	(0.0212)	(0.0205)	(0.0187)	(0.0183)	(0.0183)	(0.0187)
1(Ceded Territory)	-0.145***	-0.144***	-0.144***	-0.123***	-0.117***	-0.0827***
	(0.0272)	(0.0263)	(0.0233)	(0.0234)	(0.0221)	(0.0274)
Adjusted R-squared	0.241	0.251	0.314	0.321	0.324	0.337
Observations	3,628,429	3,386,547	3,348,124	3,348,124	3,348,124	2,451,335
Mean Dep. Var.	0.494	0.472	0.472	0.472	0.472	0.429
Panel B: Homesteads vs. Sales After 1895						
	y = 1(Homestead)					
1(Taken)	0.113***	0.100***	0.0730***	0.0759***	0.0668***	0.0637***
	(0.0254)	(0.0243)	(0.0226)	(0.0214)	(0.0221)	(0.0213)
1(Ceded Territory)	0.0175	0.0311	0.0281	0.0271	0.0180	-0.0202
	(0.0295)	(0.0297)	(0.0275)	(0.0264)	(0.0265)	(0.0267)
Adjusted R-squared	0.113	0.129	0.176	0.183	0.187	0.152
Observations	2,382,954	2,161,373	2,13,2573	2,132,573	2,132,573	1,353,979
Mean Dep. Var.	0.741	0.728	0.729	0.729	0.729	0.762
Panel C: Late vs. Early Homesteads						
	y = 1(Arrival Date > 1895)					
1(Taken)	0.0777***	0.0569***	0.0435**	0.0359**	0.0580***	0.0805***
	(0.0201)	(0.0194)	(0.0185)	(0.0176)	(0.0167)	(0.0211)
1(Ceded Territory)	-0.281***	-0.284***	-0.286***	-0.245***	-0.220***	-0.135***
	(0.0330)	(0.0280)	(0.0268)	(0.0268)	(0.0246)	(0.0296)
Adjusted R-squared	0.294	0.334	0.358	0.378	0.383	0.383
Observations	2,335,170	2,133,450	2,108,246	2,108,246	2,108,246	1,534,157
Mean Dep. Var.	0.768	0.750	0.750	0.750	0.750	0.686
N Fixed Effects	13	13	12	61	61	61
Land Quality Controls	*none*	*linear*	*linear*	*binned*	*binned*	*binned*
State FE	✓	✓	✓	✓	✓	✓
Patent Controls			✓	✓	✓	✓
Reservation Distance Bins					✓	✓
Early Takings Only						✓

Notes: This table depicts the results of estimating equation 1 in an expanded sample that includes land losses that could not be cleanly identified as ceded or taken. These unidentified land losses form the omitted category in this table.

iii Mediation Analysis of Land Value Channel

This section briefly provides additional evidence for the specific mechanism in our theoretical framework. Specifically, in Section 3, we posited that uncertainty about the legal title to taken lands would have reduced their value, making late homesteads relatively more likely.

Using county-level data on average land value per acre from the U.S. Census of Agriculture we perform a simple mediation analysis. We recognize that average farm values are only a proxy for the value of a specific land plot embodied in our theory; however, plot-level land sales data at the beginning of the late homestead era do not exist. Land values in the Census are self reported and therefore reflect farmers' own expectation about the legal title to their lands, as well as a variety of other factors that may be correlated with homesteading and land cessions. Although the county-level data is therefore a useful proxy, the mediation analysis is supporting evidence only.

The estimating equations for the mediation analysis are:

$$ln(LandValue_{1900})_{i,c} = \theta 1(Taken)_{i,c} + \psi \vec{X}_i + \nu_i \tag{B1}$$

$$1(LateHomestead)_i = \alpha_1 ln(LandValue_{1900})_{i,c} + \alpha_2 1(Taken)_{i,c} + \delta \vec{X}_i + \epsilon_i \tag{B2}$$

where $(LandValue_{1900})_{i,c}$ denotes average land value per acre in county c where plot i is located. We perform the analysis at the plot level because that is the level at which the decision to homestead varies, but we cluster standard errors by county. We also restrict our analysis to counties that are either entirely taken or entirely ceded, omitting counties that are a mixture of the two. Doing so allows us to more precisely estimate the effect of taken land on land values.[2]

The results of jointly estimating equations (B1) and (B2) are presented in Table B3, which reports the individual coefficients of interest in addition to the indirect effect of takings on late homesteading via land values, $\alpha_1 \times \theta$, as well as the controlled direct effect, the total effect, and the percentage of the total effect that is mediated by land values. Across all six specifications, we find a statistically significant indirect effect that comprises 25 to 50% of the total effect, depending on the specification. The fact that 50–875% of the effect of land cessions on homesteading is not mediated by land values underscores the imperfect nature of our proxy for land values. Moreover, we stress that we cannot necessarily advance a causal interpretation for the mediation analysis. The evidence in Table B3 is nevertheless broadly consistent with our theoretical framework: taken lands are associated with lower land values, and lower-valued lands are subsequently associated with more late homesteading.

[2] In Table B4, we run a county-level version of equation (B1) for robustness.

Table B3: Mediation Analysis

	(1)	(2)	(3)	(4)	(5)	(6)
	y = 1(Late Homestead)					
$\frac{\partial \ln(\text{Land Value})}{\partial 1(Taken)}$ $(\hat{\theta})$	-0.864***	-0.838***	-0.933***	-0.969***	-0.945***	-0.832***
	(0.166)	(0.201)	(0.214)	(0.147)	(0.139)	(0.127)
$\frac{\partial 1(Late\ Homestead)}{\partial \ln(\text{Land Value})}$ $(\hat{\alpha}_1)$	-0.0805***	-0.0744***	-0.0891***	-0.0706***	-0.0681***	-0.0609**
	(0.0199)	(0.0203)	(0.0218)	(0.0292)	(0.0284)	(0.0238)
Direct Effect $(\hat{\alpha}_2)$	0.198***	0.143***	0.0843	0.137***	0.145***	0.116**
	(0.0518)	(0.0509)	(0.0596)	(0.0542)	(0.0552)	(0.0497)
Indirect Effect $(\hat{\alpha}_1 \times \hat{\theta})$	0.0695***	0.0624***	0.0832***	0.0683*	0.0644*	0.0507**
	(0.0218)	(0.0236)	(0.0293)	(0.0307)	(0.0301)	(0.0219)
Total Effect $(\hat{\alpha}_1 \times \hat{\theta}) + \hat{\alpha}_2$	0.268***	0.205***	0.167***	0.205***	0.209***	0.167***
	(0.0514)	(0.0527)	(0.0614)	(0.0480)	(0.0484)	(0.0445)
Observations	812,000	742,235	721,829	483,399	483,399	626,166
% Mediated	25.95	30.38	49.67	33.3	30.77	30.4
Land Quality Controls	*none*	*linear*	*linear*	*binned*	*binned*	*binned*
State FE	✓	✓	✓	✓	✓	✓
Patent Controls			✓	✓	✓	✓
Reservation Distance Bins					✓	✓
Early Takings Only						✓

Notes: Results of estimating equations B1 and B2. Controls are defined as in Table 1. The sample includes all homesteads and cash sales. Standard errors are clustered by county and reported in parentheses. Appendix Tables C7–C8 present coefficient estimates for included control variables. * p<0.1, ** p<0.05, *** p<0.01.

