# HOMESTEADING AND PROPERTY RIGHTS; OR, "HOW THE WEST WAS REALLY WON"*

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## I. INTRODUCTION

HOMESTEADING gets no respect. Both historians and economists alike find only bad things to say about it, and on the surface it is easy to see why. Homesteading creates incentives to establish property rights too early. Competition to acquire farmland, when in the form "first come, first served," causes farmers to rush to the land in an effort to preempt other potential farmers and, in the process, dissipate the value of the land.[1] In the past, homesteading also imposed costs and hardships on settlers. Homesteaders settled land that was initially beyond feasible markets for their goods and had to support themselves while waiting for markets to reach them. Further, many settlers bore the brunt of Indian attacks and raids from interloping desperadoes. But to argue, as many economists have, that the U.S. homestead policy was a mistake because land values were dissipated and settlers suffered is premature.[2]

* Assistant Professor, Simon Fraser University. This article was written while I was a faculty member at Carleton University, and I would like to thank the members of the Department of Economics for providing such a stimulating environment. For their helpful comments, I would also like to thank Leigh Anderson, Terry Anderson, Yoram Barzel, Steve Ferris, David Friedman, D. Bruce Johnsen, Ron Johnson, Dean Lueck, Andy Rutten, Huntley Schaller, and Saul Schwartz.

[1] See Clive Southey, The Staple Thesis, Common Property, and Homesteading, 11 Canadian J. Econ. 547 (1978); Terry L. Anderson & Peter J. Hill, Privatizing the Commons: An Improvement? 50 S. Econ. J. 438 (1983); Richard L. Stroup, Buying Misery with Federal Land, 57 Pub. Choice 69 (1988); and Terry L. Anderson & Peter J. Hill, The Race for Property Rights, 33 J. Law & Econ. 177 (1990), for formal models on the effect of homesteading.

[2] For example, Stroup, *supra* note 1, at 76, states: "The lessons for any future privatizing of land should be obvious. It is difficult to give away value systematically, since nonprice competition for the value, unlike competition in exchange (bidding, for example), will tend to waste resources up to, or even past the point where the waste is equivalent in value to the rents being sought."

[*Journal of Law & Economics*, vol. XXXIV (April 1991)]
 0022-2186/91/3401-0001$01.50

Homesteading officially began in the United States with the Homestead Act of 1862 and officially ended in 1934. Federally administered homesteading in Canada lasted from 1872 to 1930. Other countries, including Israel, the Philippines, and South Africa, either had, or have, homesteading policies. Could a policy like homesteading, lasting over seventy years in the United States, and existing across different countries, be inefficient? Could there be an economic rationale for homesteading, and could such a justification explain the differences in homesteading across time and jurisdictions? This article answers "yes" and provides a positive theory of homesteading that focuses on the state's role as contract enforcer.[3]

The emphasis here is on the U.S. experience with homesteading, although some attention is given to Canada and Australia. On the surface, the U.S. experience is puzzling because the federal government *began* disposing public land through auctions and other price mechanisms *before* it established the practice of homesteading. Further, the federal and state governments continued to dispose public land through land grants, preemption, and private sales during the heyday of homesteading. If an auction or price mechanism always allocates resources best, then why did the U.S. government move from a pure price to a mixed price and nonprice allocation method for some lands?[4]

The hypothesis of this article is that the U.S. public land policies of the nineteenth century were appropriate in light of the costs of enforcing property rights.[5] Due to the Indian's simultaneous claim on public lands and the costs imposed by this dispute over property rights, the land policies were efforts to "hire" settlers to reduce the costs of enforcement. The state may have a comparative advantage in enforcing property rights through violence; however, when disputes occur, the state will use a least-cost strategy to secure ownership. In this light, homesteading is a substitute for direct military force and acts to mitigate the costs of violence. Where disputes over land claims are greatest, more state intervention is expected, and, hence, more homesteading is predicted. This hy-

[3] To my knowledge, Yoram Barzel, in The Economic Analysis of Property Rights (1989), is the first person to suggest that homesteading was efficient and that the source of efficiency is savings in state enforcement costs. In what follows, I treat the U.S. government as a single decision-making agent. I do this in order to focus on why homesteading policies were successful, rather than examine why or how they came about.

[4] Also interesting is that the price of homesteading was more intensive in some states than in others.

[5] Property rights are defined as one's ability to exercise one's choice over the use of a good. In this case, they refer to the U.S. federal government's ability to exercise its authority over the public lands.

pothesis explains much of the rise in nonprice land allocation and the various differences in applications of these laws across states.

Sections II and III present a simple argument for state involvement in homesteading. Section IV examines the historical record of the U.S. homestead era. Section V provides evidence from the experiences of the United States, Canada, and Australia that supports the theory of efficient state involvement: when the sovereignty of a region is threatened, settlement is promoted to help establish property rights and mitigate the enforcement costs by violence.

## II. The Cost of State Enforcement

Every exchange requires some method of securing property rights—for without property rights there can be no exchange. Most economic studies on the formation and protection of property rights focus on private individuals or small "states" such as Indian tribes, fishermen, farmers, and miners.[6] In most cases, the endogenous property right structure is chosen to maximize wealth subject to the constraint of violence or theft. Thus, John Umbeck found that California miners divided mining claims equally among themselves to avoid claim jumping, and Bruce Johnsen argues that the Pacific Coast Indian custom of potlatch was used to enforce private rights over Salmon streams. Although contract theories of the state are not new, and the modern government is casually referred to as an institution to preserve and protect property rights, economists are generally more comfortable applying the model to small levels of government organization. This article extends the contract theory of the state and argues that, at least for the American frontier, the federal government acted to maximize the net value of the territory.

