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The Political Economy of Land Privatization in  
Argentina and Australia, 1810-1850

By

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**Abstract**

This paper compares public land privatization in New South Wales and the Province of Buenos Aires, in the early nineteenth century. Both claimed frontier lands as public lands for raising revenue. New South Wales failed to enforce its claim. Property rights originated as *de facto* squatters' claims, which government subsequently accommodated and enforced as *de jure* property rights. In Buenos Aires, by contrast, original transfers of public lands were specified *de jure* by government. The paper develops a model that explains these differences as a consequence of violence and the relative cost of enforcement of government claims to public land.

Australia and Argentina, endowed with vast open and fertile pasture land, might have set up similar institutions in early settlement, if factor endowments are as powerful an influence as many have argued. What about the emergence of private property rights? Comparing the early settlement of New South Wales, Australia, and the Province of Buenos Aires, Argentina, one finds many similarities. Governments in each country originally laid claim to vast stretches of territory as public land, tried to use those claims to raise revenues, but were overrun or dominated by powerful pastoral interests who populated the frontier and acquired private claims to formerly public land.

Yet there was a striking difference. In New South Wales vast private claims on the frontier originated as informal *de facto* squatters' claims with second-party enforcement. But surprisingly, in Buenos Aires, original private frontier claims typically originated as government-specified *de jure* transfers of public lands. Government played different roles in each. In New South Wales, after years of unimpeded squatting on public land, the government tried, largely unsuccessfully, to reassert its claims to squatters' land or its revenue streams. Yet by the mid-nineteenth century, the government accommodated squatters by providing *de jure* enforcement of their *de facto* claims. By contrast, in the province of Buenos Aires, the military led the advancement of the frontier of settlement, and provided protection of settlers' *de jure* claims as settlements were founded.

Theories of the emergence of property rights, beginning with Harold Demsetz' pioneering study, predict a pattern similar to that in New South Wales. Property rights emerge as the gains from internalizing the rent dissipation of open access exceeds the cost of internalizing them.<sup>1</sup> Alston, Mueller and coauthors have made several contributions to the study of the emergence of property rights in frontier economies. Most recently, Alston,

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<sup>1</sup> Demsetz, "Toward a Theory," p. 350.

Harris and Mueller (2011) compare Australia, Brazil and the western United States. Distinguishing between property-rights specification and enforcement, they find that property rights emerged as settlement progressed, as we find in New South Wales, from *de facto* arrangements between squatters to *de jure* titled land.<sup>2</sup> Squatters initially self-enforced, then as competition for land increased, incumbent squatters organized and set up informal norms to specify and enforce *de facto* claims.

Yet the Argentine *pampa* deviated from this pattern—it was specified *de jure* at the outset. Why was this? In the three cases Alston, et al., (AHM) study, governments left frontier land open for squatting. But why would they do this and thereby give up a potential source of revenue? This paper develops a model to explain when and why governments chose either to assert their claims to public land and then sell or lease it, or chose not to assert them, in effect, giving public land away for squatters to claim. The model accounts for two important factors in the process of early property-rights specifications, which are not present in the AHM framework.

First, it incorporates the government's intrinsic interest in public lands as a source of revenue. The AHM framework assumes governments surrender their public claims to squatters. Property rights emerge as a consequence of private actors, whether self-organizing or acting as an interest-group to lobby government. Yet John Weaver finds that settlement-economy governments almost invariably intended to use public lands to generate revenue, often unsuccessfully.<sup>3</sup> Gary Libecap finds that self-interested government actors affect how institutions emerge, and Terry Anderson and P.J. Hill

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<sup>2</sup> Alston, Harris and Mueller, “*De Facto and De Jure Property Rights*,” builds upon earlier work, including: Alston, Libecap and Mueller, *Titles, Conflict and Land Use*, “Property Rights and Land Conflict,” and “Model of Rural Conflict;” and Alston, Libecap and Schneider, “Determinants and Impact of Property Rights.”

<sup>3</sup> Weaver, *Great Land Rush*.

conclude that government's revenue-related decisions affected rates of public land acquisition and utilization in the United States.<sup>4</sup> Evidence shows similarly that both Buenos Aires' and NSW early governments had ambitions to use public land to raise revenue. In our model, government is a net revenue maximizer, which may be constrained by constituents. We find that governments' pursuit of revenue objectives explains, in part, the divergent paths of the evolution of property rights in the two provinces.

Second, the model accounts for potential conflict with first peoples, as neo-European settlements expanded and encroached upon prior indigenous claims to frontier land. Douglas Allen finds that the threat of violence from Native Americans on the western frontier of the United States influenced early institutional development.<sup>5</sup> John Umbeck, and Douglass North, John Wallis and Barry Weingast find that the threat of violence had profound influence on institutions of exchange and property rights.<sup>6</sup> We find similarly that the potential for conflict mattered for both Argentina and New South Wales, as both countries claimed large expanses of land for the public domain that were already populated and used by native peoples. Conflicts between settlers and native peoples threatened the security of property rights and value of frontier lands in both neo-European settlements.

Many studies focus on the similar endowments of vast, sparsely settled grasslands in the Australian subcontinent and the Argentine *pampa*, with favorable access to the sea. As initial conditions, the imperial governments of each had claimed vast territories as public lands. Conditions after the Napoleonic wars favored expansion, as the open land invited grazers of cattle or sheep to extend settlements from the ports of Buenos Aires,

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<sup>4</sup> Libecap, *Contracting for Property Rights*; Anderson and Hill, "Race for Property Rights."

<sup>5</sup> Allen, "Homesteading and Property Rights."

<sup>6</sup> Umbeck, "Might Makes Rights;" and North, Wallis, and Weingast, *Violence and Social Orders*.

Sydney and Melbourne into the interior in radial fashion.

This paper offers an explanation for why, despite similarities in factor endowments, one government chose to provide *de jure*, while another accepted *de facto*, specification of property rights. Our explanation centers on the costs and benefits of government enforcement of their claims to public land. Before public land could be used to raise revenue, government had to incur costs to enforce its claim to them. If land on the frontier was not sufficiently valuable, it might choose not to enforce them, leaving the land free for squatters to move in and assert their own preemptive claims, which were difficult to deny after the fact as squatters gained political influence.

Can one attribute it to membership in the British Empire?<sup>7</sup> New South Wales remained a colony of the British empire, but Buenos Aires was governed by weak and unstable governments dominated by a special-interest elite. We find that, although the political institutions explain many contrasts, differences in the capacity for violence between the Aborigines of the subcontinent and the Indians of the *pampas* also mattered. The relative threat of first peoples, which affected the costs of enforcing both public and private claims to frontier land, was critical for explaining the differences in public land policies on the frontiers in New South Wales and Buenos Aires.

The paper contributes to the literature on the origins of property-rights, by presenting a case that does not follow the common progression from *de facto* to *de jure* specifications and enforcement. It also contributes to the literature on factor endowments and settlement economies, as it offers a new insight toward why economies with similar

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<sup>7</sup> Consistent with the body of literature that argues that membership in the British Empire can be beneficial through the transfer of institutions, such as: North, *Structure and Change*, pp. 145-46; Acemoglu, Johnson and Robinson, "Colonial Origins," and "Reversal of Fortune;" and Ferguson and Schularick, "Empire Effect."

factor endowments may follow divergent paths of institutional development.<sup>8</sup>

## I. The Market for Public Land

In the early 1830s, despite a colonial policy in New South Wales that provided for the sale of public land and settlement only within specified boundaries, a land rush took off as enterprising colonists took possession of vast stretches of unauthorized interior public land, and the colonial government did nothing effectively to stop it. Why would a government permit an illegal land rush of squatters to encroach on public land if it had alternative plans to sell or lease it for revenue? In this section and the next, we build a model that shows how a government's apparent indifference to enforcing remote public claims could be rational, how conditions on the frontier affected this decision, and how differences in the original specification of property rights could be explained by the risk of property loss or violence on the frontier. In this section, we model the market for public land. In the next section, we show how government incentives to raise revenues from public lands affected the extent of *de jure* and *de facto* claims.

Following Alston, et al., we assume the value of frontier land falls with distance from the port.<sup>9</sup> The net present value of land, derived from the expected stream of earnings, falls with distance from the port,  $r$ , as overland transport costs rise and the cost of bringing goods to market increases, shown in Figure 1 as  $v(r)$ . The price  $p$  at which the government sells a plot on the frontier depends on  $v(r)$ , and a price-discriminating government may try to set  $p = v(r)$ . The government cannot, however, charge the full-rent extracting price and continue to make sales, as prospective buyers have an opportunity

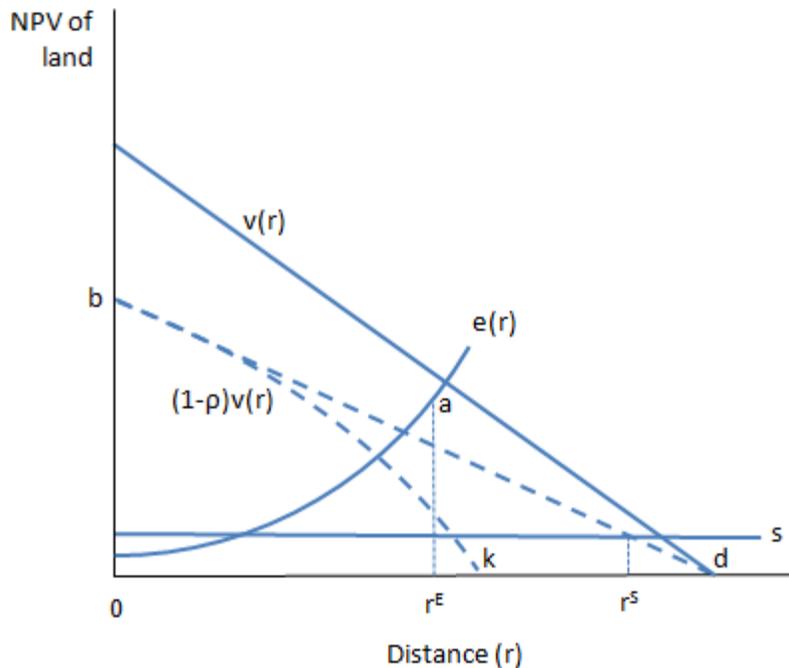
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<sup>8</sup> Engerman and Sokoloff, "Factor Endowments," Adelman, *Frontier Development*; Duncan and Fogarty, *Australia and Argentina*; Prados de la Escosura and Sanz Villaroya, "Contract Enforcement;" Schedvin, "Staples and Regions;" Solberg, *Prairies and the Pampas*.