Table B4: The Effect of Land Takings on Land Value (County-Level)

	(1)	(2)	(3)	(4)	(5)	(6)
	y = ln(Land Value)$_t$					
	1890	*1900*	*1910*	*1920*	*1925*	*1930*
1(Taken)	-0.686***	-1.300***	-0.867***	-0.598***	-0.791***	-0.628***
	(0.142)	(0.191)	(0.176)	(0.173)	(0.161)	(0.173)
Avg. Distance to Rail	-0.0000215***	-0.0000298***	-0.0000319***	-0.0000321***	-0.0000307***	-0.0000325***
	(0.00000427)	(0.00000510)	(0.00000725)	(0.00000571)	(0.00000610)	(0.00000719)
Avg. Soil Quality	-0.0220	-0.00552	0.0118	0.00398	0.0308	0.0187
	(0.0499)	(0.0553)	(0.0506)	(0.0585)	(0.0556)	(0.0569)
Std. Dev. Of Soil Qulaity	0.361	0.149	-0.106	-0.588	-0.470	-0.291
	(0.456)	(0.484)	(0.396)	(0.439)	(0.408)	(0.434)
Avg. Elevation	-0.000124	0.000177	0.0000584	0.000229	0.000410	0.000519
	(0.000302)	(0.000340)	(0.000291)	(0.000374)	(0.000362)	(0.000419)
Ruggedness	0.00871	0.0363	0.0145	-0.00163	0.0146	-0.00377
	(0.0290)	(0.0358)	(0.0332)	(0.0434)	(0.0355)	(0.0374)
Avg. Distance to Streams	0.00000392	0.0000138*	-0.00000223	-0.00000718	-0.00000784	-0.00000763
	(0.00000637)	(0.00000821)	(0.0000107)	(0.00000889)	(0.00000921)	(0.00000981)
Avg. Plots per Patent	-0.0157	0.0221	0.0154	0.0205*	0.0153	0.0198
	(0.0206)	(0.0245)	(0.0176)	(0.0116)	(0.0120)	(0.0192)
Avg. People per Patent	0.359	1.788	0.720	1.327*	1.106	1.148
	(1.460)	(1.283)	(0.682)	(0.710)	(0.748)	(0.812)
Avg. Patent Acres	0.0000710	-0.000124	-0.0000859	-0.0000978*	-0.0000748	-0.000105
	(0.0000982)	(0.000119)	(0.0000844)	(0.0000579)	(0.0000596)	(0.0000937)
Adjusted R-squared	0.628	0.797	0.793	0.782	0.834	0.810
Observations	86	86	86	86	86	86
State FE	✓	✓	✓	✓	✓	✓

Notes: This table depicts the results of estimating equation B1. Standard errors are clustered by county and reported in parentheses. * p<0.1, ** p<0.05, *** p<0.01.

Table B5: Impact of Sample Restrictions on Coefficient Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
			y = 1(Homestead)			
1(Taken)	0.0807**	0.0862***	0.0570*	0.0713***	0.0824***	0.0898***
	(0.0315)	(0.0310)	(0.0298)	(0.0206)	(0.0193)	(0.0204)
1(Ceded Territory)				-0.00637	0.00855	0.0414
				(0.0310)	(0.0344)	(0.0332)
Adjusted R-squared	0.210	0.171	0.167	0.189	0.167	0.166
Observations	860,970	899,108	752,894	1,101,861	1,076,439	898,180
Mean Dep. Var.	0.752	0.746	0.775	0.719	0.726	0.753
N Fixed Effects	60	58	58	60	58	58
Omit Uncoded Claims	✓	✓	✓			
Foreign Share Sample	✓		✓	✓		✓
BOR Sample		✓	✓		✓	✓

Notes: This table presents the results of estimating column 5 of Table 2 in the subsample of patents that can be matched to the county-level variables introduced in Table 3. Columns 1 through 3 reproduce the specification in column 5 of Table 2. Columns 4 through 6 reproduce the specification in column 5 of Table B2. * $p<0.1$, ** $p<0.05$, *** $p<0.01$.

iv Evidence on Alternative Explanations for Late Homesteading

Table B6: Homesteading as a Safety Valve

	(1)	(2)	(3)	(4)	(5)	(6)
	y = Δ County Population					
Δ Homesteads/Δ All Claims	1999.4**	-30.65	-169.5			
	(946.4)	(545.3)	(625.5)			
Δ Homesteads				1.803***	0.836	1.224***
				(1.803)	(0.716)	(0.421)
Δ Cash Sales				-0.264	0.602	0.538*
				(0.697)	(0.465)	(0.473)
Lagged Popualtion			0.182***			0.163***
			(0.0321)			(0.0473)
Adjusted R-squared	0.53	0.537	0.592	0.542	0.552	0.596
Observations	3,350	3,350	3,350	3,930	3,930	3,930
Mean Dep. Var.	3776.4	3776.4	3776.4	3511.1	3511.1	3511.1
County FE	✓	✓	✓	✓	✓	✓
Year FE		✓		✓		✓
State X Year FE			✓			✓

Notes: This table presents the results of a county-by-decade panel regression of the following form:

$$\Delta Pop_{c,d} = \beta_1 \Delta Homesteads_{c,d} + \sigma_d + \lambda_c + \varepsilon_{c,d}$$

where c denotes county and d denotes decade. We measure the intensity of Δ*Homesteads* proportionately in columns 1–3, and in levels alongside cash sales in columns 4–6. Standard errors are clustered by county in all specifications. The sample spans 1890 to 1940.

