THE PUBLIC DOMAIN AND NINETEENTH CENTURY TRANSFER POLICY

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Introduction

During the 19th century, about 871.2 million acres of lands held in common by the federal government were transferred to private individuals, businesses, and state governments. The privatization of public lands began in 1796, when the public domain amounted to approximately 233 million acres. Between 1796 and 1923, private parties purchased nearly 279.3 million acres of public land. Even though the total amount of federal land holdings grew enormously, the government sold off more acreage than had been included in its original holdings. Most of these sales occurred before 1862; from 1800 until the beginning of the Civil War, proceeds from the sale of public lands constituted a major source of revenue for the federal government, accounting for 48 percent of net receipts in 1836.

Denationalization of the public domain was not limited to privatization via sales. By 1923, nearly 592 million additional acres of the public domain were transferred to individuals, railroad companies, and state governments through grants; the overwhelming proportion of these transfers occurred after 1862. What had begun as a major revenue-generating device for the U.S. Treasury had evolved into an immense transfer program. A system of allocating scarce resources via auction had been transformed into one of political allocation based on rent seeking, with large sections of the public domain being transferred to politically favored groups.

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Little attention has been focused on explaining the dramatic shift in federal land policy during the middle of the 19th century. Granting that privatization per se was a great success during the 19th century, why was privatization via market sales supplanted by privatization via political allocation? An extensive body of literature on public sector decision making and output/pricing policies asserts that the behavior of public sector managers is analogous to that of private sector entrepreneurs, who have the same incentive to restrict competition and extract monopoly profits (see Stigler 1971; Peltzman 1976; McCormick and Tollison 1981). The primary difference between the two kinds of decision makers is in the institutional arrangement of the public sector, which forces managers to maximize revenue in order to gain financial advancement and the perquisites of office. The behavior of governmental policymakers with regard to the public domain during the first half of the 19th century seems consistent with this description. As the century progressed, however, politicians and bureaucrats systematically eroded their own revenue base by awarding enormous land grants to private parties.

Is 19th century federal land policy a paradox for the political self-interested, revenue-maximizing model of governmental behavior? Our intention is to examine the historical record to find answers to this question. We will argue that the system of land grants is consistent with the modern economic model of government as a revenue-maximizing "firm" that supplies income transfers to interest groups. Properly viewed, the land grant programs were an unusual form of spending that permitted politicians and bureaucrats to expand transfers during a period when a rapid expansion of *cash* subsidies was not technically or politically feasible. The land grant system is therefore consistent with the modern economic theory of government.

Origin and Privatization of the Public Domain, 1789–1862

Between 1780 and 1802, the United States government acquired claims to 233 million acres of land. Great Britain ceded to the U.S. government its claim to land south of the Great Lakes as a condition of the 1783 Treaty of Paris, and the states conveyed their western land claims to the federal government. The amount of land held by the federal government continued to grow during the early 1800s, with 523.4 million acres added by the Louisiana Purchase in 1803. By 1860, 685.3 million acres of territory had been added to the public domain.

The nation's founders intended the federal government to use the public domain to generate revenue from proceeds of land sales to the private sector. One of the first actions taken by Congress during Washington's administration was to pass the Public Debt Act of August 4, 1790, which declared that the proceeds from the sale of the public lands "are hereby appropriated toward sinking and discharging the [national] debts" (Gates 1984, p. 37). Administrative delays precluded the organization of actual sales until 1796, when a land law was passed that established an administrative system for public auctions in which tracts of 640 acres were to be sold at a minimum price of two dollars.

During the first year, only 49,000 acres were sold for $112,135, a very disappointing figure (Rohrbough 1968, pp. 19–21).[1] Over the next four years, nearly 1.3 million acres were sold for approximately $1 million. To increase sales, Congress revised the act on May 10, 1800, establishing the Land Office to administer the auction sales, retaining the two dollar per acre minimum but reducing the minimum tract to 340 acres, and extending credit to the purchaser. Sales rapidly increased after 1800 in terms of both volume and proceeds; between May 1800 and June 1820, over 13.6 million acres were sold for $22.6 million, producing average proceeds of about $1.1 million per annum.

