

The Equity Effects of Public Land Speculation in Iowa: Large versus Small Speculators

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## Note

### *The Equity Effects of Public Land Speculation in Iowa: Large versus Small Speculators*

The economic impact of American public land policies in the nineteenth century can be assessed either in terms of their efficiency or equity effects, that is, their impact on national growth rates or on income distribution. Robert W. Fogel and Jack Rutner recently explored the growth question and discovered that federal land policy had a positive but *minimal* effect on economic growth in the mid-nineteenth century.<sup>1</sup> This suggests that the equity question is perhaps more important than the efficiency issue, a point made several years earlier by Douglass C. North. "The major effect of public land policies was upon the distribution of income," North claimed in *Growth and Welfare in the American Past*, but, he added, "there have been no significant studies of the land disposal system's impact upon income distribution, exploring the rate of return received by large speculators compared to those of small speculators or settlers. . . ." On purely theoretical grounds, North believed it was "probable that large speculators did better than small ones." Large operators probably had more access to capital, a broader knowledge of the complex land laws, and a better grasp of the market mechanisms and possible alternatives. "We would expect, therefore," North concluded, "that their rate of return on investment in land would typically have been higher than that of the small speculators or of the individual settler."<sup>2</sup>

The purpose of this article is to test North's common sense generalization about the differential earnings of large- and small-scale land speculators. The area of study is the thirty-three county region in central Iowa that has earlier been the focus of an analysis in this *Journal* (1966)

For assistance in preparing this study, I wish to thank Stanley L. Engerman of the University of Rochester, Allan G. Bogue of the University of Wisconsin, Eileen Rickard of the Kent State University Computer Center, and Harry Kamens of the Kent State University Libraries.

<sup>1</sup> Robert W. Fogel and Jack Rutner, "The Efficiency Effects of Federal Land Policy, 1850-1900: A Report of Some Provisional Findings," in William O. Aydelotte, Allan G. Bogue, and Robert William Fogel (eds.), *Dimensions of Quantitative Research in History* (Princeton: Princeton University Press, 1972), pp. 390-418.

<sup>2</sup> Douglass C. North, *Growth and Welfare in the American Past: A New Economic History* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1966), pp. 135-136; (Second Edition, 1974), pp. 128-129. The neglect of equity problems on the part of economic historians is noted by Albert Fishlow and Robert W. Fogel, "Quantitative Economic History: An Interim Evaluation, Past Trends and Present Tendencies," *THE JOURNAL OF ECONOMIC HISTORY*, XXXI (March 1971), 31.

of the return rates earned by large-scale speculators, that is, by individuals entering 1,000 acres or more of Congress land.<sup>3</sup> The Iowa Land Records Collection,<sup>4</sup> from which the data for the initial study were obtained, also contains information on the Congress land purchases and deed transfers of buyers who entered less than 1,000 acres at the public land offices of the Hawkeye State in the 1840's and 1850's. The bulk of these buyers, of course, were settlers who purchased a quarter section or two in order to carve out farms and hold a few "back eighties" for their young sons or for resale to later comers.<sup>5</sup> Other buyers, however, acquired a full section or more, which was far beyond the needs of any one person or family. For convenience, these so-called "small" speculators are defined as individuals who entered 600 to 999 acres of Congress land. By computing rates of return received by these small speculators and comparing these earnings figures with those of the large speculators reported previously, it is possible to measure the differential in earning rates between large and small speculators in the same geographical area and over the same time span. The result is the first hard data on a significant area basis of the impact of the public land disposal system on income distribution in the United States.

## I

Methodologically, this study replicates that of the large speculator project of 1966. A list of all buyers entering from 600 to 999 acres was compiled from the books of original entry of the thirty-three counties of south central Iowa—the same twelve-million-acre region included in the earlier study—known as Royce Cession 262 or more popularly as the "New Purchase." The result was an enumeration of 1,215 individuals who together entered one million acres of Congress land in the years 1845-1864 (Table 1). These small speculators, standing between the 1,000 large speculators who entered 1,000 acres or more and the 10,000 farmer-speculators who purchased from 161 to 600 acres, acquired the lowest total amount of land in south central Iowa. The farmer-speculators entered 3 million acres (32 percent) of the Congress land in the region, the large speculators 2.8 million acres (30 percent), and the small speculators only 1 million acres or 11 percent. The small speculators tried to emulate the large investors but operated on a much smaller scale.