Table B7: Homesteading and White Population Share

	(1)	(2)	(3)	(4)	(5)	(6)
	y = Δ White Population Share					
Δ Homesteads/Δ All Claims	-0.00995	-0.000105	-0.00267			
	(0.00860)	(0.00874)	(0.00543)			
Δ Homesteads				0.00000515	0.0000127***	-0.000000991
				(0.00000366)	(0.00000437)	(0.00000292)
Δ Cash Sales				0.0000109*	0.0000102	0.00000498*
				(0.00000604)	(0.00000743)	(0.00000286)
Lagged White Population Share			-0.989***			-0.987***
			(0.0946)			(0.0945)
Adjusted R-squared	0.271	0.024	0.542	0.265	0.013	0.543
Observations	2,570	2,570	2,570	2,570	2,570	2,570
Mean Dep. Var.	-0.00242	-0.00242	-0.00242	-0.00242	-0.00242	-0.00242
County FE	✓	✓	✓	✓	✓	✓
Year FE		✓		✓		✓
State X Year FE			✓			✓

Notes: This table presents the results of a county-by-decade panel regression of the following form:

$$\Delta WhiteShare_{c,d} = \beta_1 \Delta Homesteads_{c,d} + \sigma_d + \lambda_c + \varepsilon_{c,d}$$

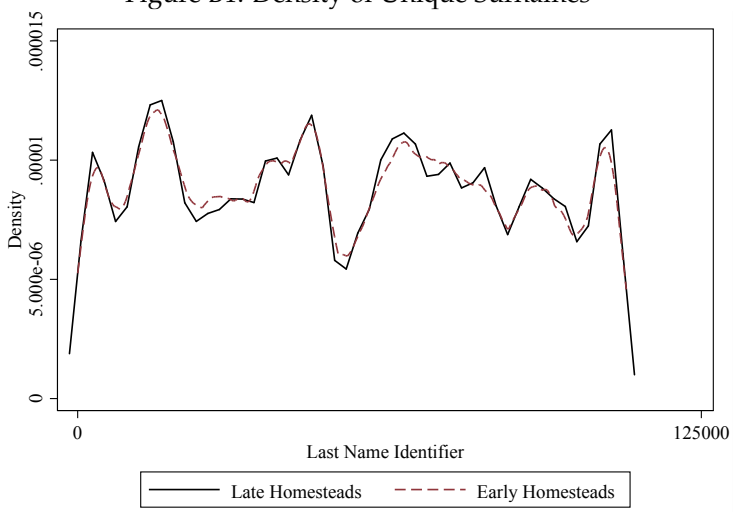
where c denotes county and d denotes decade. We define $\Delta WhiteShare = WhitePop_t/TotalPop_t/ - WhitePop_{t-1}/TotalPop_{t-1}$. We measure the intensity of Δ *Homesteads* proportionately in columns 1–3, and in levels alongside cash sales in columns 4–6. Standard errors are clustered by county in all specifications. The sample spans 1890 to 1940.

Table B8: Robustness to Additional Controls

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Late Homesteads vs. All Other Claims						
	y = 1(Homestead) x 1(Arrival Date > 1895)					
1(Taken)	0.185***	0.187***	0.177***	0.164***	0.131***	0.115***
	(0.0245)	(0.0246)	(0.0237)	(0.0233)	(0.0207)	(0.0192)
Adjusted R-squared	0.353	0.355	0.355	0.390	0.361	0.400
Observations	2,131,184	2,131,184	2,131,184	2,131,184	2,131,184	2,131,184
Mean Dep. Var.	0.436	0.436	0.436	0.436	0.436	0.436
Oster's δ		3.462	2.866	4.441	1.680	3.984
Panel B: Homesteads vs. Sales After 1895						
			y = 1(Homestead)			
1(Taken)	0.0839***	0.0842***	0.0845***	0.0727***	0.0766***	0.0671***
	(0.0253)	(0.0253)	(0.0252)	(0.0240)	(0.0193)	(0.0183)
Adjusted R-squared	0.154	0.154	0.154	0.171	0.159	0.176
Observations	1,169,872	1,169,872	1,169,872	1,169,872	1,169,872	1,169,872
Mean Dep. Var.	0.779	0.779	0.779	0.779	0.779	0.779
Oster's δ		3.495	3.509	3.281	2.361	3.306
Panel C: Late vs. Early Homesteads						
			y = 1(Arrival Date > 1895)			
1(Taken)	0.210***	0.211***	0.201***	0.195***	0.140***	0.131***
	(0.0250)	(0.0251)	(0.0238)	(0.0242)	(0.0206)	(0.0198)
Adjusted R-squared	0.395	0.397	0.397	0.431	0.406	0.444
Observations	1,360,204	1,360,204	1,360,204	1,360,204	1,360,204	1,360,204
Mean Dep. Var.	0.684	0.684	0.684	0.684	0.684	0.684
Oster's δ		3.096	2.552	5.214	1.630	4.662
N Fixed Effects	61	61	61	61	61	61
Propulation Density		✓				✓
Total Frontier Experience			✓			✓
Democratic Party Dominance				✓		✓
Takings/Cession Timing					✓	✓

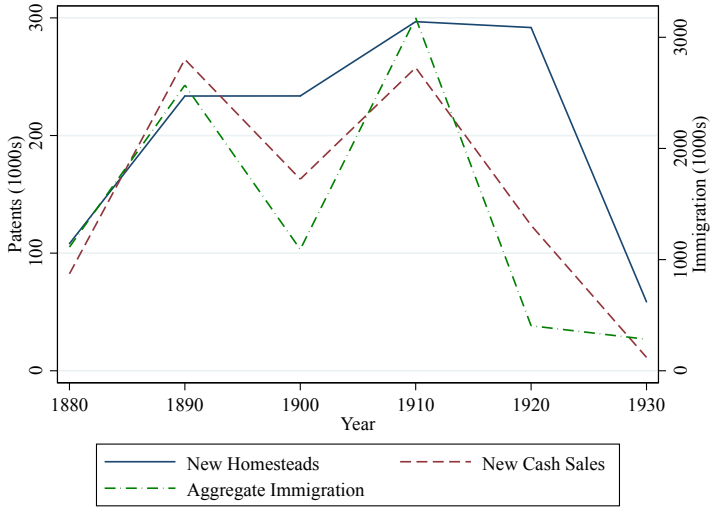
Notes: This table depicts the results of estimating the specification in Column 6 of Table 2 with several additional control variables that may confound the effect of Taken Lands. Appendix Tables C10—C12 present coefficient estimates for included control variables. All models include binned land quality controls, patent controls, reservation distance bins, and early takings only. Column 2 adds the population density of the county where a plot is located in the year it was settled, obtained from Bazzi et al. (2019). Column 3 adds Bazzi et al.'s (2019) county-level measure of "total frontier experience" by 1890. Column 4 adds three dummy variables for i) Democrat control of congress, ii) a Democrat president, and iii) Democrat control of both congress and the White House. Column 5 adds county-level dummy variables for the decade in which the latest cession/taking in a county occurred (e.g., a dummy equal to one if the latest taking was in the 1860s, etc.). Column 6 includes all controls. Standard errors are clustered by county in all specifications.