The credit system was ended by the Homestead Act of 1820, which reduced the minimum price per acre to $1.25 and the minimum purchase per tract to 80 acres. Following this legislative change, both acreage and revenues greatly increased. The average annual acreage sold from 1820 to 1862 was about 3.3 million acres compared to an average of only 649,983 acres sold per year from 1800 to 1820. The average receipts after 1820 were nearly $3.6 million per year, a 273 percent increase over the average annual revenues of the preceding period (see Donaldson 1884, pp. 196–208, and Hibbard 1924, pp. 100, 103, 106).

After 1820, receipts from land sales became a major component of federal revenues. During 1836, for example, receipts from land sales exceeded 48 percent of total federal revenues. From 1820 to 1860,

[1]Congress faced competition from other sellers, many of whom offered land at significantly lower prices. As of 1812, individuals held some 30 million acres beyond the Alleghenies; Massachusetts, Pennsylvania, and Georgia offered millions of acres for sale. During the 1790s, New York sold 4 million acres at 8 cents per acre and 6 million acres at 1.5 cents an acre. Between 1785 and 1821, Massachusetts sold about 5 million acres at an average price of 20.5 cents per acre (Lebergott 1984, p. 78).

receipts from land sales averaged 10.8 percent of total federal receipts per annum.[2]

From the program's beginnings in 1796 until 1862, privatization of the public lands via sales to the private sector scored several major successes. By 1862, acreage equaling about 67 percent of the public domain in 1802 had been sold, and land sale receipts provided a significant, although fluctuating, fraction of total federal revenues.

The Land Grant System

For every acre of land sold between 1796 and 1923, over two acres were transferred to states, firms and individuals in the form of grants. Almost all of this transfer activity occurred after 1862. Whereas the annual average acreage sold between 1842 and 1862 had been about 3.3 million acres, the average between 1863 and 1923 fell to about 2 million (Hibbard 1924, p. 103).

The federal government disposed of almost 592 million acres of public land using several different types of transfers. The most important transfer program, involving approximately 213.9 million acres, was the granting of homesteads. Under the Homestead Act of 1862, 160 acres were made available to any adult who could demonstrate occupation of the land in question for at least five years.

The second largest grants were awarded to the railroads. Between 1850 and 1923, approximately 129 million acres were granted to states and corporations for railroad purposes; nearly 37.8 million acres went to states who immediately allocated them to railroad companies, and 91.2 million acres were given directly to railroad corporations (Gates 1968, p. 384). Such grants were originally justified as being a necessary means for ensuring that rail lines would reach the underpopulated West; it had been claimed that without free land such expansion would be economically impossible. By 1862, however, increasingly liberal grants to railroad corporations (directly and indirectly) were being rationalized on the grounds that they represented a necessary public subsidy of all capital and construction costs to these corporations. Millions of acres were granted to railroads with the understanding that those corporations would sell the land at a later time. Hibbard (1924, pp. 261–66) reports that the average price "of substantially all railroad land sold prior to 1881 was $4.76 per acre"; the Chicago, St. Paul, Minneapolis and Omaha Railroad sold 1.5 million acres of land for $5.23 per acre between 1882 and 1907; nine Iowa railroads sold 3.7 million acres prior to

[2]These revenues were pledged by Congress for payments on the national debt, which was reduced from about $83 million in 1800 to a low of $38 thousand in 1835.

1893 at an average price of $5.50 per acre; and the Illinois Central sold 1.2 million acres for approximately $11.70 per acre.

The third largest grants of public land were to the states for educational purposes, about 90 percent of which occurred after 1860. Between 1803 and 1910, 29 states received 73.2 million acres for common schools. It might seem odd that Ohio received only 724,266 acres while sparsely populated Montana received 5.2 million acres for elementary schools, but many states resold large portions of their grants to private parties to generate revenue (Hibbard 1924, pp. 322–23). The 1862 act allotted another 11.1 million acres to states for agricultural and mechanic arts colleges. Again, the states sold most of this land, eventually obtaining nearly $17.6 million in receipts. Altogether, states were granted almost 97 million acres for educational purposes, the bulk of the land transfers occurring after 1860.