<sup>9</sup> See footnote 1.

cost, since they can alternatively claim the land by squatting.

**Figure 1. The Market for Public Land on the Frontier**



Note: at the optimal  $r^E$  the length of  $ar^E$  is equal to  $e(r) = \rho v(r) + s + tY_r / F'$ . The dotted curves  $bd$  and  $bk$  represent two possible values of  $(1-\rho)v$ , the latter drawn under the assumption that the risk of violence rises as one moves farther out into the frontier.

A squatter foregoes the property-rights protection of the state but evades paying for land by, in effect, disputing the state's claim. When left unimpeded, squatters historically have often acquired *de facto* preemptive rights, since trying to reverse their claims *ex post* could be politically costly and sometimes prohibitive.<sup>10</sup> Given the settlers' squatting option, government has an incentive to define an official zone of settlement with an official settlement boundary,  $r^E$ . The government then commits to deploy resources to enforce its claims and provide *de jure* property-rights specification and enforcement inside, but not

<sup>10</sup> Alston, et al., "De Facto and De Jure Property Rights"; Weaver, *Great Land Rush*, pp. 74-76.

outside,  $r^E$ .<sup>11</sup> To sell public land inside  $r^E$ , the government must incur costs to specify and measure the tracts to be sold and offer a credible commitment to buyers to enforce *de jure* rights; without such enforcement, prospective purchasers would have incentives to squat rather than buy. We assume  $e(r)$ , ( $e' > 0$ ), bundles these specification and enforcement costs.

Where should government set the settlement boundary,  $r^E$ ? With  $v(r)$  declining and  $e(r)$  rising with distance, the net marginal gain from the sale and enforcement of public land rights is negative beyond the point where  $e(r)$  exceeds the marginal appropriable revenue. Once it sets  $r^E$ , settlers have two options: They may settle within the zone of settlement and purchase a *de jure* right to public land at price  $p$ , or squat outside the zone, where payment is not enforced. The *de jure* right is bundled with third-party government enforcement, which offers greater security against the risk of property loss from dispute, encroachment or theft. In Figure 1,  $v(r)$  is drawn assuming *de jure* rights and effective government enforcement, but government provides this only inside  $r^E$ . Outside  $r^E$ , settlers incur a cost,  $s$ , to take private measures to enforce their claims and to contribute to cooperative (second-party) measures with other settlers.

We make two critical assumptions regarding the cost and effectiveness of settler enforcement activities. First, the cost of private and cooperative enforcement activities,  $s$ , for firearms, sheepdogs or private militias is localized and thus unrelated to the location of the settler's claim,  $r$ . Second, private and second-party enforcement are less effective than government enforcement, thereby leaving a residual risk,  $\rho$ , of property loss from private

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<sup>11</sup> If government has strict comparative advantage in the use of violence, it may be perfectly effective at removing squatters inside  $r^E$ ; if not, some squatting may also be observed inside  $r^E$ . In both New South Wales and Buenos Aires, there was squatting inside official settlement zones.

security. It follows that the value of privately enforced claims,  $(1 - \rho)v(r)$ , is lower than the value of governmentally enforced claims,  $v(r)$ , as shown in Figure 1.<sup>12</sup>

On the frontier, settlers are willing to squat up to the point,  $r^S$ , beyond which  $(1 - \rho)v - s < 0$ , shown in Figure 1. They would be unwilling to purchase a *de jure* right to public land if the net present value of squatted land exceeded the net present value of government enforced *de jure* land. Therefore, a necessary condition for a sale is:

$v - p \geq (1 - \rho)v - s$ ; or stated in terms of the sales price,

$$p \leq \rho v + s. \quad (1)$$

The source of the insecurity of settler land claims on the frontier matters. Alston, et al. (2011) assume the risk of property loss falls with distance from the market as land competition from encroaching settlers falls. But this overlooks the risk of resistance from indigenous peoples, which, if significant, is likely to increase as one moves away from the port into remote lands on the frontier. If so, then  $\rho$  increases with  $r$  and  $(1 - \rho)v$  falls more steeply as  $r$  rises. In Figure 1, the dotted curve  $bk$  represents the value of squatted land if the risk of violence rises with  $r$ . Line  $bd$  represents the usual assumption of declining risk. Our model accounts for both cases.

## II. Revenue Objectives

How did governments decide where to draw this boundary,  $r^E$ ? This section derives conditions for setting  $r^E$  assuming governments maximized revenues subject to equation (1). As a baseline analysis, we model how an autocratic government,

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<sup>12</sup> The risk factor,  $\rho$ , and cost of private security,  $s$ , are not independent, but in the application below we suppress the relationship and treat the effectiveness of private security as fixed. If enforcement is to be *de facto* in either case, since the *de facto* price is zero, the settler gains nothing from purchasing the *de jure* right. That is,  $\rho v + s < \rho v + s + p$  for any nonzero price of public land.

unconstrained by constituent demands, would set  $r^E$ . The baseline model provides a good first approximation for British colonial rule in New South Wales in the 1820s and 1830s, where the Secretary of State of the Colonies, through his agent, the Colonial Governor, could act autonomously, i.e., without considering the interests of settlers. The assumption of autocracy is less appropriate for the politically unstable and successively weak governments of Buenos Aires, beholden to powerful cattle interests. We expand the analysis to a more appropriate model for Buenos Aires in Section IV.

The government maximizes net revenues from two sources: sales of public lands,  $L$ , and taxes,  $tY(G)$ , where  $t$  is the tax rate and  $Y$  is the value of production in “taxable sectors.” It provides two types of public services, the specification and enforcement of property rights to land (on the frontier),  $E$ , and other government services,  $G$ . In a featureless plain, the distance  $r^E$  along any radius renders the same net revenues from land sales,  $\int_0^{r^E} [p(r) - e(r)]dr$ .  $F$  transforms the decision margins on each radius,  $r$ , into an area; and  $F' > 0$ . The government’s objective function is:

$$\max_{r^E, G} F \left( \int_0^{r^E} [p(r) - e(r)]dr \right) + tY(G, r^E) - C(G) \quad (2)$$

where the first term is the net revenue from public land sales, subject to equation (1), the maximum price that settlers with an option of squatting would pay for land. The second term in equation (2) is revenue from the taxable sector, which is a function of other public services,  $G$ , and external benefits from pastoral production in the zone of settlement, which increase with  $r^E$ . The cost of providing other public services, including the transaction costs of collecting taxes, is  $C(G)$ .

Assuming an interior solution, a necessary condition for optimal  $r^E$  is:

$$F'(\rho v + s - e) + tY_r = 0 . \quad (3)$$

In the special case where  $tY_r = 0$ ,  $r^E$  is chosen so that the marginal cost of government enforcement,  $e$ , is equal to the marginal cost of private enforcement,  $\rho v + s$ . In the more general case of  $tY_r \geq 0$ , the government extends its *de jure* enforcement boundary farther outward to reap the positive externalities.<sup>13</sup>

The model predicts (1) the settlement boundary,  $r^E$ , that defines an official zone of settlement, and (2) a von-Thünen band of squatter settlements with *de facto* claims that forms outside the zone of settlement, as depicted in Figure 2. Although the government prohibits settlement beyond  $r^E$ , settlers choose to squat beyond it as long as  $(1 - \rho)v \geq s$ . Under this condition, settlement from the port to  $r^E$  is supported by *de jure* specification of property rights and government enforcement; while a band of squatting or *de facto* claims forms outside the boundary,  $r^E$ , which does not have government sanction or enforcement. The squatters' band terminates at the distance,  $r^S$ , where the marginal value of unprotected land  $(1 - \rho)v$  is equal to the cost of private security,  $s$ .

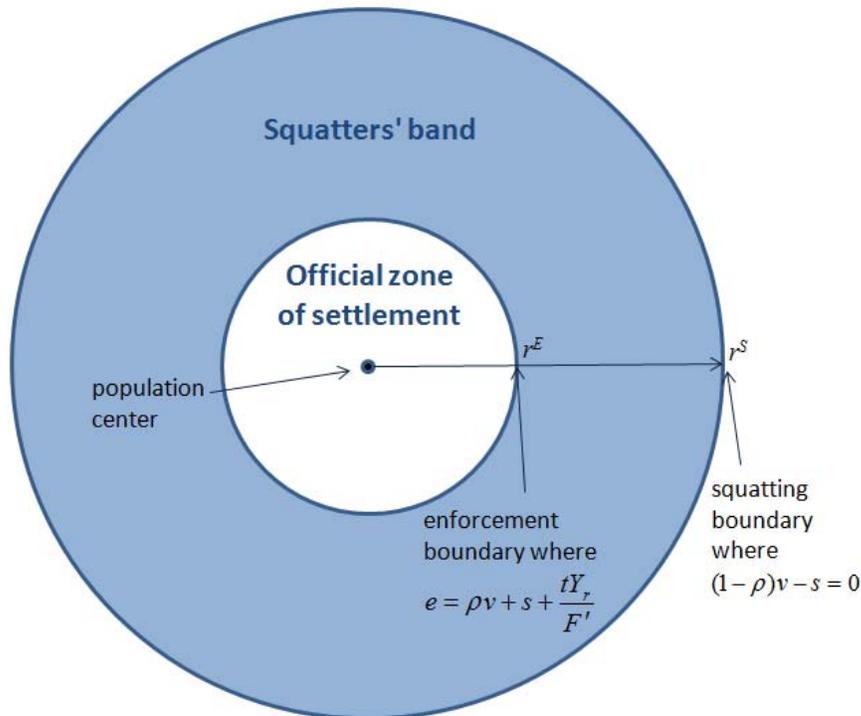
Two comparative static results are central to the histories of New South Wales and Buenos Aires. First, as their pastoral economies expanded and land values,  $v(r)$ , rose, settlement boundaries,  $r^S$ , of each shifted outward as settlers occupied more land and extended the frontier. Second, high levels of risk  $\rho$  on the frontier caused the squatters' band to narrow. Not only would  $r^S$  move inward because of the greater risk to squatters,  $r^E$  would also move outward toward  $r^S$  owing to the higher marginal cost of squatting. The latter result occurred because the higher risk to squatters increased the settler demand for

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<sup>13</sup> More specifically, with positive externalities, the government will set  $r^E$  as the distance where the net revenues from land sales are negative. Equation (3) indicates that  $r^E$  is drawn where the marginal net loss from land sales equals the marginal gain from the externality.

land with *de jure* rights and raised the government revenue at the margin from providing additional land with *de jure* rights.