Figure B1: Density of Unique Surnames



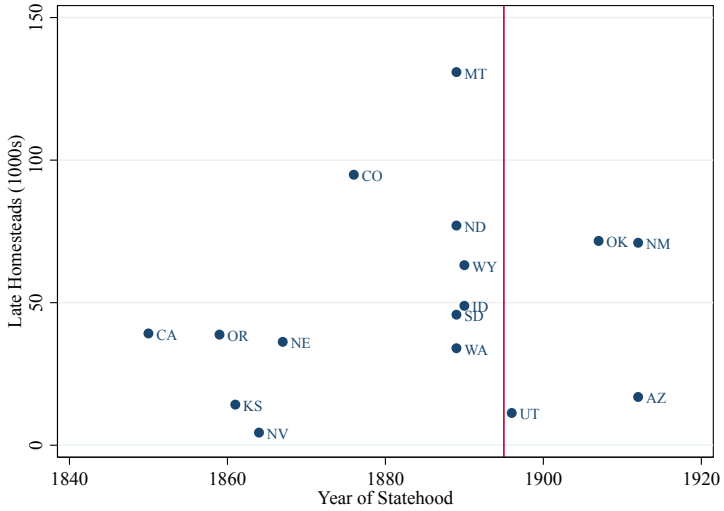
Notes: Figure depicts density of unique last names for late homesteads (solid black line) vs. early homesteads (dashed red line).

Figure B2: Homesteading as a Safety Valve



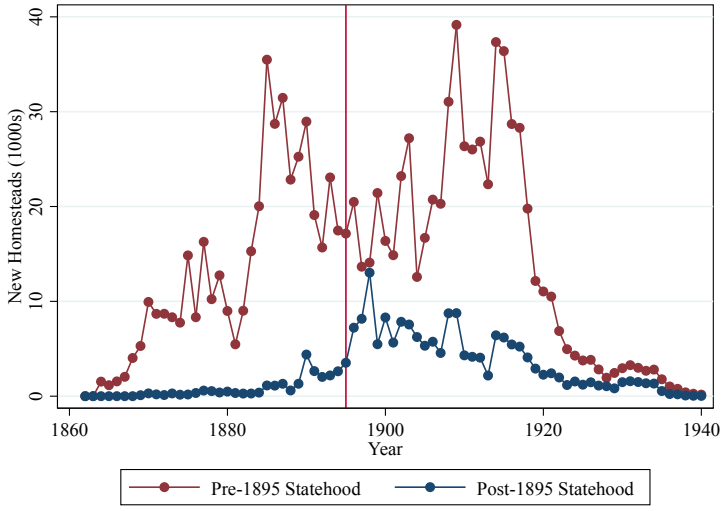
Notes: This figure depicts total new homesteads, new cash sales, and aggregate U.S. immigration by decade

Figure B3: Late Homesteading and Statehood



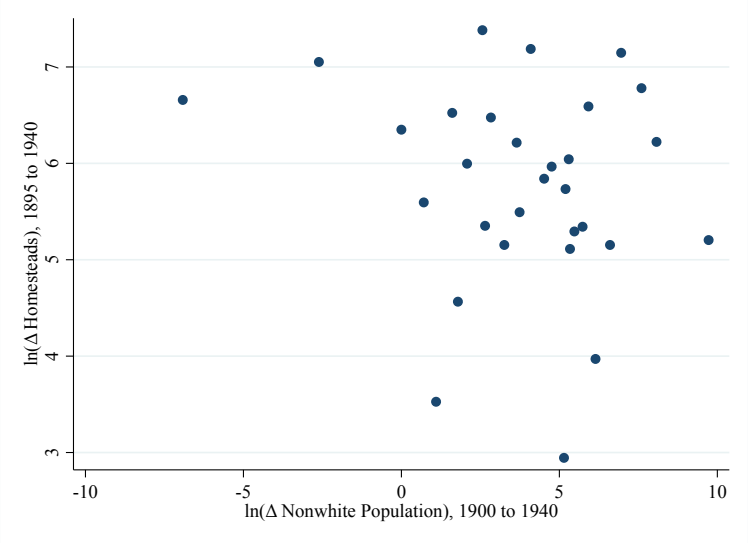
Notes: This figure depicts the total number of late homesteads in each state against the date in which the state achieved statehood. The vertical line at 1895 represents our cutoff for characterizing homesteads as "late" vs. "early."

Figure B4: Late Homesteading vs. Late Statehood



Notes: This figure depicts the total number of new homesteads annual in states that achieved statehood before 1895 (red dotted lined) vs. states that achieved statehood after 1895 (blue diamond line). The vertical line at 1895 represents our cutoff for characterizing homesteads as "late" vs. "early."

Figure B5: Homesteading and White Population Share



Notes: This figure depicts a binned scatter plot of the total number of new homesteads over 1895 to 1940 vs. the change in the non-white population from 1900 to 1940 at the county level. Each point represents the median of a quantile of the distribution, which has been divided into 30 quantiles. Data on total and white population were obtained from the U.S. Census Bureau.

C Complete Coefficient Estimates

i Coefficient Estimates for Results from Main Paper

Table C1: Complete Coefficient Estimates for Table 2, Panel A

	(1)	(2)	(3)	(4)	(5)	(6)
Late Homesteads vs. All Other Claims						
			y = 1(Homestead) x 1(Arrival Date > 1895)			
1(Taken)	0.276***	0.252***	0.219***	0.189***	0.186***	0.185***
	(0.0253)	(0.0239)	(0.0222)	(0.0235)	(0.0234)	(0.0245)
X Centroid		0.00492	0.00295	0.00432	0.00163	-0.00533
		(0.00375)	(0.00345)	(0.00342)	(0.00330)	(0.00327)
Y Centroid		-0.00498	-0.00180	-0.00303	-0.00341	-0.0146***
		(0.00479)	(0.00452)	(0.00461)	(0.00465)	(0.00490)
Avg. Soil Index		-0.00911***	-0.00669***			
		(0.00128)	(0.00122)			
Ruggedness		0.000812***	0.000242			
		(0.000240)	(0.000208)			
Avg, Elevation		0.0000860***	0.0000667***			
		(0.0000166)	(0.0000151)			
Distance to Stream		-0.000000795***	-0.000000533**			
		(0.000000273)	(0.000000266)			
Distance to Rail		0.00000166***	0.00000106***			
		(0.000000224)	(0.000000195)			
People per Patent			0.113***	0.115***	0.115***	0.113***
			(0.00754)	(0.00776)	(0.00778)	(0.00910)
1(Subsurface Rights)			0.338***	0.336***	0.340***	0.389***
			(0.0211)	(0.0214)	(0.0217)	(0.0226)
1(Metes & Bounds)			0.304***	0.318***	0.311***	0.338***
			(0.0281)	(0.0281)	(0.0282)	(0.0386)
Patent Acres			0.0000327*	0.0000340*	0.0000336*	0.0000250
			(0.0000179)	(0.0000179)	(0.0000179)	(0.0000157)
Adjusted R-squared	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
N 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						✓

Notes: This table depicts complete coefficient estimates for all of the control variables included in the regression results reported in Panel A of Table 2. Standard errors are clustered by county and reported in parentheses.