The next largest grants in terms of acreage were the 68.2 million acres in bounty lands that were transferred to veterans of the Revolutionary War, the War of 1812, and the Mexican War. This form of transfer came closest to using the public lands to defray federal expenses, because it amounted to a payment-in-kind for military services rendered. Most recipients of the land grants did not develop the land but resold their claims, which were granted in the form of scrip. The scrip-holder, whether a veteran or someone else, was entitled to a nonrestricted tract of the assigned size from within the public domain.[3]

The final large category of land grants was 63.9 million acres of so-called swamp grants to states. In theory, the idea was to cede to the states swampland and marshland that would otherwise be unsalable so that they could develop the land by draining the swamps and so forth. But most of this land granted was potentially valuable property, a result of the land selection system, which was carried out by agents *appointed by the states themselves*. Hibbard (1924, p. 278) estimates that it was frequently the case that 75 percent of the land claimed was not swampy or even subject to serious flooding.[4] States later

[3]Most veterans were uninterested in pioneering the West and subsequently sold their land warrants. At the same time that the General Land Office was charging a minimum of $1.25 per acre, most of the warrants sold for 25 to 70 cents per acre (Gates 1968, pp. 263–64). Both the federal government and veterans would have been better off if the government had managed its land sales in an efficient, revenue-maximizing manner and had paid veterans cash bonuses higher than the amounts they could expect by selling land warrants individually.

[4]Hibbard (1924) mentions one case in Champaign County, Illinois, in which the state agent listed 22,000 acres as swamp for purposes of a grant that the land office representative found had over 11,000 acres of dry land.

disposed of most of the swampland transfers by granting the land to railroads and by selling it to raise general revenue (Hibbard 1924, pp. 284–88).

The other categories of land grants disposed of much smaller amounts of land, although they still accounted for several million acres. Grants of 4.6 million acres were allotted for the construction of canals, 3.3 million acres for wagon roads, and 2.2 million acres for miscellaneous river improvements. The bulk of these grants were undertaken before 1850, although most of the wagon road grants were made for military road construction following the Civil War (Hibbard 1924, pp. 236–39). The Timber Culture Act of 1873 transferred about 9.9 million acres to individuals.

Most of the land transferred as grants was carefully selected by the grantees, not the grantor. Homesteaders were basically unrestricted in their choice of tracts, as were railroad corporations who established the routes they wanted to develop and then appealed to Congress or state legislatures for the necessary grant. Bounty land "vouchers" allowed holders to select their own parcels of land, and swamp grants were manipulated by the states. If we assume rational behavior on the part of the beneficiaries of land grants, it follows that they made a conscientious effort to select the best and most valuable land available. This would have tended to bias upward the magnitude of potential revenue lost by the grantor, the federal government. Most of the granted land may have been worth considerably more than $1.25 per acre.[5] It seems clear that an orderly, efficient auction system would have generated revenue in the billions of dollars, even at 1870s price levels (see Dennen 1977; Anderson 1985). Given that total government outlays in 1875 were only $274 million, land sales revenue from a policy of maximized revenues could have represented a substantial proportion of annual total receipts.

Alternatives to Disposal via Land Grants

If the goal of federal land policy was to rid the government of lands held in common, privatization of the public domain was a remarkable

[5]The temporal dimension has largely been neglected in the public domain literature, but obviously the capital value and, hence, the market value will be in part a function of time. Generally the capital value of the public domain—the bulk of which was located in the West—could be expected to increase in real terms as development moved westward. In practice, speculators acquired large areas of land far in advance of development, selling off tracts as development approached and the land's capital value rose. A revenue-maximizing federal land policy would have followed the same pattern, opening up only land on the margin of present development for sale and holding land farther West until development expanded. In this manner, the federal government would have reaped the speculative gains that accrued instead to private speculators.

success during the 19th century. Between 1796 and 1923, about 860 million acres of federally held land was denationalized, with well over 90 percent of it being transferred to the private sector. As a result, the land area of the public domain in 1912 was only 0.15 percent larger than it had been in 1802, even though the territory of the United States more than tripled over the same period. After 1862, two things had occurred: first, a massive increase in acreage transferred from the public domain to the private sector; second, a gradual decline in the average annual acreage sold and a concomitant decline in annual proceeds. Sales of the public domain went from being a major proportion of total federal revenues before 1840 to the rather trivial 0.33 percent in 1899.

This transition from revenue creation via sales to nonprice (political) "rationing" of the public domain has often been noted, but it has rarely been acknowledged as being paradoxical. It is impossible to know how much revenue the federal government lost because of the land grant programs; much of the land granted was not even surveyed at the time, let alone assessed in any systematic manner.[6] While some portions of the public domain grants might not have been salable at a price high enough to produce revenue net of administrative and surveying costs, only a small percentage of total land grants was "junk land." Overall, hundreds of millions of acres of potentially marketable land were rationed by legislative allocation. In instituting the large-scale system of land grants after 1862 (and to a limited extent before that date), politicians and bureaucrats in effect abandoned hundreds of millions of dollars in revenue.