Recent studies on the creation and protection of property rights demonstrate the aversion of wealth maximizers to engage continuously in violence as a method of enforcing their claims over the goods in question. Violence dissipates wealth. Since both parties who lay claim to a good are willing to spend up to its expected value to obtain it, and since past losses due to violence are sunk, the costs of enforcing property rights

[6] See Harold Demsetz, Toward a Theory of Property Rights, 57 Am. Econ. Rev. 347 (1967); D. Bruce Johnsen, The Formation and Protection of Property Rights among the Southern Kwakiutl Indians, 15 J. Legal Stud. 41 (1986); Steven N. S. Cheung, The Structure of a Contract and the Theory of a Non-exclusive Resource, 13 J. Law & Econ. 49 (1970); Terry L. Anderson & Peter J. Hill, The Evolution of Property Rights: A Study of the American West, 18 J. Law & Econ. 163 (1975); and John Umbeck, Might Makes Rights: A Theory of the Formation and Initial Distribution of Property Rights, 19 Econ. Inquiry 38 (1981), for examples of private incentives to form "governments" to enforce property rights.

through violence tend to exceed the total value of the good being fought over.[7] Even the credible *threat* of violence is costly when the articles of war provide no other service. When disputes over valuable resources span long periods of time, the high cost of violence encourages the use of other methods to secure property rights over the resource.

On the American frontier, land ownership was indeed tenuous. Settlers not only had to compete with wild animals, harsh conditions, and other settlers for much of what they owned, they also had to compete with hostile Indians who for the most part did not recognize the claims of white settlers. In an effort to increase their wealth, settlers employed a host of protection methods: some simple, like owning a firearm; others more complex, like forming local claiming associations. Along with private methods of protection, the federal government acted as a third-party enforcer of some rights. The frontier settler used the U.S. Postal Service, federal marshals and other law enforcement officers, the federal land offices, federal and state surveyors, the federal court system, the Bureau of Indian Affairs (BIA), and, perhaps most important in the early days, the U.S. Army. At the same time, however, all of the above institutions used the frontier settler. By adjusting land policies and applying them with different intensities in different areas, the U.S. government used settlers to lower the cost of enforcing state ownership over the western frontier.

## III. The Benefit of Homesteading

When only one individual, or one group, lays claim to an area of land, there will be no physical disputes with other groups over it. When two groups lay claim to an area of land, but one group is expected to be a clear victor in a dispute, there will also be an absence of violence. Physical violence only occurs when the outcome is uncertain and the parties differ in their expectation of who will win. On the American frontier, disputes did not arise until settlement began, even though the federal government had always asserted jurisdiction over the entire public lands.

[7] Martin (in Voltaire, Candide 110 (1947)) demonstrates his grasp of this principle in the following discussion with Candide:

"You know England," continued Candide, after a pause: "are they as mad there as they are in France?"

"Yes," said Martin, "but theirs is another kind of folly. You realise, of course, that these two nations are fighting over a few acres of snow on the borders of Canada, and that they spend more money on this glorious war than the whole of Canada is worth."

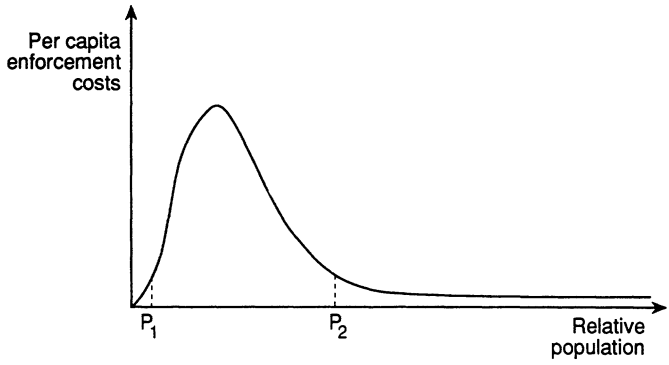


FIGURE 1.—Enforcement expenditures and the relative population

Once disputes occurred, military expenditures were made by both sides. For the purpose of this article, I assert that the per capita enforcement costs (including military, police, and administrative costs) as a function of the relative population of the disputing groups are as illustrated in Figure 1. Violent disputes occur between the relative populations $p_1$ and $p_2$ because the outcome is unclear. Homesteading is a method of "skipping" over this population level. By allowing homesteading, the federal government was able to avoid military expenditures that could exceed the value of the land being fought over.

An important aspect of military intervention is that the services of the state are used at zero (or almost zero) marginal cost to the settler—no cavalry ever presented a settler a bill for "Indian services rendered." Since public expenditures on protection are ignored by private settlers, too much protection is demanded. When individual settlers were not required to pay for state protection services, they settled on property that may have had positive private gains but negative social ones. Settlements will be more scattered and less dense under a system of complete private decisions.

By instigating homesteading, the U.S. government restricted the choices of settlers by providing an incentive to rush *one area*. The sudden arrival of tens of thousands of people into a given territory destroyed much of the Indian way of life and forced the Indian tribes to accept reservation life or to join the union. The selective and intensive settlement caused by homesteading also reduced the cost of defending any given settlement. Further, due to the remoteness of homesteads, settlers tended to have low marginal products, which lowered the cost of pro-

tecting their land with violence.[8] Because homesteading itself dissipates the value of the land settled, not all land within a territory is expected to be homesteaded.

Homesteading, then, was a method of helping to establish the U.S. and Canadian claims in the western territories, and, as I will show, its rise and fall as the staple in North American public land policy is positively related to the threat of simultaneous land claims made by others. This hypothesis also explains the *form* of land policy intervention since the state not only used homesteading to mitigate military costs but also designed the homesteading laws to maximize the value of western settlement.

## IV. A Brief History of U.S. Public Lands

### A. *The State of the Frontier, 1800–1890*

The bulk of public lands required by the United States came by purchase from European powers rather than conquests.[9] The Louisiana Purchase (1803) added over 500 million acres, the Florida Purchase (1819) added 43 million acres, Texas (though the 200 million acres were never part of the public lands) was annexed in 1845, the Gadsden Purchase (1853) added another 19 million acres. The Oregon Territory was settled diplomatically with Britain in 1846, and, although a war with Mexico was fought over the Pacific southwest, its 334 million acres were eventually purchased in 1848. This peaceful process of acquisition, along with our knowledge of the final securing of the forty-eight continental states, lends the impression that a complete set of property rights was transferred with each treaty. This was hardly the case, and for most of the early nineteenth century the future ownership of many western public lands was unclear.

The greatest threat in the West came from Mexicans and Indians. In 1851, at a treaty-making council at Fort Laramie, Wyoming, agents of the BIA were struck by the size of Indian forces. As Richard Dillon reports, "10,000 Indians camped around the post. The entire [U.S.] Army, stretched from Maine to California, totaled only 10,000 men, and that was on paper. Its actual strength was probably closer to 8000."[10] In the decade following the Civil War there were over 200 Army clashes

[8] Expectations of high future returns on the land generated an incentive to defend it.