Table C2: Complete Coefficient Estimates for Table 2, Panel B

	(1)	(2)	(3)	(4)	(5)	(6)
Homesteads vs. Sales After 1895			*y = 1(Homestead)*			
1(Taken)	0.100***	0.0785***	0.0527**	0.0448*	0.0453*	0.0839***
	(0.0249)	(0.0261)	(0.0257)	(0.0250)	(0.0246)	(0.0253)
X Centroid		0.0177***	0.0157***	0.0162***	0.0129***	0.00630*
		(0.00422)	(0.00401)	(0.00371)	(0.00369)	(0.00350)
Y Centroid		-0.00789	-0.00505	-0.00627	-0.00509	-0.0225***
		(0.00647)	(0.00638)	(0.00592)	(0.00581)	(0.00566)
Avg. Soil Index		-0.00514***	-0.00303**			
		(0.00128)	(0.00129)			
Ruggedness		-0.000284	-0.000738***			
		(0.000280)	(0.000269)			
Avg, Elevation		0.0000486**	0.0000282			
		(0.0000211)	(0.0000207)			
Distance to Stream		-0.000000686***	-0.000000492***			
		(0.000000200)	(0.000000185)			
Distance to Rail		0.000000623***	0.000000197			
		(0.000000189)	(0.000000164)			
People per Patent			0.0701***	0.0728***	0.0726***	0.0631***
			(0.0127)	(0.0103)	(0.0102)	(0.0114)
1(Subsurface Rights)			0.201***	0.201***	0.205***	0.217***
			(0.0178)	(0.0177)	(0.0179)	(0.0182)
1(Metes & Bounds)			0.205***	0.212***	0.207***	0.227***
			(0.0288)	(0.0291)	(0.0286)	(0.0370)
Patent Acres			0.0000630	0.0000618	0.0000603	0.0000415
			(0.0000480)	(0.0000470)	(0.0000464)	(0.0000349)
Adjusted R-squared	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
N 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						✓

Notes: This table depicts complete coefficient estimates for all of the control variables included in the regression results reported in Panel B of Table 2. Standard errors are clustered by county and reported in parentheses.

Table C3: Complete Coefficient Estimates for Table 2, Panel C

	(1)	(2)	(3)	(4)	(5)	(6)
Late vs. Early Homesteads						
			y = 1(Arrival Date > 1895)			
1(Taken)	0.353***	0.328***	0.316***	0.265***	0.264***	0.210***
	(0.0332)	(0.0231)	(0.0231)	(0.0242)	(0.0243)	(0.0250)
X Centroid		-0.0260***	-0.0259***	-0.0228***	-0.0238***	-0.0265***
		(0.00286)	(0.00281)	(0.00270)	(0.00277)	(0.00322)
Y Centroid		-0.00882	-0.00723	-0.0108**	-0.0108**	-0.0206***
		(0.00571)	(0.00562)	(0.00527)	(0.00535)	(0.00659)
Avg. Soil Index		-0.00970***	-0.00821***			
		(0.00114)	(0.00113)			
Ruggedness		0.00109***	0.000646***			
		(0.000231)	(0.000217)			
Avg, Elevation		0.0000711***	0.0000603***			
		(0.0000167)	(0.0000164)			
Distance to Stream		-0.000000339	-0.000000238			
		(0.000000267)	(0.000000274)			
Distance to Rail		0.00000124***	0.000000973***			
		(0.000000156)	(0.000000155)			
People per Patent			0.0645***	0.0660***	0.0660***	0.0786***
			(0.00831)	(0.00868)	(0.00870)	(0.0108)
1(Subsurface Rights)			0.129***	0.124***	0.127***	0.180***
			(0.0146)	(0.0153)	(0.0155)	(0.0188)
1(Metes & Bounds)			0.103***	0.114***	0.112***	0.136***
			(0.0196)	(0.0184)	(0.0180)	(0.0274)
Patent Acres			0.0000482	0.0000491	0.0000487	0.0000458
			(0.0000414)	(0.0000418)	(0.0000418)	(0.0000418)
Adjusted R-squared	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
N 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						✓

Notes: This table depicts complete coefficient estimates for all of the control variables included in the regression results reported in Panel C of Table 2. Standard errors are clustered by county and reported in parentheses.

Table C4: Complete Coefficient Estimates for Table 3, Panel A

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Immigration Safety Valve Hypothesis						
			y = 1(Homestead)			
Foreign Share of County Population Change	0.00564	0.00226	0.00172	0.00159	0.00220	0.00202
	(0.00580)	(0.00445)	(0.00306)	(0.00309)	(0.00296)	(0.00301)
1(Taken)						0.0805**
						(0.0315)
X Centroid		0.00909	0.00944	0.00976*	0.00475	0.00286
		(0.00683)	(0.00651)	(0.00541)	(0.00561)	(0.00533)
Y Centroid		-0.0243***	-0.0203***	-0.0254***	-0.0244***	-0.0261***
		(0.00584)	(0.00552)	(0.00561)	(0.00574)	(0.00534)
Avg. Soil Index		-0.00507***	-0.00253			
		(0.00186)	(0.00172)			
Ruggedness		-0.000199	-0.000778**			
		(0.000343)	(0.000317)			
Avg, Elevation		-0.0000169	-0.0000414*			
		(0.0000227)	(0.0000212)			
Distance to Stream		-0.000000632**	-0.000000445*			
		(0.000000245)	(0.000000232)			
Distance to Rail		0.000000709***	0.000000352*			
		(0.000000197)	(0.000000192)			
People per Patent			0.0817***	0.0829***	0.0826***	0.0815***
			(0.00983)	(0.00847)	(0.00827)	(0.00821)
1(Subsurface Rights)			0.264***	0.263***	0.268***	0.264***
			(0.0200)	(0.0191)	(0.0194)	(0.0191)
1(Metes & Bounds)			0.232***	0.234***	0.241***	0.244***
			(0.0376)	(0.0379)	(0.0380)	(0.0375)
Patent Acres			0.0000303	0.0000288	0.0000280	0.0000273
			(0.0000253)	(0.0000237)	(0.0000232)	(0.0000228)
Adjusted R-squared	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
N Fixed Effects	13	13	12	60	58	58
Land Quality Controls	*none*	*linear*	*linear*	*binned*	*binned*	*binned*
State FE	✓	✓	✓	✓	✓	✓
Patent Controls			✓	✓	✓	✓
Reservation Distance Bins					✓	✓

Notes: This table depicts complete coefficient estimates for all of the control variables included in the regression results reported in Panel A of Table 3. Standard errors are clustered by county and reported in parentheses.