The bulk of the land grants were simple political transfers. Railroad companies, state governments, and other interest groups lobbied Congress for specific land grants, and Congress mandated particular grants to them. The Homestead Act was the first "uncontrollable" transfer program; like Social Security or AFDC, the number of recipients was not exogenous (that is, determined directly by Congress) but endogenous to the program itself. The major difference in the case of the homestead program was that transfers were in-kind rather than cash.

Some have argued that disposal of the bulk of the public domain by means of land grants was the only feasible method available to Congress due to the high transactions costs of the auction system. Supposedly, preventing squatting and other infringements of prop-

[6]This is especially true in the case of the state and railroad grants, where recipients selected land they were later granted, often after extensive surveys (see Gates 1968, pp. 321–23; Johnson 1976, pp. 68–69).

erty rights was not economically feasible, land fraud was potentially endemic and difficult to stop, and the means to establish the full value of the land or even to conduct an effective inventory of resources were sorely lacking. A "resort to the ideal auction markets of classical economics" was not "feasible in the actual historical context" (Lebergott 1984, p. 273).

This argument is dubious. During the late 18th and early 19th centuries, the federal government showed that it was capable of efficiently and ruthlessly evicting squatters. Evicting squatters on Indian treaty lands was a major responsibility of U.S. Army units stationed in the West until late in the century.[7] Moreover, it would have been generally unnecessary to have rapidly evicted each squatter following the initial trespass—which obviously would have been expensive—for two simple reasons. First, squatters were not appropriating nonrenewable resources (for example, mineral deposits) but were only farming; trespassers could remain on a tract until it had actually been purchased. Hence, the government would not have to prevent all trespass on the public domain but only to protect nonrenewable resources from theft. Second, laws against trespass probably would have functioned as a deterrent, even if they were imperfectly enforced. (We are ignoring here political constraints on effectively preventing trespass on the public domain because such considerations are beside the point. We are only concerned here with *economic* feasibility.)

The claim that land fraud was an insurmountable problem is dubious for similar reasons. The fraud that has consumed land bureaucrats and public domain historians predominantly involved the evasion of regulatory requirements imposed with respect to land grants; the paradigm of this kind of fraud was the filing of dishonest homesteading claims by the employees of land speculators (Gates 1968, pp. 477–81). Fraud appears to have been only a minor problem with the auction system per se.[8]

Finally, the claim that Congress could not establish the true value of the public domain and that this was a necessary precondition for revenue-maximizing public sales is both contrary to the facts and in violation of elementary economic reasoning. The market value of a given tract could be established by a fair auction; the price paid by the highest bidder would tend to equal the discounted present value

[7]See Lebergott (1984, p. 82). On several occasions the army established a cordon of troops to bar entry by squatters to former Indian land being prepared for settlement (Gates 1968, p. 220).

[8]Far more significant was the overt manipulation of auctions by "claims associations" of squatters who employed violence and threats to keep prices down or prevent auction sales altogether (see Bogue 1963).

of the specific acreage involved. Private land developers would have researched potential purchases and would have had a fairly accurate idea of the market value of any land they bid for. This same reasoning indicates why a thorough governmental survey of the public domain was not a necessary condition for an efficient system of disposal by auction. Private entrepreneurs would have tended to invest time and money to determine tract characteristics prior to the auction in order to estimate probable market value (Gates 1963, pp. 352–53).

Assuming that the auction was a perfectly competitive market, the government would receive the full market value of the auctioned tract even if the seller had no prior relevant information to determine land value. Collusive and other forms of opportunistic behavior would have required careful monitoring, but a thorough survey of the public domain would have been unnecessary. In fact, the land survey system was almost entirely privatized, and the land office contracted with competing private firms for the survey work until very late in the 19th century (Gates 1968, pp. 420–21).