**Figure 2. Von Thünen Squatters' Band**



### III. Settlement Zones and Risk

How consistent is the model with patterns we observe in New South Wales and Buenos Aires? First, both governments were in need of raising local revenues; both targeted public land as a big potential source of revenue; and land policies in both broadly conformed to the predicted patterns. In particular, in the early stages of settlement, they defined official boundaries and zones of settlement, engaged in *de jure* transfers of public land within the boundaries, and discouraged settlement or refused third-party protection

and enforcement outside the boundaries.

#### *A. Colony of New South Wales*

In New South Wales, through the early 1820s, settlement was concentrated in the immediate area around Sydney. Conflicts between Aborigines and settlers and the natural barriers of mountain ranges limited the expansion of farms and stock grazing. Land settlement expanded as new lands were discovered ideal for stock grazing, a breed of merino sheep with wool suitable for export was disseminated, the free population grew, ocean shipping rates declined, and settlers' ability to prevail in conflicts with Aborigines increased.

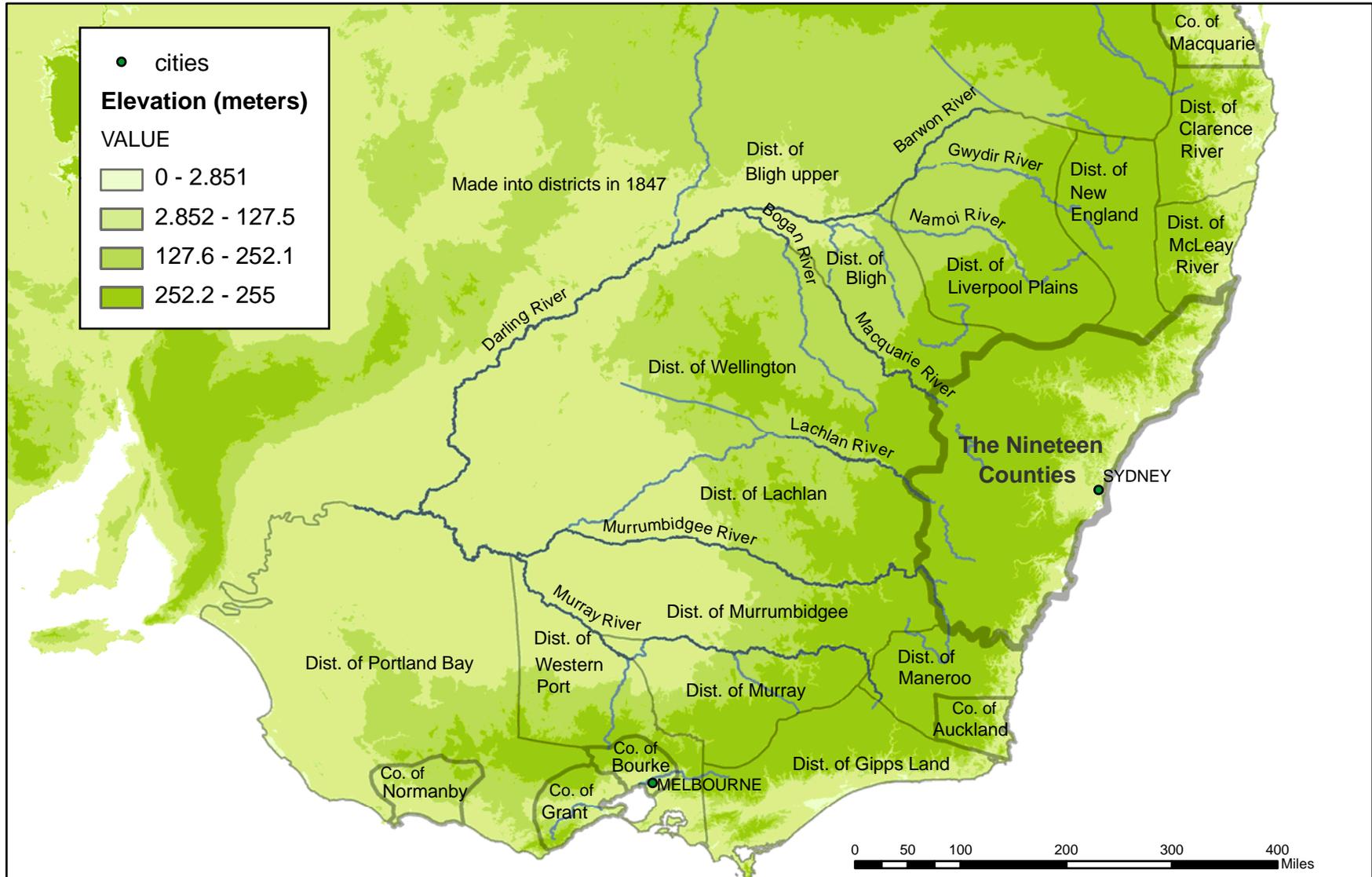
The transition of New South Wales from a penal colony with limited demand for crown land to a colony with a thriving private sector and a growing demand for crown lands was accompanied by NSW government actions to define settlement boundaries and provide *de jure* specification and enforcement within those boundaries. In 1829 the NSW government specified boundaries for Nineteen Counties whose outer boundaries were set as "Limits of Location." The Nineteen Counties, shown in Figure 3, centered on Sydney stretching inland from the coast into the grasslands beyond the Blue Mountains.

According to equation (3), the official settlement boundary would be drawn where the marginal cost of government specification and enforcement of *de jure* property rights began to exceed the marginal opportunity cost from squatting. In the 1820s, the threat of Aboriginal raids against settlers at the frontier influenced the government's cost of enforcing *de jure* rights and its decision about how far out to authorize settlement.<sup>14</sup>

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<sup>14</sup> Similar boundaries of settlement were imposed in other British and Dutch colonies facing frontier resistance from native peoples. Examples include the Royal Proclamation of 1763 for Britain's North America colonies and the Dutch East India Company's imposition of settlement boundaries in the Cape Colony in 1688. La Croix, "Company Colonies."

Figure 3. New South Wales and Vicinity, 1844



Showing the Nineteen Counties and the squatters' districted established by 1844.

Aboriginal bands resisted the foreign occupation of their lands and were sufficiently skilled and organized using traditional weaponry (spears) to resist attacks from trained British soldiers with firearms.<sup>15</sup> When outnumbered or facing superior firepower, they used terror tactics against settlers and soldiers, avoiding direct military confrontation. Raids on farms and households were typically in bands of 6-20 men, although in some cases forces of up to 200 men were seen. They took food, sheep, and cattle; destroyed resources; and sometimes injured or killed intruders stationed on the runs.<sup>16</sup>

The government's decisions to set settlement boundaries, to survey lands within the boundaries, and to provide *de jure* enforcement for those lands were accompanied by a change in how it transferred rights to crown lands within the settlement boundaries to settlers. Until 1831, the land grant was the primary instrument for privatizing crown lands, with the grant conditional on improvement and subject to an annual quit rent. Land revenues were small because quit rents were small and often further diminished by falling into arrears.<sup>17</sup> London's dissatisfaction with quit rent revenues not only in New South Wales but in other colonies was one factor behind the 1831 Ripon Regulations, which provided for sales of NSW crown lands.<sup>18</sup> These regulations standardized how crown lands were privatized throughout the Empire and were expected to generate more revenue from

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<sup>15</sup> It took 45 seconds for a soldier to reload a breach loading gun and for an Aboriginal to throw up to six spears. Intimate knowledge of terrain also favored Aborigines. Connor, "Frontier Wars;" Broome, *Aboriginal Australians*; and Coates, *Atlas*, argue that the extent of Aboriginal resistance in the early settlement in NSW and Victoria in earlier historical accounts has been understated.

<sup>16</sup> The ability of Aboriginal groups to resist was limited by their small size and histories of inter-group warfare that constrained organization of large forces. Settlers in the 1830 who negotiated with Aborigines to share land experienced little violence. See Broome, *Aboriginal Australians* and Belich, *Replenishing the Earth*, pp. 272-273

<sup>17</sup> As the local economy developed, Britain adopted policies to reduce its financial commitments and assist emigration of English workers to the colony. The Colonial Office targeted revenues from crown land sales to fund emigration. Burroughs, *Britain and Australia*, pp. 60-69, 173, 249, 266. Butlin, *Forming a Colonial Economy*, pp. 54-55, 84-92; Roberts, *Squatting Age*, p. 136.

<sup>18</sup> Goderich to Darling, 9 Jan. 1831, H.R.A., 16, pp. 19-22.

privatization. They required colonial governments to privatize crown lands within defined settlement boundaries by selling surveyed parcels, selected by a potential buyer, at auction subject to an upset price of 5 shillings per acre.<sup>19</sup>

The policy of public land sales had limited success for two reasons. The minimum price provided in the Ripon Regulations overpriced much of the land inside the Limits of Location, and news from a series of exploratory expeditions told of the vast expanse of lands beyond the Limits suited for sheep runs.<sup>20</sup> Enterprising colonists responded quickly, walking flocks of thousands of sheep hundreds of kilometers to establish new sheep runs. By the early 1830s, a full-blown land rush had developed, with settlement spreading far beyond the Nineteen Counties. Thus, as the expected value of lands beyond the Limits rose, settlers found that it paid to squat beyond the Limits rather than buy *de jure* rights.

As the land rush continued through the 1830s, the outer edge of the squatters' band, *r<sup>s</sup>*, extended hundreds of kilometers into the grasslands in the interior. From 1835, a second rush emerged to occupy lands in Port Phillip, with the settlement of what became Melbourne on Port Phillip Bay, providing the market outlet. Settlers came from the Northeast, walking stock in the tracks of the wagons left by Surveyor General Mitchell's exploratory expedition of Victoria, and from the south, crossing the Bass Strait from Van Diemen's Land to Port Phillip. Governor Bourke's response to the land rush was to officially open a restricted area for settlement and establish a government administration at Port Phillip in 1836 and begin sales of crown land in the Melbourne area in June 1837.

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<sup>19</sup> Land Regulations, H.R.A. I, 16, pp. 864-7. Weaver, *Great Land Rush*, p. 214.