[9] Throughout, "public lands" will refer to land legally owned by the federal government. "Public domain" will refer to the situation where the state is unable to control access to the public lands.

[10] Richard Dillon, Indian Wars: 1850–1890, at 7 (1984).

with western Indians. By 1876, the year of Custer's (and the Army's) greatest defeat, over 50,000 Indians were in rebellion, and by the end of the century over 1,000 battles had been fought.[11] Aside from the loss of life and property, the financial costs of the Indian wars were great. After a heavy expedition in 1865, "The Army hurriedly cut back on large-scale operation. The Quartermaster General himself went west to investigate the expenditure in the District of ten millions of rations and forage and an equal sum for other supplies. The Indians were bankrupting the Army!"[12]

In retrospect, it is easy to downplay the significance of the Indian wars, but the federal grasp of the entire public lands was tenuous at best, and the early Indian negotiations reflect this. Throughout the early part of the nineteenth century, so great was the Indian presence that it was generally assumed they would be given their own land that would be relatively independent of the United States. The federal government negotiated treaties with Indian chiefs assuming they were dealing with individuals with authority similar to European monarchs. If, as the BIA assumed at the time, tribal Indians were bound by the promises of their leaders, it is quite possible that independent Indian nations might exist today.[13] Regardless of what might have happened, U.S. officials did not have, nor did they believe they had, control over the West. The Indian rebellion, along with the strain of the Civil War and wars with Mexico, left much of the West outside federal control.

### *B. Disposing the Public Lands*

By 1850, the United States claimed over 1.2 billion acres of public lands, a land mass approximately one-half of its present-day size. Just as the timing and method of acquisition changed throughout the late eighteenth and first half of the nineteenth centuries, so too the release of these public lands took on various forms.

The initial goal of releasing public lands was to generate revenue.[14] The Land Act of 1796 established the rectangular system of survey whereby a township would consist of six square miles and would be subdivided into thirty-six sections of 640 acres each. The land was to sell for $2.00 per acre, with credit extended over a year after purchase. Initial sales

[11] *Id.* at 120.

[12] *Id.* at 46.

[13] Under Indian customs, the tribe was not bound by any treaty signed by its chief, and the chief had little authority in stopping his warriors from breaking the contract. If the Indian chiefs could have controlled their tribes, and if the federal government had upheld their commitments, Indian land claims would be at least three times their current size.

[14] Paul Wallace Gates, History of Public Land Law Development (1968).

were slow, but reductions in the size of tract and longer periods of credit generated large sales in Ohio, Mississippi, and Alabama (although delinquencies were also high).

In 1820, credit for the purchase of public land was terminated and replaced by a cash sales system that required full payment at the time of purchase. The public auction was retained, the minimum price per acre was lowered to $1.25, and the minimum plot size was reduced to eighty acres. Public lands could be purchased only after they had been publicly surveyed and could be bought in larger tracts only after each section had been placed in public auction. In one form or another, cash sales were available throughout the entire nineteenth century.

A major change in U.S. land policy came in 1830 when squatters were given limited preemptive rights. The 1841 Preemptive Act fully established the right of a squatter on *surveyed* public land to have the first opportunity to purchase his land at $1.25 per acre. From 1853 to 1862, squatters were allowed to preempt on unsurveyed land first in California, then in Oregon, Washington, Kansas, Nebraska, and Minnesota. Finally, in 1862 they were given the right to preempt on all unsurveyed public lands.

The Homestead Act of 1862 lowered the price of surveyed tracts of 160 acres or less to zero, contingent on a $10 entry fee, and five years of continuous residence on the property. The homestead could be preempted at $1.25 per acre after residing on the homestead for six months. The Homestead Act was followed by the Timber Culture Act (1873) which again transferred title to the settler at a zero price, provided forty acres (later reduced to ten) of the quarter section were cultivated in trees. The Desert Land Act (1877) gave preferential treatment to settlers on the condition that the land be irrigated within three years. Two other homestead acts, in 1909 and 1916, raised the size of homesteads to 320 and then to 640 acres.

Perhaps the most interesting aspect of U.S. public land disposal was the progression of an allocation scheme based on price, to one based on "first come, first served." Anyone willing to argue that the homestead laws were misdirected or inefficient must contend with the fact that public lands were initially sold exclusively and that the homestead laws were extended over time, not repealed. It seems unlikely that, if land sales were the efficient allocation mechanism, that the federal government would have changed the law, and having changed it not repealed the law once it learned how "wasteful" it was.[15]

[15] One might argue that the practice of land sales was very different from the policy itself and that the homesteading laws were simply legalizing what was already happening, but this just begs the question of why land sales were not better enforced.

## V. Testing the Theory of Homesteading

### *A. The Structure of Homesteading*

By offering land on a first-come, first-serve basis, the U.S. government effectively made the public lands a public domain. It appears that, in an effort to acquire the land, the land was cultivated too early, and its rents were dissipated.[16] Yet despite the appearance, the entire frontier was not cast into the realm of common property, and the policy of homesteading was not indiscriminately used. Not only did homesteading not have free rein, but the restrictions placed on it are consistent with the state *avoiding* large rent losses while at the same time trying to populate the West in the face of aggressors.

Not all land was available for homesteading. In the eight years after the passage of the Homestead Act, 127 million acres were granted to railroads and another two million for wagon roads and canals.[17] Aside from the land granted to the railroads, all land next to such grants could not be homesteaded and had to be purchased with cash. Further, homesteads that were within the limits of a railroad were restricted to eighty rather than 160 acres. A further 140 million acres of public land were granted to state governments to produce revenues or endowments for state institutions. Many of these lands were sold at public auction. Moreover, the cash sale system did not end entirely with the enactment of the Homestead Act, with 84 million acres available for sale in 1862 alone. After 1862, between 100–125 million acres of Indian reservation land were sold to white settlers. Marion Clawson[18] claims that of the 1,031 billion acres of public land disposed of, 285 million acres went to homesteads, the rest went to states, railroads, and private claims. Thus even if homesteading totally dissipated the value of a given farm, since it was applied to only one-quarter of the available land, it could not have dissipated the entire value of the public land.