Table C5: Complete Coefficient Estimates for Table 3, Panel B

	(1)	(2)	(3)	(4)	(5)	(6)
Panel B: Federal Irrigation Projects						
			y = 1(Homestead)			
1000s of BOR Irrigated Acres in County (1910)	0.00211	0.00324	0.00233	0.00215	0.00390	0.00329
	(0.00444)	(0.00357)	(0.00455)	(0.00402)	(0.00383)	(0.00396)
1(Taken)						0.0841***
						(0.0309)
X Centroid		0.0290***	0.0263***	0.0254***	0.0207***	0.0151**
		(0.00561)	(0.00558)	(0.00540)	(0.00588)	(0.00591)
Y Centroid		-0.0188**	-0.0153*	-0.0209***	-0.0200***	-0.0235***
		(0.00803)	(0.00780)	(0.00602)	(0.00632)	(0.00633)
Avg. Soil Index		-0.00467*	-0.00353			
		(0.00244)	(0.00259)			
Ruggedness		0.000231	-0.000292			
		(0.000297)	(0.000273)			
Avg, Elevation		0.00000471	-0.0000172			
		(0.0000242)	(0.0000230)			
Distance to Stream		-0.000000546**	-0.000000394*			
		(0.000000210)	(0.000000202)			
Distance to Rail		0.000000288	4.19e-08			
		(0.000000257)	(0.000000251)			
People per Patent			0.0604***	0.0713***	0.0716***	0.0714***
			(0.0223)	(0.0154)	(0.0151)	(0.0150)
1(Subsurface Rights)			0.241***	0.240***	0.243***	0.241***
			(0.0237)	(0.0227)	(0.0231)	(0.0231)
1(Metes & Bounds)			0.254***	0.264***	0.264***	0.266***
			(0.0403)	(0.0406)	(0.0391)	(0.0394)
Patent Acres			0.0000349	0.0000338	0.0000328	0.0000320
			(0.0000290)	(0.0000276)	(0.0000271)	(0.0000267)
Adjusted R-squared	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
N Fixed Effects	13	13	12	60	58	58
Land Quality Controls	*none*	*linear*	*linear*	*binned*	*binned*	*binned*
State FE	✓	✓	✓	✓	✓	✓
Patent Controls			✓	✓	✓	✓
Reservation Distance Bins					✓	✓

Notes: This table depicts complete coefficient estimates for all of the control variables included in the regression results reported in Panel B of Table 3. Standard errors are clustered by county and reported in parentheses.

Table C6: Complete Coefficient Estimates for Table 3, Panel C

	(1)	(2)	(3)	(4)	(5)	(6)
Panel C: Both						
			y = 1(Homestead)			
Foreign Share of County Population Change	0.00695	0.00386	0.00276	0.00264	0.00332	0.00318
	(0.00590)	(0.00467)	(0.00317)	(0.00320)	(0.00311)	(0.00313)
1000s of BOR Irrigated Acres in County (1910)	0.00241	0.00258	0.000796	0.000872	0.00246	0.00217
	(0.00422)	(0.00339)	(0.00415)	(0.00379)	(0.00352)	(0.00363)
1(Taken)						0.0556*
						(0.0299)
X Centroid		0.0246***	0.0239***	0.0225***	0.0177***	0.0144**
		(0.00541)	(0.00558)	(0.00522)	(0.00550)	(0.00558)
Y Centroid		-0.0235***	-0.0197***	-0.0219***	-0.0214***	-0.0237***
		(0.00518)	(0.00496)	(0.00508)	(0.00536)	(0.00538)
Avg. Soil Index		-0.00110	0.000689			
		(0.00167)	(0.00152)			
Ruggedness		0.000295	-0.000315			
		(0.000282)	(0.000259)			
Avg, Elevation		-0.0000329	-0.0000527***			
		(0.0000215)	(0.0000200)			
Distance to Stream		-0.000000506**	-0.000000348*			
		(0.000000216)	(0.000000201)			
Distance to Rail		0.000000434*	0.000000210			
		(0.000000245)	(0.000000230)			
People per Patent			0.0738***	0.0770***	0.0770***	0.0768***
			(0.0101)	(0.00880)	(0.00861)	(0.00858)
1(Subsurface Rights)			0.251***	0.251***	0.255***	0.253***
			(0.0212)	(0.0197)	(0.0200)	(0.0198)
1(Metes & Bounds)			0.230***	0.230***	0.236***	0.238***
			(0.0369)	(0.0362)	(0.0364)	(0.0363)
Patent Acres			0.0000288	0.0000275	0.0000270	0.0000266
			(0.0000237)	(0.0000225)	(0.0000222)	(0.0000220)
Adjusted R-squared	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
N Fixed Effects	13	13	12	60	58	58
Land Quality Controls	*none*	*linear*	*linear*	*binned*	*binned*	*binned*
State FE	✓	✓	✓	✓	✓	✓
Patent Controls			✓	✓	✓	✓
Reservation Distance Bins					✓	✓

Notes: This table depicts complete coefficient estimates for all of the control variables included in the regression results reported in Panel C of Table 3. Standard errors are clustered by county and reported in parentheses.

ii Coefficient Estimates for Results from Appendix B

Table C7: Complete Coefficient Estimates for Equation B1

	(1)	(2)	(3)	(4)	(5)	(6)
	y = ln(Land Value per Acre)					
1(Taken)	-0.864***	-0.838***	-0.933***	-0.969***	-0.945***	-0.832***
	(0.166)	(0.201)	(0.214)	(0.147)	(0.139)	(0.127)
X Centroid		-0.00145	-0.00717	0.0142	0.0412*	0.105***
		(0.0578)	(0.0592)	(0.0344)	(0.0248)	(0.0227)
Y Centroid		0.0168	0.0178	0.0952	0.115	0.140
		(0.0708)	(0.0717)	(0.0820)	(0.0893)	(0.0896)
Avg. Soil Index		-0.00967	-0.00832			
		(0.00677)	(0.00682)			
Ruggedness		0.00794***	-0.000152			
		(0.00235)	(0.000122)			
Avg, Elevation		-0.000119	0.00742***			
		(0.000119)	(0.00238)			
Distance to Stream		0.00000393***	0.00000404***			
		(0.00000148)	(0.00000145)			
Distance to Rail		-0.00000453***	-0.00000489***			
		(0.00000133)	(0.00000134)			
People per Patent			-0.00714	-0.00601	-0.0105	0.0120
			(0.0143)	(0.0114)	(0.0102)	(0.0116)
1(Subsurface Rights)			0.288***	0.280***	0.204***	0.147**
			(0.151)	(0.106)	(0.0671)	(0.0655)
1(Metes & Bounds)			0.0607	0.222	0.0972	-0.0142
			(0.151)	(0.142)	(0.0997)	(0.0839)
Patent Acres			-0.0000121	0.00000610	0.00000250	0.0000121
			(0.0000240)	(0.0000120)	(0.0000111)	(0.0000102)
Adjusted R-squared	0.263	0.281	0.339	0.348	0.350	0.353
Observations	812,000	742,235	721,829	483,399	483399	626,166
Mean Dep. Var.	0.514	0.490	0.489	0.489	0.489	0.436
N 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						✓

Notes: This table depicts complete coefficient estimates for all of the control variables included in the regression results reported in Table B3 from estimating equation B1. Standard errors are clustered by county and reported in parentheses.