<sup>20</sup> Exploratory expeditions included: Wentworth, Lawson, and Blaxland's crossing of the Blue Mountains in 1813; Oxley's 1817 and 1819 explorations of the Lachland and Macquarie Rivers; Currie's and Ovens's voyage on the Murrumbidgee River in 1823; Cunningham's discovery of Pandora's Pass in 1823 and exploration of major rivers in 1827; Sturt's explorations of the Murrumbidgee River and Murray River; and the three expeditions undertaken by Surveyor-General Mitchell, including his path-breaking 1836 wagon trek through Australia Felix. See Figure 3.

Our model predicts an expanding band of squatters when either the value of squatted land,  $(1 - \rho)v$ , rises, or the cost of private enforcement,  $\rho v + s$ , falls. In New South Wales the value of frontier land,  $v$ , increased substantially, driven by news from exploratory expeditions (discussed above), demand from the colony's growing free population, rising wool prices, and declining shipping rates. Free and assisted immigration, transition of convicts to the free population, and natural increase pushed the NSW population from 28,100 in 1820 to 118,500 in 1840. Increases in the price of wool in Britain during the 1830s and the elimination in 1825 of the British tariff on wool imported from its colonies also raised the demand for NSW grazing lands.<sup>21</sup>

Meanwhile, the cost of private enforcement,  $\rho v + s$ , fell as the risk of property loss,  $\rho$ , and the cost of private security,  $s$ , fell. Settlers obtained an advantage in violence over Aboriginals due to the sharp decline in Aboriginal population (from exposure to disease introduced by settlers) and the use of mounted soldiers and settlers on the frontier after 1826. Alston, et al., document how incumbent squatters developed informal second-party institutions to enforce *de facto* rights against encroachment from neighbors or newcomers and resistance from Aboriginal groups who also resided on or harvested resources from these lands.<sup>22</sup>

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<sup>21</sup> Clark's index of English wool prices more than doubled from 1827 to 1836. See Clark, "Price History," Appendix Table 4. The British tariff on colonial wool imports was cut from 6d. per lb. to 1d. per lb. in 1824 and was eliminated in 1825 (6 Geo. 4 c. 111). Rates for shipping wool from New South Wales to Britain declined from 6d. per lb. in the 1820s to 1.25d. per lb. in 1830.

<sup>22</sup> See Butlin, *Forming a Colonial Economy*, 210-219 for discussion of aboriginal population decline. Newly arrived squatters often tried to fill in the less desirable land between squatter claims by allowing their stock to graze on the unclaimed land as well as on land claimed by their neighbors. See Alston, et al., "De Facto and De Jure Property Rights." See Alston, Libecap and Mueller, "Property Rights and Land Conflict," and Dennen (1976) for analysis of similar activity in the western United States.

### B. Province of Buenos Aires

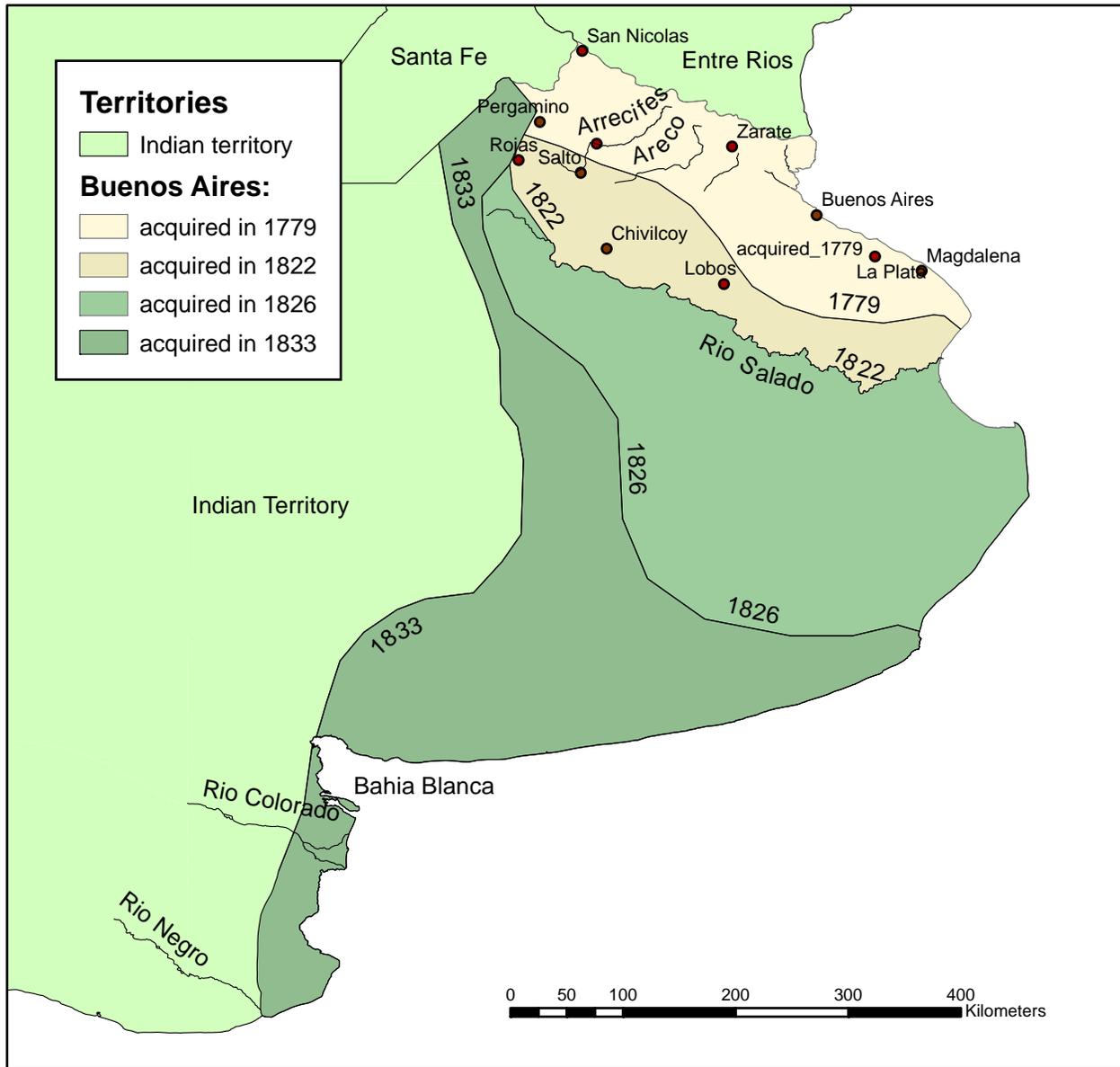
The Province of Buenos Aires also maintained an official zone of settlement defined by an official boundary (*linea de fronteras*). At independence in 1810, the boundary was defined by a line of forts to the south built in 1741 to protect the city of Buenos Aires and surroundings. Before 1810, the line had never extended farther than 100-120 km inland and to the south from the Río de la Plata or the city of Buenos Aires, as shown in Figure 4. Unlike New South Wales, there was no significant squatting beyond the *linea de fronteras*, primarily due to fierce resistance from hostile indigenous tribes.<sup>23</sup>

The absence of squatting is consistent with our model—the predicted band of squatters disappeared when the risk of property loss on the frontier,  $\rho$ , was high and the cost of private protection,  $s$ , was prohibitive. Comparative evidence indicates that even for the largest *estancieros*, third-party military protection was necessary at a scale that could not have been achieved by second-party arrangements comparable to those that developed in New South Wales. The opportunity cost from squatting was therefore not a binding constraint to the enforcement of public land claims. Equation (3) in this case has the form  $F'(p - e) + tY_r = 0$ , where the marginal cost of enforcement  $e(r)$  increases with the strength of indigenous resistance. Since 1740, the line of defense,  $r^E$ , had been maintained up to the Salado River (although with some periods of retreat). Nomadic tribes controlled the land south of the river and regularly crossed it to raid and pillage the haciendas and herds. Their methods included livestock rustling, razing *haciendas*, ambushing parties of travelers, theft, and killing or taking prisoners. Although they sometimes operated in small bands,

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<sup>23</sup>Amaral, *Rise of Capitalism*, p. 135; Avellaneda, *Tierra pública*; Barba, *Frontera ganadera*, pp. 23-27; Best, *Historia de las guerras*, vol. 2, pp. 317-21, 325-53; Cárcano, *Evolución histórica*, pp. 27-30; Carretero, *La propiedad*; Halperín Donghi, *La expansión ganadera*; Infesta, *Pampa criolla*, p. 73; Zimmerman, “Land Policy.”

Figure 4. Province of Buenos Aires, 1779-1852



Showing territory acquired 1779-1833

routinely groups of hundreds, sometimes thousands, of warriors seasonally conducted large-scale campaigns to seize and round up large herds to be driven and marketed to indigenous communities far to the south.

The military might of the Spanish settlement was not superior to mounted indigenous forces skilled in the use of traditional weapons (lance and *bola*). During these campaigns, militiamen at the frontier outposts were outnumbered. Army regiments sent out from the city to pursue invaders found that their opponents knew the terrain better and easily escaped. To strengthen military forts and outposts, land grants were given, often to war veterans, to settle nearby; but they obligated grantees to occupy the land and assist the militia in the district's defense.<sup>24</sup>

Meanwhile, ten years of warfare against Spain had left the new republic cut off from the colonial silver trade and in desperate need of revenue to extinguish its debts. In 1821, the public debt amounted to 2 million pesos, approximately the same as government receipts for that year.<sup>25</sup> Vast holdings of public land offered what appeared to be a great resource, if it could be tapped. Among the first acts of the revolutionary government was to claim the *tierras realengas* of the former viceroyalty as public or "fiscal" lands and authorize the sale of public land on the frontier to raise revenues.

The sale of public lands, initiated in 1813, did not generate much revenue, as the land was insecure and vulnerable to Indian attack (See Table 1).<sup>26</sup> According to one report,

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<sup>24</sup> *Ibid.*

<sup>25</sup> The estimate is from Burgin, *Aspects*, pp. 52-54; s.a. Halperín Donghi, *Guerra y finanzas*.