Of the land that was set aside for homesteading, there seems ample historical evidence to suggest that it was the least valued of the frontier land. By disallowing homesteads near railroads or on state land, the value

[16] One of the most dramatic examples of a "sooner" occurred at the "Oklahoma Opening." In 1889, a large area of what is now Oklahoma that had been reserved for Indians was opened up for white settlement. Thirty-six thousand potential settlers arrived days before the official opening, positioned themselves at a starting line, and, at the sound of a gun, raced off to stake their claim, only to find that many "sooners" had beat them to it (Marion Clawson, Uncle Sam's Acres 70 (1970)).

[17] Paul Wallace Gates, The Homestead Law in an Incongruous Land System, 41 Am. Hist. Rev. 657 (1936).

[18] Clawson, *supra* note 16.

of homesteads would have been lower than privately sold land.[19] As an Iowa pamphlet for private land sales pointed out, "Under the homestead law the settler must, in order to get a good location, go far out into the wild and unsettled districts, and for many years be deprived of school privileges, churches, mills, bridges, and in fact of all the advantages of society."[20] Thus, to the extent land rents were dissipated, the dissipation was limited to the lands with lower rents.[21] And to the extent the lands were located in hostile territory where the future ownership of the land was uncertain, the notion of dissipation is quite meaningless.[22]

Aside from the low price, the other distinctive feature of homesteading was the restrictions placed on the settlers. Homesteads were available only on surveyed lands of no more than 160 acres, and in order to obtain unconstrained ownership farmers were required to be in residence for five years and had to make improvements on the land. All of these requirements are consistent with the government using the settler to control hostile Indians. By using only surveyed land, territory was opened up in sections. Postponing entry would tend to increase the ultimate rush by raising the average value of the land. Surveying further increased the value by reducing the chance of border disputes with other settlers. In raising the value of the land, the government better assured that the bulk of allotments would be taken.[23] Restricting homesteads to surveyed lands also provided the state with the discretion over where to locate settlers. If the Northern Plains Indians were particularly hostile, then settlers could be directed there.[24] Further, restricting the plot size to 160 acres created a more dense population than under private sale since it is generally agreed that 160 acres was below the optimal size for a western farm. Finally, requiring residence maintains the initial population on the farm. In the face of threats by Indians, the army would have an easier time

[19] Gates, *supra* note 17, at 664, reports that the average price per acre of privately sold land in Kansas was between $4.49 and $5.94 during the 1870s. Given that homestead land was available at this time, and could be commuted at $1.25, it seems reasonable to assume that the homestead land, at least at the margin, was of lower quality.

[20] *Id.* at 663.

[21] A point that is seldom mentioned is that the land is only dissipated by the marginal settler. To the extent the marginal and average settler are different, the entire value of homesteaded land is not dissipated.

[22] Barzel, *supra* note 3, makes this point: you cannot dissipate wealth that is not there to begin with.

[23] With no restrictions on entry, settlers would arrive on the land at different intervals since settlers would have different expectations over the value of the land and the land was not of uniform quality.

[24] This counters the exact opposite incentive of settlers to avoid hostile areas.

defending a contained, dense population compared to one sparsely distributed.[25]

The proposition that homesteading was used to populate the West in the face of simultaneous land claims further explains subsequent changes in land policy law. After the Homestead Act, a similar law, the Timber Culture Act of 1873, was passed. This act granted 160 acres to a farmer willing to cultivate forty acres (later reduced in 1878 to ten acres) of trees. There were 290,278 entries for over forty-three million acres made under this act, and almost all were in Kansas, Nebraska, and the Dakota Territory.[26] In 1877, Congress passed the Desert Land Act, which gave a settler the option to buy 640 acres if proof could be shown that irrigation had reclaimed the land. There were 159,704 claims made on over thirty-two million acres of desert land, most of which was in Nevada, Arizona, New Mexico, and California.[27]

Both the Timber Culture Act and the Desert Land Act are generally criticized because only 25 to 30 percent of the entries were ever successful. Growing trees on the bad prairie and bringing water to parched lands was a costly affair, and no doubt an unconstrained farmer would use resources differently.[28] Further, these acts were subject to a great deal of fraud.[29] Under the Timber Act, a settler could control his claim for thirteen years before it lapsed into nonfulfillment, at which time he could preempt or homestead, and all the while avoiding tax. The Desert Act was mostly used by cattlemen to acquire valuable water rights. In this context, Paul Wallace Gates states "that many could not have taken the obligations of the law seriously."[30]

Despite the diversion of resources, the fraud, and the lack of completion, these acts did provide further incentives to occupy what was then enemy territory. During the latter half of the nineteenth century there were three major Indian wars: the Modoc wars (1872–73) along the Nevada-California border; the Sioux wars (1854–90) in the Dakota, Nebraska, Montana, and Wyoming territories; and the Apache wars (1881–1900) in Arizona and New Mexico. These wars saw such battles as the Little Bighorn and Wounded Knee, with leaders like Sitting Bull, Crazy

[25] Settlers were required to make improvements to the land, which, since they would be sunk costs, gave each settler a disincentive to run when confronted by Indians.

[26] Gates, *supra* note 14, at 400.

[27] *Id.* at 402.

[28] See Anderson & Hill, *supra* note 6.

[29] See Gary Libecap & Ronald Johnson, Property Rights, Nineteenth-Century Federal Timber Policy, and the Conservation Movement, 39 J. Econ. Hist. 129 (1979).

[30] Gates, *supra* note 14, at 401.