Before the Civil War, proceeds from land auctions—despite the gross, politically mandated leakages built into the system—constituted a major source of federal revenue. And as historian Paul Gates (1968, p. 435) has insisted, for the remainder of the century net revenues from land sales remained fairly constant in real terms, despite the availability of "free" land. But proceeds steadily declined as a percentage of total revenues, and acreage sold was greatly exceeded by acreage simply granted.[9]

Explaining Land Policy Changes

Explanations for the shift from disposing of the public lands to maximize revenue to granting land outright have been ad hoc at best. Most public domain historians seem convinced that the land grant policy was a boon to the economic development of the frontier and had desirable distributional effects (that is, a form of highly equalitarian resource redistribution); they claim that the system was put

[9]A common assertion was that much western land became valuable only after rail lines were built, permitting development; hence, the federal government was giving up little by granting large tracts to railroad companies (see Shannon 1963, p. 159; Gates 1968, pp. 367–68). The federal government might have leased the land to the railroads through a system of long-term contracts that tied the rental rate on the land to railroad freight income. Such a system would have taken into account the relationship between the value of the land and rail construction, while allowing the Treasury to appropriate some significant portion of the net rent flowing to the railroad companies. Such a simple scheme would have solved the problems supposed by requiring large land grants but would also have generated substantial revenues.

into effect in large part as a result of an enlightened concern by Congress to serve the public interest by promoting development and democracy (Gates 1984, p. 42). Others have taken a more cynical view, arguing that land policy was formulated by a venal Congress trading the public domain for votes, or that congressmen accepted outright bribes from pressure groups, most notably the railroads and regional interests that expected to benefit from rapid westward expansion (see LeDuc 1966, p. 306). These critics portray the Homestead Act as the outcome of a battle in Congress between the West, which favored the land, and the East, which favored revenue maximization (see Kroos 1966, pp. 77–78). But why would Congress, whether motivated by corruption or public spiritedness, prefer to give away land of unknown or poorly estimated value instead of promoting an efficiently organized system of auction sales?[10]

Western politicians lobbied hard for land grants to western states and surely supported measures like the Homestead Act, which would allow them to expand their tax base, gain popular support among the working classes by advocating "free" land, and promote benefits for special interest groups. These are all elements in an explanation of the *demand* function for the transition from privatization via sales to transfers via grants of land. It is our purpose to suggest a *supply* function for federal land policy that is consistent with the modern economic theory of government and that is at the same time compatible with the main thrust of the argument criticized above.

Our explanation consists of two major elements: first, the size and scope of federal government transfer mechanisms available to Congress for distributing or redistributing revenues to beneficiary groups; second, the role of land-sale proceeds in the context of the federal revenue system.

Consider the modern organization of the federal government with agencies such as HHS, HUD, and SSA, which distribute cash transfer payments to individuals in a bureaucratically efficient manner, or agencies such as the Department of Agriculture, which administer in-kind transfer programs. These organizations and their hundreds of thousands of career employees represent a capital infrastructure that minimizes the transactions costs of transfers to politically favored groups or individuals and prevents payments from being dissipated by flowing to the wrong recipients. These large bureaucracies direct the flow of transfer payments in a politically efficient manner. Viewed as simple vote-maximizers, it is in the interest of members of Con-

[10]For differing views of the question, see Fogel and Rutner (1972) and Dennen (1977).

gress to ensure that transfers to favored groups are efficiently directed to the intended beneficiaries.

If this transfer capital infrastructure were eliminated, holding all other variables constant, congressional spending would not be directly constrained. Congress could easily throw money out of helicopters or from the roofs of tall buildings, but it would no longer have an efficient mechanism for ensuring that spending flowed into politically determined channels. Despite widely publicized fraud, waste, and abuse, federal agencies *do* effectively channel a high percentage of program spending to politically determined beneficiary groups.[11]

This capital infrastructure has been built up over many years; about 63 percent of federal domestic outlays in 1984 were spent by agencies that did not exist in 1935.[12] The infrastructure represents a large fixed investment that presumably could not be replaced without a long lag if it were eliminated overnight. In any event, the level of income transfer infrastructure during the 19th century was practically zero. Congress had no mechanism to efficiently transfer spending to specific interest groups. Consequently, interest groups did not lobby for cash transfers, but lobbied instead for protection rents (that is, as derived from tariffs) and other substitutes for cash transfers that did not require a large bureaucratic apparatus to administer. Railroad corporations lobbied for choice land grant properties for the express purpose of generating revenues through sale for themselves; they did not lobby for cash subsidies.[13]

It was easy for Congress to monitor the transfer of land in order to ensure that the intended recipient actually took possession. Similarly, while a cash subsidy program to individuals who agreed to settle in the West would have required a large bureaucracy to efficiently administer it, a homestead program could accomplish the same political end at lower administrative cost. At the same time, transfers of land may have been more politically efficient than transfers of cash. At best, the cash value of land resources was likely to be poorly known to potential opponents; hence, the cost of the transfer

[11]Interest groups allocate resources to lobby in Congress for income transfers knowing that they can fully capture the returns on their investment. This is only true given the large transfer infrastructure of the federal government, which in effect protects the property rights in transfers of interest group members.