Table C8: Complete Coefficient Estimates for Equation B2

	(1)	(2)	(3)	(4)	(5)	(6)
Late Homesteads vs. All Other Claims						
			y = 1(Late Homestead)			
ln(Land Value per Acre)	-0.0805***	-0.0744***	-0.0891***	-0.0706**	-0.0681**	-0.0609**
	(0.0199)	(0.0203)	(0.0218)	(0.0292)	(0.0284)	(0.0238)
1(Taken)	0.198***	0.143***	0.0843	0.137**	0.145***	0.116**
	(0.0518)	(0.0509)	(0.0596)	(0.0542)	(0.0552)	(0.0497)
X Centroid		0.00268	0.0000802	-0.0226***	-0.0238***	-0.00693
		(0.00609)	(0.00649)	(0.00686)	(0.00609)	(0.00648)
Y Centroid		0.00905	0.0202	0.0310**	0.0259*	-0.00833
		(0.0154)	(0.0143)	(0.0130)	(0.0138)	(0.0123)
Avg. Soil Index		-0.0121***	-0.00961***			
		(0.00280)	(0.00279)			
Ruggedness		0.00138**	0.0000109			
		(0.000543)	(0.0000326)			
Avg, Elevation		0.0000280	0.000295			
		(0.0000323)	(0.000573)			
Distance to Stream		-0.000000792***	-0.000000673**			
		(0.000000287)	(0.000000277)			
Distance to Rail		0.00000224***	0.00000166***			
		(0.000000509)	(0.000000454)			
People per Patent			0.137***	0.0787***	0.0786***	0.135***
			(0.0120)	(0.00766)	(0.00781)	(0.0121)
1(Subsurface Rights)			0.394***	0.194***	0.200***	0.409***
			(0.0379)	(0.0330)	(0.0317)	(0.0372)
1(Metes & Bounds)			0.428***	0.222***	0.220***	0.414***
			(0.0552)	(0.0348)	(0.0347)	(0.0523)
Patent Acres			0.0000405	0.0000178	0.0000174	0.0000289
			(0.0000403)	(0.0000246)	(0.0000244)	(0.0000322)
Adjusted R-squared	0.263	0.281	0.339	0.348	0.350	0.353
Observations	812,000	742,235	721,829	483,399	483399	626,166
Mean Dep. Var.	0.514	0.490	0.489	0.489	0.489	0.436
N 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						✓

Notes: This table depicts complete coefficient estimates for all of the control variables included in the regression results reported in Table B3 from estimating equation B2. Standard errors are clustered by county and reported in parentheses.

Table C9: Complete Coefficient Estimates for Table B5

	(1)	(2)	(3)	(4)	(5)	(6)
			y = 1(Homestead)			
1(Taken)	0.0807**	0.0862***	0.0570*	0.0713***	0.0824***	0.0898***
	(0.0315)	(0.0310)	(0.0298)	(0.0206)	(0.0193)	(0.0204)
1(Ceded Territory)				-0.00637	0.00855	0.0414
				(0.0310)	(0.0344)	(0.0332)
X Centroid	0.00281	0.0148**	0.0143***	0.00686	0.0140**	0.0135***
	(0.00532)	(0.00589)	(0.00546)	(0.00511)	(0.00579)	(0.00496)
Y Centroid	-0.0263***	-0.0241***	-0.0242***	-0.0242***	-0.0205***	-0.0220***
	(0.00534)	(0.00631)	(0.00532)	(0.00490)	(0.00598)	(0.00489)
People per Patent	0.0816***	0.0714***	0.0769***	0.0899***	0.0764***	0.0847***
	(0.00822)	(0.0151)	(0.00863)	(0.00837)	(0.0167)	(0.00914)
1(Subsurface Rights)	0.263***	0.241***	0.254***	0.267***	0.260***	0.265***
	(0.0192)	(0.0230)	(0.0200)	(0.0183)	(0.0223)	(0.0190)
1(Metes & Bounds)	0.244***	0.265***	0.238***	0.262***	0.283***	0.260***
	(0.0376)	(0.0393)	(0.0362)	(0.0358)	(0.0353)	(0.0344)
Patent Acres	0.0000273	0.0000315	0.0000264	0.0000331	0.0000349	0.0000307
	(0.0000227)	(0.0000264)	(0.0000218)	(0.0000267)	(0.0000287)	(0.0000248)
Adjusted R-squared	0.210	0.171	0.167	0.189	0.167	0.166
Observations	860,970	899,108	752,894	1,101,861	1,076,439	898,180
Mean Dep. Var.	0.752	0.746	0.775	0.719	0.726	0.753
N Fixed Effects	60	58	58	60	58	58
Omit Uncoded Claims	✓	✓	✓			
Foreign Share Sample	✓		✓	✓		✓
BOR Sample		✓	✓		✓	✓

Notes: This table depicts complete coefficient estimates for all of the control variables included in the regression results reported in Table B5. Standard errors are clustered by county and reported in parentheses.

Table C10: Complete Coefficient Estimates for Table B8, Panel A

	(1)	(2)	(3)	(4)	(5)	(6)
Late Homesteads vs. All Other Claims						
			y = 1(Homestead) x 1(Arrival Date > 1895)			
1(Taken)	0.185***	0.187***	0.177***	0.164***	0.131***	0.115***
	(0.0245)	(0.0246)	(0.0237)	(0.0233)	(0.0207)	(0.0192)
X Centroid	-0.00533	-0.00552*	-0.00370	-0.00530*	-0.00477	-0.00406
	(0.00327)	(0.00326)	(0.00327)	(0.00298)	(0.00323)	(0.00295)
Y Centroid	-0.0146***	-0.0136***	-0.0118**	-0.0123***	-0.0141***	-0.00906**
	(0.00490)	(0.00478)	(0.00487)	(0.00446)	(0.00488)	(0.00430)
People per Patent	0.113***	0.113***	0.111***	0.102***	0.113***	0.101***
	(0.00910)	(0.00910)	(0.00923)	(0.00949)	(0.00903)	(0.00941)
1(Subsurface Rights)	0.389***	0.387***	0.386***	0.329***	0.397***	0.334***
	(0.0226)	(0.0225)	(0.0226)	(0.0200)	(0.0236)	(0.0210)
1(Metes & Bounds)	0.338***	0.335***	0.339***	0.263***	0.361***	0.282***
	(0.0386)	(0.0386)	(0.0349)	(0.0387)	(0.0389)	(0.0360)
Patent Acres	0.0000250	0.0000254	0.0000251	0.0000173	0.0000237	0.0000166
	(0.0000157)	(0.0000157)	(0.0000157)	(0.0000153)	(0.0000148)	(0.0000144)
Population Density		0.00100*				0.000869*
		(0.000572)				(0.000500)
Total Frontier Experience			-0.00292***			-0.00211**
			(0.000942)			(0.000863)
1(Democrat Congress)				-0.170***		-0.157***
				(0.0136)		(0.0134)
1(Democrat President)				0.210***		0.209***
				(0.0181)		(0.0175)
1(Democrat Congress & President)				0.181***		0.166***
				(0.0220)		(0.0217)
Adjusted R-squared	0.353	0.355	0.355	0.390	0.361	0.400
Observations	2,131,184	2,131,184	2,131,184	2,131,184	2,131,184	2,131,184
Mean Dep. Var.	0.436	0.436	0.436	0.436	0.436	0.436
Oster's δ		3.462	2.866	4.441	1.680	3.984
N Fixed Effects	14	14	13	62	62	61
Propulation Density		✓				✓
Total Frontier Experience			✓			✓
Democratic Party Dominance				✓		✓
Takings/Cession Timing					✓	✓