Horse, and Geronimo. That their legend lives on is some evidence to the intensity of the times, and that the federal government applied special grants to these areas is evidence that homesteading was a method of enforcing white property rights in disputed territory.[31]

The final homestead acts of the early twentieth century raised the allowable homestead from 160 to 320 and then to 640 acres. Most historians agree with Clawson when he says "[t]hese acreages were too small and came too late to meet the needs of ranchers trying to acquire native rangeland."[32] They came too late because much of the land had been settled under the previous homestead law. As mentioned above, the 160-acre requirement was a binding constraint in the arid Midwest, but necessary to increase population density. With the easing of the Indian threat in the 1890s, it is consistent with the hypothesis here that the minimal homestead farm size be increased to accommodate more technically efficient farming practices.[33]

### *B. Five State Cases*

#### 1. Florida and Texas

From 1842 to 1862, the federal government passed several special donation acts whereby settlers of various areas were given tracts of land for free. It is clear that these grants were given where the Indian menace was greatest. The Armed Occupation Act of 1842 is the most obvious case of homesteading to induce settlement in the face of Indian problems. Spain had tried several times to place settlements in Florida, but failed for the most part because of the hostile Indians. The act of 1842 gave 160 acres to any man capable of bearing arms who was willing to move south of Gainesville and improve the land for five years. The policy was a

[31] Note that, if the government restricted homesteading just to these areas, homesteading gains elsewhere would have been lost. The Timber Culture Act and the Desert Land Act created additional incentives to homestead hostile Indian country, without eliminating the incentive to populate the West in general.

[32] Marion Clawson, The Federal Lands Revisited 23 (1983).

[33] In personal correspondence, professors Terry Anderson and David Friedman have asked why homesteading started in 1862 when Indian problems existed earlier and why it continued until 1934 when most of the threat was over by 1900. Of course, the model here is too general to suggest an exact starting and ending date, but at the risk of being ad hoc I offer the following speculations. Compared with later settlements in the West, the Indian skirmishes east of the Mississippi were relatively minor. This is likely because the Indians initially moved west as their former territory was settled. Only when settlers began crowding the Indians did war break out. An explanation of the ending date seems more troublesome. Perhaps, as Friedman has pointed out, by the time the Indian threat was gone, homesteading had developed a political constituency that was able to maintain it for another few decades.

success. Of the 200,000 acres allotted, 1,048 permits for 167,680 acres were taken up within two years.[34]

Texas provides an even better example of a state using aggressive homesteading policies to help establish property rights over disputed territory.[35] Texas was originally a Spanish territory and became part of Mexico with that country's independence from Spain. Mexico, worried over the quick expansion by its northern neighbor, developed an *empresario* system whereby large grants were given to foreign citizens on the condition a given number of families be recruited to settle the area, make improvements, become Mexican citizens, and convert to Catholicism. For every family brought to the colony, the *empresario* was given title to various amounts of land within the colony. Steven Austin was greatly responsible for this system and was the first to act on it.[36] Others quickly followed, and soon the Anglo-American population outnumbered the Mexicans four to one, and they successfully ousted the Mexican authority in 1836 to form the Republic of Texas.

Texas now faced hostile Indians to the west, Mexicans to the south, and an expanding United States to the north. With a population of less than 100,000, constant threats of Indian and Mexican raids, and a debt-ridden treasury, the republic's future was hardly secure. The historian Bobby D. Weaver reports: "The Republic of Texas faced a major credit problem because it used its public lands and the integrity of the new nation for collateral. Yet, the value of the public lands remained limited because the republic seemed unable to protect itself."[37] In the end, the efforts to strengthen the new nation were insufficient, but it is worth examining the methods used to settle the land when its future ownership had yet to be defined.

The Texas republic first passed three "headright" laws to attract new settlers. These laws granted free lots ranging from 640 to over 4,000 acres to any family head settling in Texas before several specified dates between 1837 and 1841. The settler, once certified, was free to stake out and settle anywhere in Texas, and quite naturally, given the threat of Comanche and Mexican raids in the West, most chose the eastern portions of the republic. The failure to occupy western and southern Texas,

[34] Gates, *supra* note 14, at 388.

[35] The major reference for this section is Seymour Connor, Texas: A History (1971).

[36] Ironically, most grants were given to Americans, which likely explains the Mexican failure to establish property rights over Texas. Had the U.S. government granted most homesteads to Indians or Mexicans, a U.S. map might look very different today.

[37] Bobby D. Weaver, Castro's Colony: Empresario Development in Texas, 1842–1865 5 (1985).

where the bulk of public lands existed, further tarnished the credibility of the young nation and exacerbated the problem of raising capital.[38]

In 1842 the Texas congress granted President Houston the authority to enter *empresario* contracts. The first of these granted over 10 million acres along the northern Red River border to the Peters Colony, a consortium led by W. S. Peters. Under this contract, 200 colonists were to be settled within the region each year for three years. Each colonist would receive 640 acres from the *empresario,* although a charge of up to 320 acres could be levied for *empresario* expenses. Finally, the *empresario* received ten sections of land for every hundred heads of households and five sections for every hundred single men.

Like the U.S. Homestead Act, colonists were required to make improvements of the land, cultivate fifteen acres, and live on the property for three years before obtaining title.[39] In all, twelve land grants were issued. Seven of the smaller grants (600,000–3 million acres) were issued along the Rio Grande. The other five (including the 9 million acre Fisher-Miller grant) were issued along the western frontier. Together they formed a buffer against Texan enemies, and, although the president was required to grant land only in unsettled regions, their formation into a "front" is consistent with the hypothesis of this article.[40] Although more successful than the headright acts, the colonial efforts were viewed as largely unsuccessful.[41]

Perhaps the most interesting aspect of Texan land policy occurred after statehood in 1846. Because Texas entered the Union as a republic and not a territory, it has always maintained control over its public lands and their disposal and the federal government could never use Texan public lands the way it could in the other states. Therefore, it could not use them to complement military enforcement efforts, even though the responsibility for the sovereignty and defense of Texas against Mexicans

[38] Unlike the United States, the Texan government never took the initiative to survey the land. Even the large *empresario* grants were poorly laid out, and this resulted in several costly border disputes. The inability to raise capital is the likely cause for the lack of public surveying, and as a result the homestead policies failed.

[39] Weaver, *supra* note 37, at 21.

[40] For example, the land grants could have been issued in one major clump, which would have lowered the costs of servicing the colonies.