[12]Calculated from *Historical Tables, Fiscal Year 1986*, Table 5-3.

[13]During the late 1850s, "lobbyists in Washington were running wild in their efforts to secure railroad grants" (Gates 1968, p. 20). The railroads proceeded to set up shop as large-scale realtors, complete with elaborate advertising campaigns. Gates (1934, p. 187) reproduces an 1860 newspaper ad run by the Illinois Central Railroad emphasizing the supposed bargains to be had on 1.2 million acres to be sold for $6.00 to $25.00 per acre. On the promotion of westward expansion by railroads, see Hedges (1928).

was hard to estimate and could be convincingly alleged to be extremely low. It would have been more difficult to mobilize opposition to such transfers if it was hard to estimate the real cost yet easy for politicians to claim that the cost was low. In fact, throughout the 19th century criticism of "excessive" governmental spending was intense and persistent.[14]

Thus, due to information difficulties associated with the capital valuation of land and intense, widespread opposition to increases in governmental spending, if the public domain had been sold via auction, for political reasons much of the resulting revenue would not have been transferable in the form of cash subsidies. In political terms, land grants may have been the least costly transfer mechanism available. Hence, because of the absence of a bureaucracy capable of administering large cash transfer programs and the likely cost differential between cash and non-cash transfer programs, land grants may have allowed Congress to transfer more real income than under a system of cash transfers. Any increase in revenues from land sales would have tended to function as a substitute for revenue from other sources, causing a corresponding reduction in that revenue.

Recognizing the land grant system as a non-cash federal spending program that transfers direct resources should cause scholars to reassess a peculiar phenomenon of the late 19th century: the "problem" of the federal surplus. The controversy over the federal budget centered on the large surpluses that were run every year from 1866 to 1893; during the 1880s, surpluses amounted to almost 40 percent of federal expenditures (James 1984, p. 193). This behavior by federal politicians is not only grossly inconsistent with modern political proclivities for large deficits, but it casts doubt on modern economic models that postulate a systematic preference for deficits by relatively shortsighted political decision makers (Buchanan and Lee 1982).

The largest single federal spending program of the 19th century, however, was *off budget*. By conservative estimate, Congress freely dispensed nearly 252.6 million acres of the public domain between 1866 and 1893.[15] Over the same period, the total federal surpluses

[14]For public attitudes on the growth of governmental spending before and after the Civil War, see Kimmel (1958, pp. 55, 139–40). Most 19th century Presidents are on record as having expressed concern that governmental spending was growing excessively (pp. 7–55, 61–81). At the same time, the growth rate of governmental spending in real terms was very low; from 1800 to 1860 and again after the Civil War to 1890, real governmental spending grew at an average annual rate of less than 1 percent. See *Historical Statistics of the United States: Part 1*, p. 1049; and *Part* 2, p. 1104.

[15]Totals have been calculated from Hibbard (1924).

equaled almost $2 billion. If the acreage granted had been sold for an average price of $7.53 per acre, the total proceeds would have equaled the total surpluses.[16] We know that former public domain land in Illinois sold for an average of $9.42 in 1870 and that similar land in Nebraska sold for $11.32 in 1880 (Bogue and Bogue 1963, pp. 378, 384); and millions of acres of railroad grant land were sold by railroad companies for between $4.76 and $11.70 per acre. It is plausible to assert, then, that the federal politicians and bureaucrats were granting land that had an average per acre capital value of at least $7.53. Had the true cost of this off-budget spending program been made a budget item, the large "surpluses" during the 19th century might have been substantially reduced or even converted into significant deficits.