After identifying all of the small speculators in the entire New Pur-

<sup>3</sup> Robert P. Swierenga, "Land Speculator 'Profits' Reconsidered: Central Iowa as a Test Case," XXVI (March 1966), 1-28, reprinted in Swierenga (ed.), *Quantification in American History: Theory and Research* (New York: Atheneum, 1970), pp. 317-340.

<sup>4</sup> Robert P. Swierenga, "The Iowa Land Records Collection: Periscope to the Past," *Books at Iowa*, XIII (November 1970), 25-30.

<sup>5</sup> A complete equity analysis, of course, must include the relative earnings on land purchases of the settler-speculators who acquired from 161 to 600 acres of government land, but the analytical problems are exceedingly complex due to the factor of improvements. This aspect of the equity question awaits further research.

TABLE I  
ORIGINAL ENTRANTS AND ORIGINAL ENTRY ACREAGE BY ACREAGE  
GROUPING IN THIRTY-THREE COUNTIES OF SOUTHCENTRAL IOWA  
(Royce Cession 262), 1845-1864

Groups	Number of Original Entrants <sup>a</sup>	Per- cent	Total Acreage	Per- cent
1-160 Acres	26,833	68.5	2,582,689	27.3
161-599	9,886	25.2	3,000,399	31.7
600-999	1,467	3.7	1,077,614	11.4
1,000 +	1,008	2.6	2,798,401	29.6
Totals	39,194	100.0	9,459,103	100.0

<sup>a</sup> These tabulations exclude joint-ownership purchases, town lots, and duplicate entries. Because the spelling of entrants' names in the government records was not entirely consistent, approximately twenty percent of the buyers were counted more than once.

Source: Swierenga, *Pioneers and Profits*, Table 2.5, p. 35.

chase, I focused on their land holdings in the same nine-county sample as in the 1966 study. The counties are a cross-section of south central Iowa in terms of soil type, terrain, locational advantages, and also in the extent of land speculation. Congress land sales in the nine counties totaled 2.5 million acres (Table 2). The large speculators acquired 793,000 acres or 32 percent, exactly the same proportion as in the thirty-three-county region, and the small speculators obtained 225,000 acres or 9 percent, only two points less than the entire New Purchase. There were wide cross-county variations in the extent of speculation, but the variations were uniform between large and small speculator groups. As the percentage differences in column 3 of Table 2 show, the small speculators quite consistently engrossed only a fourth to a third as much acreage as the large operators, but the relative shares remained constant in the several counties.<sup>6</sup> The small speculators were obviously active in the same counties as the large speculators.

The two groups were also remarkably similar in the proportion of non-residents and farmer residents. A search of the federal manuscript censuses of 1850 and 1860 in the nine counties turned up the names of only 23.8 percent of the small speculator group and 10.6 percent of the large speculators.<sup>7</sup> The vast majority of both groups, therefore, did not reside in the county of their heavy land purchases or they lived in the locale only temporarily. Of the speculators in both groups who were listed in the local censuses, 83.8 percent of the small speculators and 70.0 percent of the large buyers gave their occupation as "farmer." A complete rundown of residential and occupational data on all non-residents would,

<sup>6</sup> The only exception is Marion County where the large speculator group entered about ten percent more land proportionally than elsewhere, but this is due to the fact that a Dutch immigrant leader and his friend entered some 18,000 acres in their own names for immediate distribution to the colonists.

<sup>7</sup> William Dohar assisted in the search of federal manuscript censuses.

TABLE 2  
ORIGINAL ENTRY ACREAGE OF LARGE (1000+ ACRES) AND SMALL  
(600-999 ACRES) SPECULATORS IN NINE SELECTED COUNTIES  
OF CENTRAL IOWA, 1845-1860.