[41] Although most of the grants completed their quotas, none did so on time. Further, Connor, *supra* note 35, estimates that perhaps as many as two-thirds of the colonists abandoned their homesteads and headed to safer territory in eastern Texas. Both homesteading attempts seemed to have failed because they did not encourage a dense settlement rush to one area. The Headright Acts allowed relatively large settlements anywhere in Texas, while the colonial efforts inhibited rushing since settlers were required to go through the *empresario.*

and Indians resided solely with the federal government after 1846—not with Texas. No *empresario* grants were made after statehood, and no more free lands were given to settlers. The state made land grants to railroads and attempted minor efforts to sell the public land, but certainly there was an absence of aggressive land disposal until 1873, and then only in the form of land sales.[42] This sudden alteration in land policy is consistent with the theory of homesteading as a method of establishing property rights. Once the U.S. government took responsibility for protection, public lands in Texas ceased to be used for the purpose of mitigating military expenditures.[43,44]

### 2. California, Utah, and Alaska

In populated states, the threat of raids by Indians was reduced. California and Utah, because of the gold rush and the establishment of the Mormon colony, needed no bounty to induce settlers. According to Paul Wallace Gates, "[T]he government's slowness in establishing [Californian] land offices, making appointments and surveying the public lands delayed for a decade the first opening of public lands to purchase and generally those first opened were remote, distant from settled areas, and, for the time, less attractive."[45]

In 1857, President Buchanan ordered almost 44 million acres of public lands to the auction block, of which over 25 percent was in California. California was also given special advantages under the Morrill Land Grant Act of 1862 to convert 150,000 acres of agricultural land grants to private sales.[46] In 1853, California became the first state where preemption was authorized on unsurveyed lands. In addition, individuals were allowed to preempt two claims in California rather than just one, as elsewhere. All of these measures increased the concentration of California

[42] *Id.* at 258.

[43] One cannot make the claim that disputes over Texan land ceased with annexation. Texas sold over 76 million acres to the U.S. government that later became parts of Kansas, New Mexico, Colorado, Wyoming, and Oklahoma. Of course, the U.S. government maintained homesteading policies on these lands. See Chester Martin, Dominion Lands Policy, in Canadian Frontiers of Settlement 363 (W. Mackintosh and W. Joerg eds. 1938).

[44] Maine purchased its land from Massachusetts and so, like Texas, was responsible for public land disposal. Maine faced no threat of losing its land to an enemy, and although its land was cheap (selling for an average of $.35 per acre), credit was accepted, and one could even pay for the land in "road service." Maine never had a homesteading policy. See David C. Smith, Maine and Its Public Domain, in The Frontier in American Development (David Ellis ed. 1969).

[45] Paul Wallace Gates, California Land Policy and Its Historical Context: The Henry George Era, in Four Persistent Issues 8 (Paul W. Gates ed. 1978).

[46] *Id.* at 14.

land holdings, and "marked a further reversal of the homestead principal with its generally understood corollary that public lands were to be reserved for settlers."[47]

Although the Mormon colony arrived in the Salt Lake basin in 1847, it was offered no bounty or donation grants for future settlement and was without the benefit of a public land system or survey until 1869.[48] As a result, Utah ranked twenty-fourth out of thirty-one states in terms of the number of final homestead entries. There were 16,798 entries made in Utah compared with 107,618 in Colorado, 97,197 in South Dakota, 87,312 in New Mexico, and 67,315 in Wyoming.[49] The fact that the federal government generally ignored the Utah Territory is often attributed to religious bigotry, but the hypothesis here suggests another explanation. The Mormons believed that the Indians were God's chosen people and part of a lost tribe of Israel called the Lamanites. The early Mormon settlers, although they appropriated land without payment, made it a practice to feed and clothe local Indians.[50] Conflicts over water rights and land claims arose and Mormons did kill Indians, but their behavior was a long way from the frontier creed that "the only good Indian is a dead Indian."

The Mormons may have respected Indians, but they took precautions against them as well. The homogeneity of the white settlers in Utah allowed them protective measures that would have been too costly for other individuals on the frontier.[51] First, Mormon communities were settled in fortlike arrangements with a wall around each village and with all males over eighteen members of the territorial militia. Second, only selected members of a village were allowed to trade with Indians. Third, each settlement had a tithing house, to which each member brought one-tenth of all production. From this community storehouse, "gifts" were given to local and visiting Indians. And finally, the Mormon women formed the Indian Relief Society, which made and helped distribute clothes and bedding to the natives.[52] Brigham Young summarized his policy in an 1854 address to the Utah legislature: "I have uniformly pursued a friendly course of policy towards them [the Indians], feeling convinced that independent of the question of exercising humanity towards

[47] *Id.* at 15.

[48] *Id.* at 389.

[49] *Id.* at 797.

[50] To the extent Mormon life raised a settler's marginal product in domestic production, it also raised the cost of violence, hence the tribute.

[51] At the time of Utah's entrance into the union, there were over 200,000 white settlers, of which close to 99 percent were Mormon.

[52] Leonard Arrington & Davis Bitton, The Mormon Experience 149 (1979).

so degraded and ignorant a race of people, it was manifestly more economical and less expensive, to feed and clothe, than to fight them."[53]

The density of Mormon settlement may also have eased the establishment of property rights over Indian land. Although Utah contains 84,916 square miles, less than 3 percent of it is useful for settlement, and, of this, settlement took place in only a few key valleys. When the Mormons first arrived in the Salt Lake region, there were 148 families, but by 1877 their ranks swelled to 147,000 in 357 settlements. Despite their early small numbers, the practice of Mormon settlement increased the density of their settlements. According to Everett Dick: "Some unique problems arose in Utah in connection with the government method of distribution of the land. . . . When the Mormons first arrived, the church fathers parceled out to each settler a small irrigable plot. . . . Later, when U.S. surveys were run . . . several of these early settlers were found living on one 160 acre tract."[54]

Alaska provides one final example of the federal government's reluctance to give away public lands when its jurisdiction is not threatened. Alaska was purchased from Russia in 1867. Initially, there were only 450 military personnel, and by 1900 there were still fewer than 30,000 white settlers—most of whom were involved in mining or the military. Settlers, compared to their southern counterparts, faced no Indian threat, not because there were no Indians, but because the small white population and the lack of land-intensive farming led to few simultaneous land claims. Consistent with the hypothesis of this article, there was no homesteading policy. In fact, in 1884 Congress passed a law stating that the land laws should *not* apply to Alaska.[55] According to Ernest Gruening: "The story of land in Alaska is one of contrast between natural plenty and man-made restriction. . . . To start there was not in Alaska . . . a general pre-emptive law . . . an individual 'first come–first served' right to claim land. . . . In Alaska there was not merely *lack* of such law, but a definite prohibition."[56]

### C. *The Effect of Population and Railroads*

Simultaneous land claims by the federal government and Indian tribes led to no violence when there was no white settlement. Confrontations only arose when whites moved into an area and began to compete for the

[53] *Id.* at 148.