<sup>26</sup> The most important income source was customs, which after 1821 exceeded 85 percent of annual receipts except during periods of blockade (Burgin, p. 185; Newland and Salvatore, p. 23). Second was the *contribución directa* on capital improvements on land, which rarely exceeded 3-4 percent of annual revenues. Hiding the value of improvements was easy and not uncommon Amaral, *Rise of Capitalism*, pp. 14, 195, 200; Burgin, *Aspects*, pp. 47-49, 167, 195-97).

the insecurity caused prices of frontier land to amount to no more than a month's rent.<sup>27</sup> A land grant program, instituted in 1817 to compensate former soldiers for their services and fortify the line of defense with armed settlers, was no more successful. Properties in exposed areas were abandoned. Commenting on the problem of getting revenue from land, Cárcano remarks: "If they couldn't guarantee the property rights of the land they gave away, how could they possibly sell it?"<sup>28</sup> *Estancias* for raising livestock, towns, or villages were built up to the line of defense, but rarely beyond it. Before 1826, the line stopped at the Salado River (See Figure 4).<sup>29</sup>

As the export market for cattle products expanded, political demands to secure the land to the south for cattle grazing intensified. Responding to these demands, successive governors organized "desert campaigns" in 1820-21, 1823-24, 1826-27, and 1828-34 to push back the boundaries of Indian control and extend the line of defense to the south. These attempts at territorial expansion were met with full-fledged warfare as the Indian tribes raised armies of thousands of skilled indigenous warriors to defend their competing claims to the land. Although most desert campaigns resulted in failure, a few, beginning with the 1826 campaign, were successful. Territorial expansion was thus achieved in fits and starts. Figure 4 shows the effects of these campaigns on territorial expansion<sup>30</sup>

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<sup>27</sup> Coní, *Verdad sobre la enfiteusis*, pp. 36, 163.

<sup>28</sup> Cárcano, *Evolución histórica*, pp. 30-31.

<sup>29</sup> Amaral finds at that time a few *estancias* had been founded on the Salado River, but none beyond it Amaral, in *Rise of Capital*, pp. 63, 135, 185; Cárcano, *Evolución histórica*, pp. 14, 25-27, Coní, *Verdad sobre la enfiteusis*, p. 16. The first fort and settlement built south of the Salado River, in 1817, at Kaquelhuincul, near the town of Dolores, was destroyed by Indian attacks in 1821, when settlements south of the Salado were abandoned. Infesta, *Pampa criolla*, p. 73.

<sup>30</sup> The campaigns of 1826 and 1833 were the most notable successes. In the interim, the line of defense was not static; the effective boundaries of the province were drawn and redrawn as described. Some territorial gains of 1833 were lost after the fall of Rosas in 1852. Best 1960, *Historia de las guerras*, vol. 2, pp. 317-21, 325-53; Cárcano, *Evolución histórica*, pp. 26, 87-89; Garavaglia, *Pastores y labradores*, pp. 39-41; Infesta, *Pampa criolla*, p. 16; Tapson, "Indian Warfare."

**Table 1. Fiscal Revenues for the Province of Buenos Aires, 1822-1850**

In thousands of Pesos (percent share in parentheses)

	1822	1824	1831	1834	1840	1845	1850
Customs, port and stamp duties	2097 (87.1)	2189 (83.4)	7817 (87.0)	3970 (81.7)	6528 (82.9)	29414 (93.5)	59727 (96.0)
Capital tax (contribucion directa)	23 (1.0)	21 (0.8)	360 (4.0)	132 (2.7)	996 (12.6)	1439 (4.6)	1942 (3.1)
Saladeros y corrales tax	--	--	--	--	123 (1.6)	138 (0.4)	158 (0.3)
Sales, rentals, interest, etc.	0 (0.0)	275 (10.5)	798 (8.9)	707 (14.5)	232 (2.9)	473 (1.5)	401 (0.6)
Sales of land	0 (0.0)	79 (3.0)	141 (1.6)	553 (11.4)	--	--	--
Interest and rent	0 (0.0)	197 (7.5)	658 (7.3)	154 (3.2)	--	--	--
Other	288 (12.0)	140 (5.3)	14 (0.2)	49 (1.0)	--	--	--
Total	2408	2626	8989	4857	7879	31463	62228

Source: Burgin, pp. 45, 167, 195-97.

In short, expansions of *estancias* and settlements on the *pampa* were preceded by government-financed military expeditions to pacify the area to be settled. When land was pacified, as we show below, transfers to private individuals were preceded by a *de jure* specification required by law and usually enforced, though not necessarily impartially.

#### IV. A Redistributive Model

The assumption of an autocratic government is inappropriate for the Province of Buenos Aires, which was known for being dominated by cattle interests. It also became less appropriate for New South Wales as the political influence of wealthy squatters rose, after about 1845. To accommodate this case, we extend the baseline model by adapting the redistributive model of government of Martin McGuire and Mancur Olson, which assumes government represents or favors a dominant special-interest group, be it a

democracy with a dominant constituent group or a dictatorship with a dominant special-interest elite. A redistributive government chooses policies that redistribute wealth from non-supporters to itself and its supporters.<sup>31</sup> As in McGuire and Olson, we treat the government and the dominant interest group as a single ruling interest. The ruling interest sets policies to maximize the combined net revenues from public land sales and taxes and the share that goes to its supporters.

This implies the government or ruling interest chooses  $r^E$  and  $G$  to maximize:

$$F\left(\int_0^{r^E} (p - e) dr + \int_0^{r^E} \alpha(v - p) dr + \int_{r^E}^{r^S} \beta[(1 - \rho)v - s] dr\right) + tY - C + \gamma(1 - t)Y.$$

The first term inside the parentheses is the earnings from public land sales, as in equation (1). The second term is rents appropriated by supporters' purchases of public lands inside  $r^E$ , where  $\alpha$  is the share of public land sales purchased by supporters. The third term is the rents of supporters appropriated by squatting, where  $\beta$  is the share of squatted land occupied by supporters. The term  $\gamma(1 - t)Y$  is the private post-tax earnings from other activities that supporters appropriate, where  $\gamma$  is the share that goes to supporters.

The necessary first-order condition for  $r^E$  is:

$$e = \rho v + s + (\alpha - \beta)[(1 - \rho)v - s] + [t + \gamma(1 - t)]Y_r / F'. \quad (4)$$

If  $\alpha = \beta = \gamma = 0$ , the condition is the same as the first-order condition for the autocratic model [equation (3)]. The last two terms on the right-hand side are, respectively, the marginal rent that supporters receive from an increase in  $r^E$  (i.e., the net increase in value of a *de jure* relative to a *de facto* claim for a given parcel) and the marginal benefit to the ruling interest from externalities of claiming the additional lands, either collected as taxes

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<sup>31</sup> McGuire and Olson, "Economics of Autocracy."

or net rents to government supporters. All terms in equation (4) are nonnegative, except  $(\alpha - \beta)[(1 - \rho)v - s]$ . The sign and magnitude of this term inform us about the preferences of the redistributive government and its constituents toward public land policy and squatting.

There are three distinct regimes. First, if  $(1 - \rho)v - s > 0$  at  $r^E$ , settlers find squatting outside  $r^E$  attractive. If, however,  $\alpha - \beta < 0$  also holds, then constituent settlers prefer *de facto* to *de jure* land claims, and they will pressure government to reduce  $r^E$ , leaving more land open to squatting. Squatter opposition to acts of the NSW Legislative Council in 1836 and 1839 that tried to reassert government property rights and limit the scope of *de facto* rights of squatters to lands beyond the Limits of Location (discussed below) is one example. Squatter resistance to NSW government policy, directed by the supervisory imperial government, to protect Aboriginals against squatter massacres, is another.

Second, if  $(1 - \rho)v - s > 0$  at  $r^E$  and  $\alpha - \beta > 0$ , constituent settlers expect to benefit from government enforcement of their property claims, and the ruling interest prefers a larger extension of *de jure* lands relative to the baseline case. This might be expected if they received privileged access to public land, or selective enforcement of property rights, as Stephen Haber, Armando Razo and Noel Maurer argue for Mexico, or North, et al., argue for some types of limited-access orders.<sup>32</sup> An accommodating government incurs greater enforcement costs,  $e(r)$ , than in the baseline model and sets  $r^E$  farther out.

Third, if  $(1 - \rho)v - s \leq 0$  at  $r^E$ , no squatting would be observed, consistent with conditions at the line of defense in Buenos Aires. In this case, the constraint is non-binding and the first-order necessary condition is:  $e = p + \alpha(v - p) + [t + (1 - \gamma)t]Y_r / F'$ , instead of

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<sup>32</sup> Haber, Razo and Maurer, *Politics of Property Rights*; North, et al., *Violence and Social Orders*.

equation (4). In either case, interest-group demands press the government to increase its enforcement even more than in the second case, in effect, demanding revenues from other sectors be used to subsidize territorial expansion for the benefit of ruling-interest settlers on the frontier. The latter regime seems to better fit Buenos Aires, where would-be squatters were deterred from settling on the frontier by the threat of indigenous aggression. The redistributive government model predicts that the dominant interest group—the *estancieros*—would exert political demands to use state revenues to finance territorial expansion. Relative to the NSW colonial government, the government of Buenos Aires had a bigger role in securing land for new settlement, fortification of the line of defense, and the waging of costly military campaigns to pacify and lay claim to new land to the south of the Salado River, and to make it available to *estancieros*. The national history shows that weak governments, dependent on cattle interests, compromised revenue objectives to accommodate the interests of the dominant sector. Almost from its outset, public land policy was designed to accommodate big cattle interests.

The institution of the *emphyteusis*, a transferable, 20-year leasehold arrangement that provided the government of Buenos Aires a special legal instrument to mobilize encumbered public land, became an important channel for this accommodation of cattle interests.<sup>33</sup> By far the most important contractual instrument prior to 1840 for the transfer of public land, its adoption originated in a financial reform, implemented in 1821 and 1822, to consolidate the state's chaotic short-term debt into long-term funded debt, a

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<sup>33</sup> *Emphyteusis*, handed down from Roman legal tradition, was used in Spain to privatize the crown's patrimony. Argentina's adaptation provided originally for a freely transferable lease of 20 years, reduced later in 1828 to a 10-year term renewable for a second term, in exchange for an annual rent initially of 3 percent of the assessed value, later increased to 4 percent for agricultural and 8 percent for livestock operations. See Adelman, *Republic of Capital*, p. 100; Cárcano, *Evolución histórica*, pp. 53-59, 67; Coni, *Verdad sobre la enfiteusis*, pp. 32-38, 162-64; Infesta, *Pampa criolla*, pp. 30-31, 38-39.

reform attributed to Minister Bernardino Rivadavia. Sovereign debt amounting to 6.4 million pesos was issued in London by the end of 1824.<sup>34</sup> As security, the government prohibited the alienation of all public land and pledged all its immobile and mobile property as a guarantee for the debt. But then, a few months later, it authorized the *emphyteusis* of public land to mobilize its long-term use to the benefit of cattle interests.