The second major supply-side component focuses on the role of land sale proceeds in the context of the overall federal revenue system, specifically, the interaction between revenues from public land sales and tariffs. Revenues from tariffs constituted the major portion of federal receipts throughout the 19th century. Before the Civil War, proceeds from land sales and tariff revenues were the two major components in federal receipts. The proceeds from these different sources were highly substitutable; one dollar of revenue from land sales could replace one dollar from a tariff and vice versa. There is strong evidence to suggest that this substitutability may have been a significant factor in the demise of the system of revenue-maximizing land sales.

Tariffs represented an important source of protection rents to various domestic producer groups as well as a revenue source for the federal government. Congress enacted and maintained the tariff system because it represented an effective means for achieving both of these objectives. From early in the 19th century, domestic producer pressure-groups and members of Congress promoting their own interests combined arguments for protection with arguments that tariff duties were the only feasible method for raising federal revenue (Pincus 1977, p. 72). In fact, the federal government had limited options in terms of raising revenue; the income tax was unconstitutional and excise taxes were at best marginal revenue generators. Under the circumstances, tariffs were probably the most revenue-productive kind of tax available to the national government. Given this, industry groups competed in Congress to affect the composition of tariffs and their rate schedules (Pincus 1977, 47–66).

[16]Calculated from data in *Historical Statistics of the United States, Part 2* (1975, p. 1104).

Early in the century, however, the federal government had established another highly productive, though non-tax, revenue-generating device—land sales. Even sales at the minimum price of $1.25 per acre produced comparatively large net revenues. According to a Report of the Commissioner of the General Land Office dated November 30, 1853, the estimated average cost per acre of public lands at time of sale was only 22 cents per acre. By 1836, land sales equaled almost half of total federal revenues.

Because the growth in land sales proceeds was viewed as potentially jeopardizing the tariff levels, the situation concerned supporters of high protective tariffs. Explicit recognition of this threat to continued high tariff levels appears to have first surfaced in the early 1830s in congressional debate over the bill that eventually passed as the Compromise Tariff of 1833 (Sanborn 1900, p. 25). This concern had not emerged earlier because for the first two decades of the 19th century the public debt had remained at high levels and the revenue from land sales was earmarked for debt repayment.[17] The debt was steadily reduced, however, until by the mid 1830s it had been eliminated.

During the late 1820s and early 1830s, members of Congress representing the Northeast, an area of concentrated manufacturing interests favoring high protective tariffs, recognized that the "connection between the public land and tariff was very close . . . [and that] they would soon be confronted with the problem of a surplus" (Stephenson 1967, p. 27). As public debt retirement neared, public land revenues became available to potentially replace tariff revenues. After 1836, pledges made in earlier acts to dedicate land proceeds to repayment of the public debt were effectively abandoned, and such revenues became more substitutable for tariff revenues.

In 1845, Representative Thomasson of Kentucky introduced a bill making grants of 40-acre plots available to settlers and "very frankly stated that one of his chief objects was to remove the public-land fund from the national treasury, as he did not wish a revenue from the lands sufficient to give an excuse for breaking down the protective system" (Sanborn 1900, p. 27). The tariff question again appeared in debate over homestead grants during the early 1850s. In 1850 and 1852, critics charged supporters with favoring a homestead act as a device for maintaining high protective tariffs, apparently an accurate

[17]James (1984, p. 210) argues that the contribution of debt retirement to national income between 1866 and 1890 exceeded that due to the expansion of rail transport. However, most of the surplus revenue used to retire the debt came from high protective tariffs that produced large dead-weight costs, so on balance it is unclear how much of a boon debt retirement was to economic growth.

description of the motives of many proponents (Sanborn 1900, p. 29). In 1853, Commissioner of the General Land Office John Wilson maintained that income derived from the sale of the public lands had permitted lower tariff rates; he estimated the amount of replaced tariff revenue to that date as being nearly $113.7 million (Gates 1968, p. 22).

Practically speaking, however, there was no simple bifurcation in Congress between supporters of high protective tariffs and supporters of revenue-maximizing sales of the public domain. The principal congressional battles over the public domain from the 1830s to 1862 were between proponents of different competing plans for replacement of the system of land sales as a federal revenue source. Reduced to its simplest elements, the conflict was over plans for ceding the public domain to states within whose boundaries particular lands were found and plans to maintain the system of sales but to distribute the proceeds to all states according to population. The western states preferred the first plan while the eastern states preferred the second.