[54] Everett Dick, The Lure of the Land 152 (1970).

[55] Earnest Gruening, The State of Alaska 325 (1968).

[56] *Id.* at 323.

land with Indians. The more direct and intense this competition for land, the more violence that occurred, the more homesteading would be expected to be used relative to other methods of settlement to help establish the white settlers' claims to the land. Similarly, the introduction of railroads into new terrritory made patchwork of Indian lands and increased the level of violence. Again, homesteading would be expected to be positively correlated with railroad activity to counter the Indian reaction.

In order to test this hypothesis, I collected data on population, acres sold and homesteaded, the ratio of rural to urban settlers in a territory, and the ratio of public land sales to railroads, by state for the year 1880.[57] The sample consists of twenty-seven states and territories where homesteading was taking place. The Appendix presents the variable definitions. The ratio of acres homesteaded to acres sold to private interests is the dependent variable.[58]

As settlers move into a region, conflicts arise, and, therefore, more homesteading relative to land sales are expected. As the population continues to increase, however, the sheer volume of people helps to enforce white claims to the land and the amount of homesteading relative to land sales should fall. Hence the coefficient for population density is predicted positive, but the coefficient for population density squared is predicted negative. The more rural a community, the more likely land disputes will occur. Since rural settlement is more sprawled and less dense than urban settlement, the chance of interfering with Indian claims is greater, and the ability to defend successfully lower for rural areas. Thus the chance of a confrontation is higher, and, therefore, more homesteading relative to land sales are predicted in the more rural western states. And finally, the more active railway development, the more interference Indians experience in their way of life, and the more likely disputes and, therefore, homesteading. Table 1 presents the results of an ordinary least squares regression where all signs are as predicted, and all variables but rural/urban are significant at the 5 percent level.

### *D. The Role of Preemption*

On the surface, one institutional feature appears inconsistent with the hypothesis presented here—preemption. Preemption allowed the first squatter the right of first refusal when federal lands were offered for sale. By allowing preemption, the U.S. federal government relaxed the

[57] The year 1880 was the earliest I could find data on *all* of the variables needed.

[58] This ratio is used rather than the level in order to measure the intensity of homesteading and also to avoid the problem of different-sized states.

TABLE 1

ORDINARY LEAST SQUARES REGRESSION RESULTS

Dependent Variable Is Acres Homesteaded/Acres Sold, 1880

| Variable | Coefficient | $t$-Statistic | Predicted Sign |
|---|---|---|---|
| Population density | .082 | 2.07 | + |
| Population squared | −.0013 | −2.22 | − |
| Rural/urban | .05 | 1.58 | + |
| Rail/size | .15 | 4.54 | + |
| Constant | .57 | 1.02 | |
| $\overline{R}^2$ | .55 | | |
| Sample size | 27 | | |

SOURCES.—Historical Statistics of the United States: Colonial Times to 1970, Part 1 (1975); Statistical Abstract of the United States various issues (1878–1900); and Thomas Donaldson, The Public Domain, Its History, with Statistics (Johnson Reprint Corp. 1884).

restrictions on squatting. Moreover, throughout the first half of the nineteenth century the rights of squatters increased and, perhaps, culminated in 1862 with the right to settle on all unsurveyed land. If the state was interested in mitigating policing costs on the frontier, it seems inconsistent to allow squatters to forge ahead and settle on the locations of their choice. These scattered farmers caused frictions with Indians that interfered with the treaty process and would appear to have forced the troops to spread too thinly in their patrols.[59]

The first preemption act was passed in 1830 and required continual renewal by Congress. The most notable feature was that squatters only had preemptive rights on surveyed land. Even the Preemptive Act of 1841 required that the land be surveyed. As long as the land required a survey, preemption is consistent with the hypothesis of settlement used to mitigate state enforcement costs. Surveys restricted the areas that were open to settlement, and, if anyone settled on unsurveyed land, then the state had no obligation to protect them. The rise of preemption, then, was simply a precursor to the homestead movement. The state was encouraging settlement in areas where it wanted a better definition of property rights over land.

The problem with preemption is its applicability to unsurveyed lands. Once the federal government allowed squatting, it became obliged to protect the squatter, and, although squatters had private incentives to avoid clashes with Indians, since they used the government's threat of

[59] The evidence is mixed on the government's record of defending squatters. Squatters were assisted by the army, but it appears the army did not go out of its way to do so.

violence free of charge, the probability of disputes was higher than had they made completely private decisions. I conjecture that preemption was allowed because of the rising cost of surveys in Indian territory. Surveys were most useful when done ahead of settlement, and the first surveyors must have experienced countless natural dangers. However, surveying in a war zone would be next to impossible. Clawson quotes the following from some 1854 surveyor field reports:[60]

> On arriving in the field we found our work was immediately in the vicinity of headquarters of the hostile Indians and after skirmishing with us 2 days, they fired the prairies, completely demolishing everything for our cattle to subsist on for many miles, in fact the whole country lying between the Solomon and Republic Rivers, and we were forced to abandon our work.
>
> It is my duty to inform you that Messrs. Armstrong and McClure, deputy surveyors, have arrived at Leavenworth bearing the information that while they were running the line of surveys their camp was attacked by a band of hostile Indians. They report that one of their assistants, A. H. Morgan by name, was instantly killed and that the Indians destroyed their wagons, tents, provisions, etc.
>
> At this place a party of Indians fired on me and my men. Their design was to kill us; they had previously threatened to shoot me and my men if I did not quit surveying there. A shell struck a tree against which I was leaning at the time, while my compass needle was sitting not 6 inches from me.