Implemented in 1824, the *emphyteusis* law was revised in 1826 and 1828 generally to favor powerful lessees (*enfiteutas*). Rental fees were reduced even as land became more secure and more valuable. The original law set the rental fee at 4 percent of the assessed value of the land, raised in 1826 it to 8 percent, but lowered again in 1828 to 2 percent. By the time of the 1828 revision of public land policy, the government had defaulted on its foreign debt and was surviving on inflationary finance.<sup>35</sup> After 1828, rents were made payable in depreciating paper currency, and real rental fees fell to a fraction of their original level. A square league assessed at 2000 pesos, which would in 1826 earn 160 pesos annually in government revenue, by 1830 paid a real value of only 34 pesos in depreciated currency.<sup>36</sup>

The redistributive-government variant of our model predicts a larger official zone of settlement, the benefits of which would be disproportionately captured by ruling cattle interests. Military policies of territorial expansion and other public land policies that favored big cattle interests are broadly consistent with the model's predictions.

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<sup>34</sup> Rivadavia's financial reforms failed, and the government defaulted on its foreign debt in 1825. It adopted an inconvertible paper currency in 1826. Bordo and Végh, "What If Alexander Hamilton," pp. 463-66; Burgin, *Aspects*, pp. 52-54; Dawson, *First Latin American Debt Crisis*; Marichal, *A Century of Debt Crises*.

<sup>35</sup> *Ibid.*

<sup>36</sup> Cárcano, *Evolución histórica*, pp. 67-68; Irigoien, "Finance," and "Inconvertible Paper Money." The rate of depreciation is calculated from peso price of gold reported in Burgin, *Aspects*, p. 69.

## V. Property Rights Specification on Public Lands

What evidence is there for property-rights specifications that were *de facto* in New South Wales but *de jure* in Buenos Aires? This section examines each government's approach as they attempted to create *de jure* property rights to privatize public land and raise revenue. It shows how each met different challenges that caused the emergence of property rights on the frontier to follow a *de facto* path in one case and a *de jure* path in another, consistent with our model.

### A. New South Wales

At the inception of the NSW colony, the government specified land rights by survey and enforced *de jure* land rights. The first Surveyor General was aboard the First Fleet, which arrived in 1778, whose job it was to survey land for grants, initially for retired military personnel and emancipated convicts, later extended to free settlers and commissioned officers.

In 1821, the Colonial Office appointed John Bigge to investigate the NSW government's policies and operations. His report criticized the time required to survey land grant awards and the failure of the Surveyor General to collect the quit rents due on past land grants. It recommended that land marked for settlement should be surveyed in advance "and laid out in districts." Two years later, the "King's Instructions" arrived that outlined a plan for a comprehensive survey of the Colony that would divide the public lands to be opened for settlement into counties, hundreds, and parishes and provided for three Joint Commissioners of Survey and Valuation to conduct this survey. By 1826, the government announced approximate boundaries of "Nineteen Counties" within which grantees could select land. Little progress was made toward completion of the survey until

after 1827, when a new Surveyor General, Thomas Mitchell, was appointed and additional staff were sent to complete it.<sup>37</sup>

By October 1829, boundaries for the Nineteen Counties with their 23,083,200 acres had been fully delineated, and the Office of the Colonial Secretary published a public notice of the Limits of Location. Between 1828 and 1834, Mitchell and his staff surveyed virtually all of the 1,946,478 acres of crown land that was privatized within the Limits during this period, leaving just 73 farms unmeasured as of June 1834.<sup>38</sup>

Despite the close attention paid by the London and Sydney governments to the delineation of *de jure* land rights within a settlement boundary, settlers' calculus over whether to buy (or being granted) land with *de jure* rights or make a *de facto* claim on land beyond the Limits of Location changed rapidly, as the surveys inside the Limits were completed. Settlers received new information that increased the value of land beyond the Limits, the Aborigines' ability to resist declined, and settlers rushed to make *de facto* claims on lands beyond the Limits.

Several studies lay out in detail how informal second-party institutions emerged to specify and enforce the squatters' *de facto* claims. To define claims, squatters built rudimentary structures and worked with neighbors to agree upon boundaries on unsurveyed land using customary markings on trees, plowed furrows, piles of rocks, and water fronts or watersheds.<sup>39</sup> Claims were often made to access nearby public lands as "back runs". Imprecise boundaries may have increased the potential for conflict, but there was notably little violence on the frontier in the early years of *de facto* claims. Possessory

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<sup>37</sup> Cumpston, *Thomas Mitchell*, p. 124.

<sup>38</sup> *Ibid.* p. 107.

<sup>39</sup> Alston, et al., "*De Facto and De Jure Property Rights*;" Weaver, "Beyond the Fatal Shore," pp. 994-995; and Roberts, *Squatting Age*, p. 280.

rights came to be enforced by informal second-party arrangements. For example, claims averaging 24,000 to 34,000 acres were difficult to defend singlehandedly, but they were enforced by a custom of setting up huts with hut keepers at regular intervals. Claims could be challenged, but were generally respected, as informal rules emerged to manage potential disputes. Abandonment of a hut could invite encroachment, but rules emerged that permitted a six-month absence to allow the seasonal flexibility needed in the arid climate. Informal claims could be sold, leased and used to secure credit. Other informal rules governed routes, grazing, and size of flocks as they were walked to market, often over others' claims.

As the population in New South Wales increased and the market for wool grew, more squatters looked to establish sheep runs at the frontier. Roberts describes how newcomers in the 1830s would negotiate with neighbors to agree upon adjoining boundaries. As threats of encroachment grew, incumbent squatters often worked together to defend their *de facto* claims from newcomers.<sup>40</sup> By the late 1830s, however, increased competition for land led squatters to seek the help of colonial officials to enforce their *de facto* claims.

As the value of land  $v(r)$  increased beyond the limits (where  $r > r^E$ ), the model predicts that a revenue-seeking government would try to reassert its claims rather than accommodate squatters' claims. If government succeeded in extending  $r^E$ , settlers would move farther out into the interior, extending the settlement boundary,  $r^S$ . Yet self-interested squatters resisted the challenge to their *de facto* claims. As they did, the NSW government received external pressure from the Colonial Office, Edward Gibbon Wakefield and his

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<sup>40</sup> Roberts, *Squatting Age*, pp. 277-284.

supporters, and certain local NSW interests to reassert the public claim to land occupied by squatters. In response, the NSW government took three measures that successively ramped up the extent of reassertion of its claims while simultaneously accommodating squatters' claims within certain limits.

The first measure, an act of 1833, addressed the problem of squatting on public lands *within* the boundaries of settlement by providing for the lease of crown land for grazing within the Nineteen Counties. The government had never relinquished its claim to these lands, but insufficient resources and personnel had been authorized to enforce it effectively. The new law created district commissioners with authority to resolve boundary disputes and administer and enforce rent collections.<sup>41</sup>

A second measure, enacted in 1836, provided similarly for districts and commissioners *outside* the Limits. Besides the authority to settle disputes, commissioners also had powers to protect crown lands from encroachment and to require purchase of a license for an annual fee £10. While licenses reasserted government's claim to the lands, and generated a little revenue, they restricted squatters' land use rights to grazing and did not recognize the temporal or spatial dimensions of any squatter's *de facto* claim.

In 1839, a third act provided for effective *de jure* enforcement for the newly enclosed crown lands.<sup>42</sup> It vested district commissioners with powers to remove a squatter's license without appeal, to remove or destroy stock, to define the boundaries of the sheep run, to investigate charges of violence against Aborigines, and to collect license fees and newly imposed taxes on stock. It provided district commissioners with a small

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<sup>41</sup> Abbott, *Pastoral Age*, p. 137; Buckley, "Gipps, Part I," p. 405; 4 William IV, No. 10 (28 August 1833). Rent under the act was set at auction with an upset rent of £1 per section of 640 acres. Abbott argues that Governor Bourke meant for the leasing provisions in this act to apply to lands beyond the limits of location.

<sup>42</sup> 2 Vict., No. 27 (22 March 1839).

mounted police force to help enforce adjudications.<sup>43</sup>

Squatters complained that the 1839 act diminished their *de facto* land rights by giving the government an annual option to terminate their license without compensation for improvements, which rendered second-party-enforced transfers or liens for credit less secure.<sup>44</sup> Governor Gipps' decision in 1842 not to renew William Lee's license underscored the increased insecurity and fueled growing opposition to government encroachments as squatters defended *de facto* rights on the principle of prior possession.<sup>45</sup>

*De jure* land sales and increased enforcement did not produce significant increases in revenues from crown lands, which grew steadily from 1833 to 1838 but declined on average thereafter. Between 1833 and 1841, the crown sold 2,003,088 acres, with the land sale revenue accounting for roughly 16 percent of annual colony revenues.<sup>46</sup> After 1841, land sales revenues fell to less than 3.25 percent of annual colony revenues due to an increase in the minimum price of land within the Nineteen Counties and depressed economic conditions in NSW's grazing industry. They were hit hard in 1842 by plummeting wool prices during the global depression and suffered a sharp decline between 1841 and 1845 (See Table 2), which led to suspension of assisted migration and a

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<sup>43</sup> After the 1839 act, commissioners stationed beyond the Limits of Location were paid regular salaries, had wide discretionary authority, and had police under their command; those stationed inside the Limits were paid on commission, had insufficient authority to enforce their decisions, and were often seen as "shadowy figures." Buckley, "Gipps, Part I," pp. 405-406.

<sup>44</sup> A March 1839 decision by the Supreme Court of New South Wales ruled that a squatter who had taken out an annual license was secure in his claim against intrusion by any party but the crown. *Scott v. Dight*, NSWSupC 16 (1839). Burroughs, *Britain and Australia*, p. 147.

<sup>45</sup> See *Sydney Morning Herald*, 24 August 1842. Squatters presented a petition on the Lee case to the Legislative Council.