By the 1840s, the movement for unlimited free land, which had begun early in the century, had become a significant political factor. In 1848, various bills were introduced in Congress that would have made grants to settlers, but they failed to receive much consideration (Sanborn 1900, p. 28). Each year from 1851 to 1854, the House passed a homestead bill and the Senate defeated it (Sanborn 1900, p. 31). Both houses of Congress finally passed a homestead act in 1860. President James Buchanan vetoed it, arguing that the act was an unconstitutional extension of federal powers and that it was unjust to western land holders because the value of their property could be expected to decline (Sanborn 1900, p. 35). In the 1860 election, the Republicans took up the homestead act as a major campaign issue. It finally became law in May 1862 (Gates 1968, pp. 393–95).

Coinciding with the rapid increase in land grants to homesteaders, railroads, and the states after 1862, the federal revenue derived from land sales fell rapidly as a proportion of total receipts. Further, the general decline in tariff rates that had occurred until the Civil War was reversed, and tariff rates began to rise rapidly. Import duty rates, which had reached their lowest level in the century in 1857, increased sharply during the Civil War and remained high for the remainder of the century (Baack and Ray 1983, p. 73). Tariffs continued to be the single most important source of federal revenue after the war ended.

Conclusion

Federal government land policy began to privatize the public domain during the early 1800s by selling land at auction. Despite inefficien-

cies, these land sales produced a large proportion of total federal revenues before 1860. Although sales of land continued into the 20th century, after 1862 most of the public domain that was transferred to the private sector was in the form of land grants. We have explained this transition in a manner consistent with the literature on public sector behavior, in which government is modeled as a revenue-maximizing organization that produces wealth transfers to competing pressure groups.

The hypothesis we advance is that the land grant system was a governmental *spending* program. Institutional constraints prevented a large cash subsidy transfer system from emerging; a land transfer system was feasible, however, and was the "second best" solution adopted. To maximize the quantity of resources available for transfer, the government would have had to sell the land in a revenue-maximizing manner and then redistribute those revenues as it became institutionally feasible. Ordinary, real-world, shortsighted congressional decision makers, however, had no choice but to "use it or lose it," as revenues derived from excessive sales were unavailable for cash subsidy transfers in the near term. Consequently, land grants were the major transfer spending program during 19th century.

A further implication of the high marginal costs public sector actors faced in their attempts to use public domain proceeds to increase cash transfers to interest groups was that these proceeds tended to "crowd out" revenues from tariffs. Given the shortsighted perspective of governmental decision makers, reduced tariff revenues harmed an identifiable constituency while increased land sale revenues could not be captured for the benefit of an alternative special interest. In fact, land sales were opposed by the same organized interest groups that were the beneficiaries of protection rents from import duties.

Even though the disposal of the public domain evolved into a massive political transfer program dominated by rent seeking, the outcome may have contributed to economic efficiency. The land grant system did transfer huge acreages from bureaucratic to private ownership, encouraging private individuals to promote "the 'release of energy' by developing and exploiting the vast natural resources of the western United States" (Anderson and Hill 1980, p. 55). We have not attempted to argue that an efficiently organized revenue-maximizing government land sales system would have necessarily directly increased the efficiency of resource allocation, but the probable indirect efficiency gains that might have resulted from an efficient sales system should not be neglected. Assuming that the counterfactual case in which expanded land sale proceeds permitted large reductions in tariff revenues and tariff rates, the deadweight loss due to

high protective tariffs might have been significantly reduced and society would have received a net gain in welfare. If we assume that privatization per se enhanced efficiency, then the institutional structure of the privatizing process had important consequences.

Finally, why did the public domain become "locked up" after the late 19th century? Beginning in the 1880s, millions of acres were removed from "private entry" for national parks, wilderness preserves, national resource areas, and so forth. By the mid 1920s, privatization of the public domain had slowed to a trickle. In 1980, the public domain still consisted or over 648 million acres of land. Conventional wisdom holds that federal policy makers became increasingly enlightened with respect to the need to conserve the national heritage. An alternative explanation, consistent with the modern interest group theory of governmental behavior, might focus on two factors: first, the rapid expansion of the large public domain bureaucracies, which constituted a significant pressure group opposed to privatization as it tended to reduce their bureaucratic domain and authority; second, the increased political pressure by various western interests to restrict entry by potential competitors who might reduce the capital value of their property. This shift away from privatization of the public domain presents a potentially fruitful opportunity for future research.

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