Dick states that, "[o]n August 19, 1871, E. C. Cunningham, the surveyor general for the Nebraska area, wrote to a member of Congress that except for the summer of 1870 there had not been a single season since 1863 during which the government surveyor had been allowed to do his work unmolested."[61] The problems of harassment were, not so much in the loss of surveyors, but the fraud it encouraged. Dick reports massive amounts of graft and poor quality work done by surveyors on the edge of the frontier.[62] Some lines were later found to be over five miles off, spans of up to thirty miles showed no signs of survey, and many settlers found themselves with homesteads of less than 100 acres. Preemption on unsurveyed lands, then, could be explained by the rise in the cost of survey. With no reliable survey, homesteading in very hostile areas could not be carried out, and preemption may have been a viable alternative to

[60] Clawson, *supra* note 16, at 56–57.

[61] Dick, *supra* note 54, at 26.

[62] *Id.* at 27–36. Surveyors simply took an oath that the work would be completed properly. Inspections were usually done well after the work was finished and were instigated more by complaints rather than as a matter of routine.

military action. Certainly consistent with this is the fact that the Preemption Act of 1841 was repealed in 1891 after the battle of Wounded Knee, which ended the Sioux wars, and after survey inspections became more common.[63,64]

### *E. Canada and Australia*

Unlike the United States, there were no Indian wars in Canadian history.[65] The establishment of the mounted police, the incentives of the Hudson's Bay Company to peacefully trade with Indians, and the British recognition of Indian rights all led to a relatively peaceful settlement of the Canadian prairies. There were also few squatters on public lands, which may also have reduced the likelihood of conflicts. And since the Canadian Pacific Railroad went ahead of most pioneers,[66] virtually all of the west was surveyed before settlement. The threat of sovereignty over the western provinces came, not from hostile natives, but the rapid expansion of U.S. settlement to the south. The Canadian government was not so much concerned with military clashes with American settlers as with simply losing jurisdiction by American occupation, as had happened with the Oregon territory. Thus on the Canadian frontier, homesteading as a method of mitigating military costs was never an issue. The major concern was simply to establish a Canadian presence in the west.[67] Although the Canadian system of homestead is almost identical to the American one, the minor differences reflect this difference in emphasis.

The Dominion Lands Act of 1872 established free homesteading on western public lands with exactly the same conditions found in the United States. Lots were 160 acres, there was a $10 registration fee, and a five-year residence requirement. Unlike the American law, however, settlers could reserve an adjoining quarter to be paid for by cash. In addition, all even-numbered quarters were subject to homesteading, and this included

[63] There are no data on the amount of preemption that actually took place since all grants were recorded as cash sales.

[64] Canada never had preemptive rights for squatters. There was no Indian threat, and the surveys were done along with the construction of the Canadian Pacific Railroad, thus the incentive and ability to cheat for Canadian surveyors was reduced.

[65] This section is based mostly on Martin, *supra* note 43.

[66] The rugged Canadian shield of northern Ontario was all but impenetrable for settlers to manage on their own.

[67] The Philippine experience was similar to the Canadian one in this respect. To stave off the settlement of American and Japanese sugar farmers, the Philippine colonial government passed a homestead act in 1903. Between 1903 and 1935 over 212,000 homestead applications were made. See Karl Pelzer, Pioneer Settlement in the Asiatic Tropics (1945).

even-numbered quarters close to the railway. Finally, the entire Canadian frontier was opened at once, rather than in sections. All of these differences increased the value of a given quarter and, therefore, increased the incentive to rush the land. They also encouraged settlements that were less densely populated. This is also consistent with the Canadian need to simply establish settlers without regard to defending the settlements by force.[68]

Australia faced a much different set of constraints in its development when compared to the United States or Canada. Australia faced no threat from external powers and no serious internal threat from natives for the crown land. Australia to this day remains one of the least densely populated nations and one of the most urbanized, with 90 percent of its population living on 12 percent of its land mass. Settlement in Australia was never needed to quell internal struggles nor repel aggressive neighbors. Australia's land policies have reflected this. To begin with, since 1829, land policies related to disposal were under provincial discretion—there was no national public land policy. Second, although land grants were given to the first settlers for services rendered, Australia has never had a homestead policy and since 1825 has either sold or leased its public lands.[69]

## VI. Conclusion

Other things held constant, the better the defined property rights, the greater the gains from trade. In making this statement operational, however, one needs to know what the actual alternatives are facing decision makers. On the western frontier, the alternative was *not* to use public lands as a source of revenue but, rather, to forgo those lands to Mexicans, Indians, possibly Texans, or even the British, Spanish, or Russians.[70]

In this article, I have argued that homesteading was used to "rush" settlers to land where federal ownership (in an economic sense) was uncertain. Consistent with this hypothesis is the general structure of home-

[68] It might appear that a better plan would have entailed homesteading only along the border. The border areas were settled first, however, because of climate and terrain conditions. Restricting homesteading to the border would also have allowed for the possibility of American squatters north of Canadian settlements. Once surrounded by Americans, Canadian control of the prairies might have been jeopardized.

[69] See R. L. Heathcote, The Evaluation of Australian Pastoral Land Tenures: An Example of Challenge and Response in Resource Development, in Frontier Settlement (R. Ironside, V. Proudfoot, E. Shannon, and C. Tracie eds. 1972).

[70] The Russians, of course, owned Alaska but also had settlements in northern California until 1840.

steading policies, their application in hostile parts of the country, their absence in Alaska, Maine, and Texas after annexation, their low profile in California and Utah, and their use and nonuse in Canada and Australia. The slow, but eventual, removing of homesteading and other costly disposal devices was not, as is often stated, the result of a change in attitude toward the public domain. Rather, the more "economical" policies of public land management are possible because of the removal of simultaneous claims made on these lands. Conservation of public lands is only meaningful when access is closed. Given this, the policy of rushing settlers to limited parts of the territory to *establish* rights over the land cannot be viewed as inefficient. That it was costly there can be no doubt, but that it was not a perfect solution is irrelevant.

## APPENDIX

### Definition of Variables

| | | |
|---|---|---|
| Dependent variable | = | Number of acres homesteaded in a state in 1880 divided by the number of acres sold to private individuals in that state in 1880. |
| Population density | = | 1880 population of the state or territory per square mile. |
| Population squared | = | Population density squared. |
| Rural/urban | = | Ratio of rural settlers to urban ones. |
| Rail/size | = | Ratio of acres sold to railroads in 1880 to size of the state or territory in acres. |