<sup>46</sup> The public revenue figure consists of funds provided from the British Treasury to the Commisariat, the colonial land fund (excise, customs, and other assorted colonial taxes), land sale revenue, and other fees charged for the use of crown property. See Butlin, *Forming a Colonial Economy*, ch. 10 and appendix 4.

search for new revenues to resume the program.<sup>47</sup>

**Table 2: Sales of NSW Crown Lands, NSW Public Revenues, and NSW Immigrants**

Year	Commissariat, Land Fund, and Colonial Fund Revenues (£'000)	Revenue From Sale of Crown Lands (£'000)	Percent of NSW Gov. Revenues from Sale of Crown Lands	Crown Lands Sold (Acres)	Total Immigrants to NSW
1832	-	12.5	-	20,860	2,006
1833	278.5	25	8.98%	29,025	2,685
1834	382.1	41.8	10.94%	91,399	1,564
1835	563.4	80.8	14.34%	271,947	1,428
1836	814.6	126.5	15.53%	373,978	1,721
1837	696.5	120.2	17.26%	368,483	3,477
1838	994	116.3	11.70%	315,090	7,430
1839	798.5	153	19.16%	283,130	10,549
1840	955	314.6	32.94%	183,944	8,486
1841	616.1	90.4	14.67%	86,092	22,483
1842	733.5	14.6	1.99%	21,733	8,987
1843	524.5	10.8	2.06%	4,660	1,142
1844	557	7.4	1.33%	4,013	4,687
1845	518.8	16.7	3.22%	5,513	1,096

Sources: Total colonial revenues and land sale revenues are from Butlin, *Forming a Colonial Economy*, Appendix 4, Tables 4(a), 4(c), and 4(e). Total revenues for the Commissariat Fund (Table 4(a)), the Colonial Fund (Table 4(c)), and the Land Fund (Table 4(e)) were adjusted to remove fund balances. Crown lands sold and immigration data are from Burroughs, *Britain and Australia*, Appendices II and III.

The circulation of Governor Gipps' proposed Occupation and Purchase Regulations of 1844 marked a turning point in the nature of political representation in the colony. The regulations were offensive to squatters' interests. They would have required squatters to purchase 320 acres of each sheep run at £1 per acre as a homestead to qualify for an 8-year license for a fee to obtain the right of use of the remainder of the squatter's run. At the termination of the license, squatters could renew a license with the purchase of another 320 acres. Yet, since blocks for purchase were to be auctioned, an outsider could compete for

<sup>47</sup> The price of wool was the primary transmission mechanism of the global downturn to New South Wales. Clark's index of English wool prices in "Price History" fell from 86 in 1836 to 49.3 in 1843.

the right to control the entire run. In short, the Purchase Regulations were aimed directly at reasserting the crown's claim to squatters' *de facto* land claims.<sup>48</sup>

As Gipps' regulations were enacted, political support in London for the NSW wool industry mounted, owing to a dramatic increase in British imports of Australian wool over just a 15-year period. In 1831, Australian wool imports of £62,333 accounted for just 6.6 percent of the value of wool imported into England. But by 1845 wool imports from Australia had increased by almost tenfold, to £603,764 or 30 percent of the value of wool imported into England. By 1850, Australian wool imports into England rose sharply again, amounting to 50.5 percent of wool imports.<sup>49</sup>

Squatters and others with stakes in the wool trade formed alliances to oppose Gipps' regulations. A coalition of colonial grazers and newly formed associations of English and Scottish woolens manufacturers, shipping companies, and bankers, all with linkages to Australian wool production, formed in 1845 and hired a prominent barrister in London to lobby members of Parliament and other influential figures. By mid-1846, the coalition's efforts paid off with Parliament's passage of the Australian Lands Act, which established a set of *de jure* rights to *de facto* claims that provided more security of tenure than the Purchase Regulations had given. Squatters obtained 14-year leases,<sup>50</sup> a pre-emptive right to purchase at least 160 acres for £1 per acre, and the right to cultivate the land for subsistence. Only the occupying tenant could purchase a station's land during the term of the lease, and leases in the unsettled interior districts could be renewed. Rights of

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<sup>48</sup> Stanley had submitted Gipps' arguments for the two sets of regulations to the Land and Immigration Commission. Abbott, *Pastoral Age*, p. 171, notes that the Commission commended his "powerful reasoning".

<sup>49</sup> Burroughs, *Britain and Australia*, Appendix I.

<sup>50</sup> The 14-year leases applied to most squatters' districts; however, in the intermediate districts near Port Phillip, they were given 8-year leases, with an option to sell the lease each year.

preemption or compensation for improvements were recognized.<sup>51</sup>

The passage of the Australian Lands Act implies a transition that makes the redistributive model of Section IV a more fitting description of the political economy of New South Wales than the autocratic model of Section II. The rising political influence of squatters as the government reasserted its claims is consistent with a relative shift in shares from  $\alpha - \beta < 0$  to  $\alpha - \beta \geq 0$ , implying a regime change by which squatters shifted from resisting government interference with *de facto* claims to calling for government to intervene to accommodate their *de facto* claims and convert them into *de jure* rights with government enforcement. This is precisely the transition from 1833 to 1845.<sup>52</sup>

#### B. Buenos Aires

If transition from *de facto* to *de jure* specification in some form seems to have been the norm in most cases, Buenos Aires was an exception both among settlement economies and among the newly independent republics of the Spanish empire, which had inherited the antiquated imperial institutions of land ownership.<sup>53</sup> Buenos Aires was not slow to modernize its land policy. Founding *porteño* leaders emphasized how modernization of the measurement and definition of property rights was “indispensable” for a sound system of property rights, since the Spanish system of defining boundaries and rights had many “deformities” that compromised the “security of property, its clarity, and transfer.”<sup>54</sup> *Porteño* leaders understood that imperfect demarcations and poor records could threaten the government’s claim to the rental income. Without clear definition of the boundaries and size of claims, revenue due the government from *emphyteusis* was too easy to dispute

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<sup>51</sup> Buckley, “Gipps, Part II,” p. 179; Burroughs, *Britain and Australia*, p. 321; Abbott, *Pastoral Age*, pp. 159-176; and Weaver, “Beyond the Fatal Shore,” pp. 1004-1005.

<sup>52</sup> *Ibid.*

<sup>53</sup> Dye, “Institutional Framework,” pp. 196-97.

<sup>54</sup> Cárcano, *Evolución histórica*, pp. 34, 42, 56.

or obscure.

The initial steps were taken in 1824 to set up a Topographical Department to conduct a general survey of land to be opened for *emphyteusis* and to keep an official land registry of surveys and claims filed. Under the *emphyteusis* law, claimants were required to survey each claim, which then had to be examined by the courts and filed with the land registry before the claim was approved.<sup>55</sup>

What evidence is there that original *de jure* specification was implemented? First, in the expansion to the south of the Salado, enabling legal provisions for *de jure* specification preceded the government's actual taking possession of the land. For example, the enabling law that provided for *de jure* specification of *emphyteusis* lands to be acquired in the 1826 campaign preceded the campaign by several months. Second, records show that most claims were filed in the first few years after the military campaigns were completed with accompanying provisions for *de jure* transfers. Figure 5 shows that over 60 percent of the claims of public land in *emphyteusis* were made in 1826-28 and 1833-34. Peaks in 1826, 1828, and 1834 coincide with successful campaigns.<sup>56</sup>

Using data from Infesta, we find that about 76 percent of the public land was transferred originally in *emphyteusis*.<sup>57</sup> About 22 percent was in the form of land grants,

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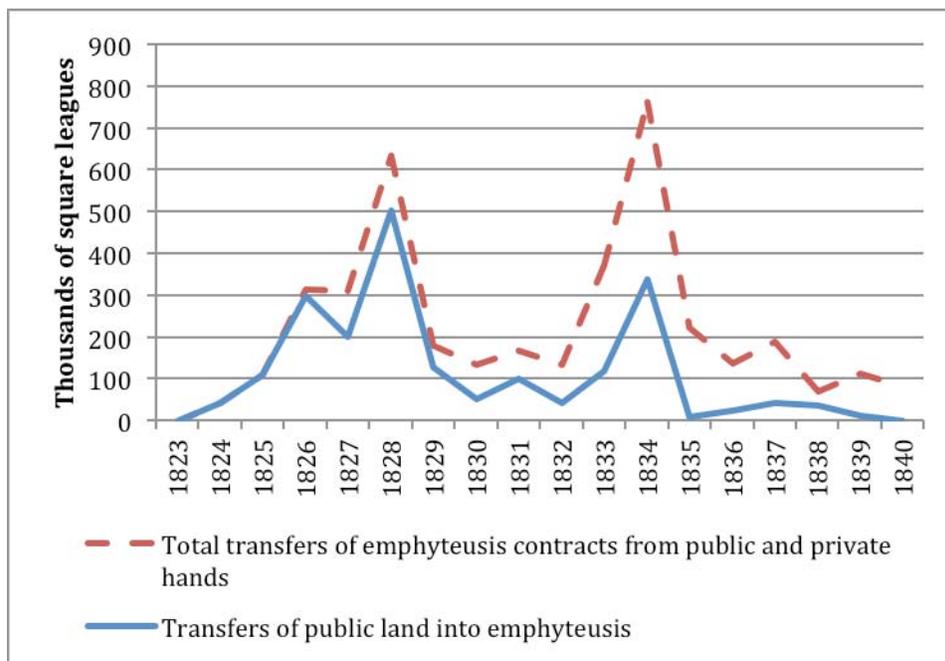
<sup>55</sup> An act of 30 June 1826 provided for the compilation in a public registry of all claims in *emphyteusis*, referred to as the *Gran libro de la propiedad pública*. It provided that no claim of *emphyteusis* not in the official registry would be recognized by law. Cárcano, *Evolución histórica*, p. 42; Infesta, *Pampa criolla*, pp. 32-37; Oddone, *Burguesía terrateniente*, pp. 50-51, comments that it is unknown whether *enfiteutas* who failed to file claims with the central registry were ever denied their claims.

<sup>56</sup> The peak in the figure in 1828 reflects a failed campaign. Governor Dorrego announced a plan to extend the line of defense south to Bahía Blanca and opened the projected new lands for *emphyteusis*. Claims were filed before the campaign was unsuccessful. The area remained insecure. The campaign of 1833 conquered roughly the same area. It appears that claims at that time were left unexploited until after the successful desert campaign of 1833. The law ceased to be in effect after 1840. Cárcano, *Evolución histórica*, p. 66; Infesta, *Pampa criolla*, pp. 38-40.

<sup>57</sup> Infesta, *Pampa criolla*, p. 46, finds that the majority of land privatized during the period 1823 to

and only 3 percent, or perhaps a bit more, was privatized by sale. This is not to say that sales of public land on the frontier were unimportant. Almost half of all land ever held in *emphyteusis* (about 36 percent of all public land transfers) was later alienated by sale or grant by the Rosas dictatorship between 1836 and 1843, much of it to the holders of *emphyteusis* contracts. But when considering the specification of property rights in public land, the distinction between the original and subsequent transfers is crucial. In the original transfers under *emphyteusis*, surveys, formal boundaries, and registration were required by law. The original *de jure* specification for *emphyteusis* contracts created initial land measurements and underpinned and facilitated the subsequent sale of a *de jure* right.