Notes: This table depicts complete coefficient estimates for all of the control variables included in the regression results reported in Panel A of Table B8. Standard errors are clustered by county and reported in parentheses.

Table C11: Complete Coefficient Estimates for Table B8, Panel B

	(1)	(2)	(3)	(4)	(5)	(6)
Homesteads vs. Sales After 1895						
				y = 1(Homestead)		
1(Taken)	0.0839***	0.0842***	0.0845***	0.0727***	0.0766***	0.0671***
	(0.0253)	(0.0253)	(0.0252)	(0.0240)	(0.0193)	(0.0183)
X Centroid	0.00630*	0.00630*	0.00617*	0.00583*	0.00332	0.00287
	(0.00350)	(0.00350)	(0.00345)	(0.00329)	(0.00386)	(0.00359)
Y Centroid	-0.0225***	-0.0221***	-0.0227***	-0.0205***	-0.0233***	-0.0210***
	(0.00566)	(0.00569)	(0.00577)	(0.00542)	(0.00565)	(0.00545)
People per Patent	0.0631***	0.0632***	0.0632***	0.0617***	0.0635***	0.0622***
	(0.0114)	(0.0113)	(0.0112)	(0.0106)	(0.0112)	(0.0102)
1(Subsurface Rights)	0.217***	0.217***	0.217***	0.193***	0.216***	0.192***
	(0.0182)	(0.0182)	(0.0183)	(0.0173)	(0.0184)	(0.0175)
1(Metes & Bounds)	0.227***	0.227***	0.227***	0.192***	0.228***	0.193***
	(0.0370)	(0.0370)	(0.0371)	(0.0358)	(0.0378)	(0.0365)
Patent Acres	0.0000415	0.0000415	0.0000415	0.0000390	0.0000426	0.0000401
	(0.0000349)	(0.0000349)	(0.0000349)	(0.0000339)	(0.0000343)	(0.0000333)
Population Density		0.000164				0.000166
		(0.000118)				(0.000122)
Total Frontier Experience			0.000288			0.000130
			(0.000953)			(0.000893)
1(Democrat Congress)				-0.00351		-0.00230
				(0.0113)		(0.0112)
1(Democrat President)				0.122***		0.120***
				(0.0133)		(0.0131)
1(Democrat Congress & President)				0		0
				(.)		(.)
Adjusted R-squared	0.154	0.154	0.154	0.171	0.159	0.176
Observations	1,169,872	1,169,872	1,169,872	1,169,872	1,169,872	1,169,872
Mean Dep. Var.	0.779	0.779	0.779	0.779	0.779	0.779
Oster's δ		3.495	3.509	3.281	2.361	3.306
N Fixed Effects	14	14	13	62	62	61
Propulation Density		✓				✓
Total Frontier Experience			✓			✓
Democratic Party Dominance				✓		✓
Takings/Cession Timing					✓	✓

Notes: This table depicts complete coefficient estimates for all of the control variables included in the regression results reported in Panel B of Table B8. Standard errors are clustered by county and reported in parentheses.

Table C12: Complete Coefficient Estimates for Table B8, Panel C

	(1)	(2)	(3)	(4)	(5)	(6)
Late vs. Early Homesteads						
			y = 1(Arrival Date > 1895)			
1(Taken)	0.210***	0.211***	0.201***	0.195***	0.140***	0.131***
	(0.0250)	(0.0251)	(0.0238)	(0.0242)	(0.0206)	(0.0198)
X Centroid	-0.0265***	-0.0267***	-0.0247***	-0.0255***	-0.0242***	-0.0227***
	(0.00322)	(0.00324)	(0.00327)	(0.00303)	(0.00315)	(0.00301)
Y Centroid	-0.0206***	-0.0194***	-0.0177***	-0.0183***	-0.0185***	-0.0135**
	(0.00659)	(0.00651)	(0.00653)	(0.00613)	(0.00648)	(0.00584)
People per Patent	0.0786***	0.0787***	0.0778***	0.0751***	0.0774***	0.0737***
	(0.0108)	(0.0109)	(0.0103)	(0.0108)	(0.0108)	(0.0105)
1(Subsurface Rights)	0.180***	0.179***	0.178***	0.140***	0.189***	0.145***
	(0.0188)	(0.0187)	(0.0189)	(0.0167)	(0.0186)	(0.0165)
1(Metes & Bounds)	0.136***	0.132***	0.138***	0.0988***	0.169***	0.127***
	(0.0274)	(0.0273)	(0.0238)	(0.0270)	(0.0271)	(0.0240)
Patent Acres	0.0000458	0.0000459	0.0000446	0.0000427	0.0000417	0.0000384
	(0.0000418)	(0.0000417)	(0.0000411)	(0.0000397)	(0.0000384)	(0.0000364)
Population Density		0.000943*				0.000885*
		(0.000498)				(0.000463)
Total Frontier Experience			-0.00311**			-0.00197
			(0.00127)			(0.00123)
1(Democrat Congress)				-0.347***		-0.328***
				(0.0242)		(0.0241)
1(Democrat President)				0.214***		0.210***
				(0.0170)		(0.0166)
1(Democrat Congress & President)				0.269***		0.251***
				(0.0307)		(0.0303)
Adjusted R-squared	0.395	0.397	0.397	0.431	0.406	0.444
Observations	1,360,204	1,360,204	1,360,204	1,360,204	1,360,204	1,360,204
Mean Dep. Var.	0.684	0.684	0.684	0.684	0.684	0.684
Oster's δ		3.096	2.552	5.214	1.630	4.662
N Fixed Effects	14	14	13	62	62	61
Propulation Density		✓				✓
Total Frontier Experience			✓			✓
Democratic Party Dominance				✓		✓
Takings/Cession Timing					✓	✓

Notes: This table depicts complete coefficient estimates for all of the control variables included in the regression results reported in Panel C of Table B8. Standard errors are clustered by county and reported in parentheses.