**Figure 5. Transfers of Land in Emphyteusis, Buenos Aires, 1823-40**



Source: Infesta, p. 52; compiled from the Escribanía General de Gobierno de la Provincia de Buenos Aires.

Note. The data in the figure include 83 percent of the transfers of public land into emphyteusis. The date of filing was not available for the remainder of claims records.

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1852 was transferred by *emphyteusis*, and that records for 2.7 million acres of land that were transferred from the public domain in one of three forms – sale, *emphyteusis* or grant. See also Infesta, “La enfiteusis,” and “Tierras, premios y donaciones.”

To be sure, *de jure* specification and enforcement were not perfect in an environment of political instability, scarce government resources, and bureaucratic inexperience with modern methods of measurement. Some public land was known to be occupied without title, but ironically these claims apparently fell mostly inside the old line of defense and were probably a legacy of the “deformities” of former Spanish system of defining and recording property rights to land.<sup>58</sup> As in other settlement economies, to firm up property-rights definitions, the government extended *de jure* recognition of *de facto* claims in disputed lands north of the Salado, if the claimants could demonstrate continuous occupation of the lands. But south of the Salado it does not seem to have been as necessary. As Governor Rosas cracked down in 1835 on various forms of rent evasion on *emphyteusis* lands, other flaws were discovered in the methods that had been adopted for doing surveys. Surveys were often done in isolation causing overlapping claims that invited legal disputes. To correct the problem, the Governor called for a new general survey of the province in 1835, district by district.<sup>59</sup>

The political instability of the early years created other problems. For example, the books that kept the central land registry were lost in 1827 in the fall and takeover of the provincial government by the Federalists. Governor Dorrego called upon the Topographical Department to recreate the registry by requiring all claimants of *emphyteusis* to come forward and reregister or forfeit their claims.<sup>60</sup> Such incidents reveal certain imperfections in the maintenance of *de jure* rights, but they underscore the effort and intent of government actors to establish *de jure*, rather than *de facto*, specification of

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<sup>58</sup> Amaral, *Rise of Capitalism*, pp. 69-70, 101, 187; Dye, “Institutional Framework,” pp. 195-98.

<sup>59</sup> Infesta, *Pampa criolla*, pp. 36, 41, 74-75; Coní, *Verdad sobre la enfiteusis*, pp. 34-36, 126, 162-63.

<sup>60</sup> Infesta, *Pampa criolla*, pp.37- 38; Oddone, *Burguesía terrateniente*, pp. 50-51.

*emphyteusis* rights.

Payment of rent was also difficult for weak governments to enforce, but repeated efforts by governors to enforce rental payments on public leases constitute evidence of government asserting its claim.<sup>61</sup> Stronger government, under Governor Juan Manuel de Rosas, who consolidated dictatorial powers in the mid-1830s, permitted stronger measures of enforcement.<sup>62</sup> Rosas soon became a predatory leader, who wielded the power of the state to enforce property rights selectively and to choose laws or policies to favor his political supporters. As example of this, as Irigoien points out, was his use of inflationary over debt finance. Whereas only his supporters would trust to buy the bonds of the Rosas regime, the inflation tax burden was distributed equally among supporters and non-supporters.<sup>63</sup>

Chronic debt led the government to reclaim *emphyteusis* land to try to tap an alternative revenue stream. In 1836, the assembly lifted the prohibition on sales of public land pledged as security on the condition that Governor Rosas would use all proceeds to amortize the debt, and land held in *emphyteusis* could only be purchased by the *enfiteuta*.<sup>64</sup> After the sales proceeds from this act were found disappointing, Rosas decreed in 1838 that all *emphyteusis* contracts in a certain zone would not be renewed and would be put up for sale. Existing contract holders had a two-month preemptive right to purchase their land.<sup>65</sup> All *emphyteusis* lands in the zone were subject to sale, even if their contracts were

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<sup>61</sup> Coní, *Verdad sobre la enfiteusis*, pp. 113-14, 123; Cárcano, *Evolución histórica*, p. 74.

<sup>62</sup> For example, Rosas decreed an 1836 law that provided that holders of *emphyteusis* contracts in arrears had a two-month right of purchase, after which their land would be sold to the first bidder. Infesta, *Pampa criolla*, pp. 41-44; Carretero, *La llegada*; Lynch, *Argentine Dictator*.

<sup>63</sup> Adelman, *Republic of Capital*, pp. 111, 116; Irigoien, "Finance."

<sup>64</sup> Burgin, *Aspects*, p. 176; Coní, *Verdad sobre la enfiteusis*, pp. 118-30, 135, 251-53.

<sup>65</sup> The zone roughly corresponded to the area inside the line of defense by 1826. Sales were with compensation for improvements.

not about to expire.<sup>66</sup>

In the predatory Rosas regime, discretion in the implementation of the 1838 decree probably worked to the disadvantage of his political opponents. Afterward, confiscation of the property of the political opposition became more flagrant and frequent. It is unknown how much land was confiscated, but warrants for 669 square leagues (4.5 million acres) were acquired in some fashion and reissued to supporters.<sup>67</sup> The greater capacity of the Rosas government to enforce property rights enabled him also to confiscate them. Under Rosas, *de jure* specification became selective *de jure* re-specification with enforcement conditional upon the political identity of the claimant.<sup>68</sup>

Ironically, in Buenos Aires, the original *de jure* specifications became more insecure; whereas in New South Wales, by contrast, *de facto* claims became more secure by mid-century, acquiring *de jure* specification and enforcement. But these outcomes were not directly related to the original form of property-rights specification. Ironically, without the rule of law in Rosas' Argentina, *de jure* specification did not ensure *de jure* enforcement; whereas imperial rule of law in New South Wales did not permit local government to take full control of *de jure* specification against squatters' *de facto* claims.

## VI. Conclusion

The historical literatures of Australia and Argentina in many respects do not reflect the similarities that factor-endowments models predict. Why, for example, has the “Squatting Age” become such a prominent theme in Australian history, when, by contrast,

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<sup>66</sup> The 1828 law provided a facility for ten-year contracts beginning 1 January 1828. Coni, *Verdad sobre la enfiteusis*, p. 130, comments that contracts signed under the law would end on 31 December 1837, which ended many leases before the contractual date of termination.

<sup>67</sup> Infesta, *Pampa criolla*, pp. 80-92; “Tierras, premios y donaciones.”

<sup>68</sup> North, Wallis, and Weingast, *Violence and Social Orders*.

squatting is scarcely mentioned alongside the rise of the landholding bourgeoisie as a prominent theme in the history of Argentina?<sup>69</sup>

Our analysis offers an explanation of these divergent histories in similar factor-endowments environments, while it challenges the notion of a universal progression of property rights from open access to *de facto* private claims to *de jure* titled land. Such a progression, which the literature on property rights and frontier settlement often implies, captures (with qualifications) the emergence of private property rights from public lands in many settlement regions, including New South Wales, but it fails to do so in Buenos Aires. A prominent approach analyzes a frontier where government has left public lands in open access. As frontier land becomes more valuable, settlers make claims and coordinate commons arrangements, which constitute *de facto* property rights to the land. As competition for the land increases, incumbents confront new entrants, and one of the two groups seeks government intervention to assign *de jure* property rights. Governments respond by defining *de jure* rights that may either accommodate incumbents' claims or deny them and provide means for entrants to acquire rights to frontier land.

But the progression from open access to *de facto* to *de jure* property rights begs the question about the role of government in the initial phases of settlement. Invariably, governments in settlement economies eyed crown land or public land as the patrimony of the state and perceived it as a resource to be tapped to provide revenues. In the United States, for example, revenues from frontier land sales provided 10.8 percent of federal government receipts over the 1820-1860 period.<sup>70</sup> Governments often failed, in spite of official dispositions, to make effective claims to the frontier until after it had been settled

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<sup>69</sup> Weaver, *Great Land Rush*, pp. 74-76; Alston et al., "De Facto and De Jure Property Rights."

<sup>70</sup> Carter, et al., eds., *Historical Statistics of the United States* Ea:588-593.

and apportioned by private *de facto* claims.

But why the divergence between official and effective claims? An effective claim that can be sold to a private party required the government to incur enforcement costs to maintain equivalence between the *de jure* and the *de facto* rights to the land; but the willingness of settlers to purchase it depended on the costs to settlers of squatting beyond the reach of government, the price of land set by the government, and the potential for squatters to lose their land claims to other settlers or indigenous peoples.

The contrast in the degree of violence in New South Wales and the province of Buenos Aires introduces a source of exogenous variation in the conditions on the frontier that leads to alternative predictions about the opportunity costs to settlers of acceding to government *de jure* claims on lands beyond the frontier. When the risk of violence was low and manageable by means of second-party enforcement, the opportunity costs to settlers were low, and settlers ventured out to squat. The government, finding it too costly to prevent squatting, left the land, in effect, in open access, at least until *de facto* claimants called upon the government to intervene with *de jure* specification and enforcement, *à la* Alston, Harris and Mueller. Their research demonstrates how this progression helps to explain transitions from *de facto* to *de jure* land rights in the western United States, Brazil, and New South Wales. Our analysis of the NSW government's acts from 1833 to 1844, both to reassert its claim and, then, to accommodate squatters' *de facto* claims is, however, only partly consistent with the demand-driven and interest group-driven analysis of Alston, Harris and Mueller. Evidence shows that the government's attempts to specify and enforce *de jure* rights in frontier land was due in part to the government's desire to use revenues from land sales, station licenses, quit rents, or leases to achieve its goals of assisting

English migration to New South Wales and reducing its subsidy of the Colony's prisons and government.

When, however, the risk of violence to settlers was high, or if settlers required third-party protection, the government role in specifying *de jure* property rights and protecting them from the outside threat was greater. The province of Buenos Aires, exposed on its southern flank to hostile indigenous tribes with significant military might, is an exception that proves the rule. When the private costs of squatting were high, private settlers could not so willingly evade the government interest. The apparent inconsistency, then, between the revenue objectives of governments and their willingness to give away land or leave it in open access is explained by the cost of enforcement of the public claim and the opportunity costs to settlers of accepting it. A dominant ruling elite might complicate, but did not eliminate, this calculus. Governments chose to give away public land when the value of the expected stream of revenues was exceeded by the cost of appropriating it.

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