<i>County</i>	<i>Original Entry Acreage in County</i>	<i>Large Specu- lator Entries</i>	<i>Per- cent</i>	<i>Small Specu- lator Entries</i>	<i>Per- cent</i>	<i>Percentage Difference (Col 2/ Col 1)</i>
			(1)		(2)	(3)
Appanoose	264,712	64,108	24.2	19,980	7.5	31.0
Benton	411,933	108,712	26.4	35,995	8.7	33.0
Boone	228,938	87,598	38.3	30,200	13.2	34.5
Carroll	192,958	87,956	45.6	21,527	11.2	24.6
Hardin	299,550	100,617	33.6	26,392	8.8	26.2
Madison	324,917	106,485	32.8	31,774	9.8	29.9
Marion	257,588	75,763	29.4	13,803	5.4	18.4
Poweshiek	341,389	135,337	39.6	37,144	10.9	27.5
Wapello	178,043	26,220	14.7	8,670	4.9	33.3
Totals	2,500,028	792,796		225,485		
Weighted Averages			31.7		9.0	28.4
Standard Deviation			8.71		2.56	
Pearsons R = +.82						

Source: See text.

of course, uncover the many professional land dealers, lawyers, and monied capitalists who dealt largely in Iowa public lands in the antebellum years. Nevertheless, there is little reason to expect major differences between the large and small speculators, except to the degree here noted, that is, that the small speculator group included thirteen to fourteen percent more local residents and farmers.

For each of the sample counties, all Congress land entries of the small and large speculators were identified by legal description and then traced for resale data in the computer listings of county deed registers for the first fifteen years of land sales, 1845 through 1860. The results show that the large speculators deeded more land in this interval than the small speculators (Table 3). Before the end of 1860 the small buyers sold a total of 72,000 acres, or 32 percent of their original entry acreage, but the large speculators deeded 412,000 acres or 52 percent of their entries. Again, there is a wide difference among the counties, depending primarily on how long the land had been on the market. In the Des Moines River county of Wapello in the extreme southeast, which was settled earliest and the land offered first in 1845, both the large and small speculators had sold the bulk of their original patents by 1860. In Carroll County in the extreme northwestern part of the New Purchase, on the other hand, land sales did not commence until 1855 and here speculators sold the lowest proportion of their entries by late 1860. The cross-county variation in land sales among large and small speculators also differed widely, but the direction was again uniform; the small speculators

TABLE 3  
 LAND SALES BY CENTRAL IOWA LARGE AND SMALL SPECULATORS,  
 1845-1860, AS A PERCENTAGE OF TOTAL ORIGINAL ENTRIES

County	Large Speculators		Small Speculators		Percentage Difference (Col 2/ Col 1)
	Total Acreage Sold	Percentage of Total Original Entries	Total Acreage Sold	Percentage Total Original Entries	
		(1)		(2)	(3)
Appanoose	37,915	59.1	7,340	36.7	62.1
Benton	51,588	47.5	9,833	27.3	57.5
Boone	40,674	46.4	10,103	33.5	72.2
Carroll	43,672	49.7	4,920	22.9	46.1
Hardin	56,122	55.8	9,853	37.3	66.8
Madison	54,461	51.1	11,903	37.5	74.0
Marion	40,457	53.4	5,041	36.5	68.4
Poweshiek	71,215	52.6	8,946	24.1	45.8
Wapello	16,139	61.6	4,298	49.6	80.5
Totals	412,243		72,237		
Weighted Averages		52.0		32.0	61.5
Standard Deviation		4.13		8.03	
Pearsons R = +.60					

Source: See text.

only sold about sixty to seventy percent as many patent titles as did the large speculators. The small speculators either experienced more difficulty in selling at reasonable prices or their group included more long-term investors who had entered land with the intention of "holding for a rise" rather than buying and selling land in a professional way. Given the buoyant land market of the 1850's and the ease in selling, the latter explanation seems more likely. Withholding land from the market for the "unearned increment" apparently was an intentional decision of many of the small speculators.

The method of calculating returns on the 72,000 acres of Congress land entered by the small speculators again replicates that of the previous project. For each tract of land the rate of return was computed which, when compounded annually against the original investment plus selecting, locating, and entering fees and subsequent costs (all transformed into constant dollars), gave a total investment at the date of sale equal to the sale price minus the sale commission.<sup>8</sup> These individual rates of

<sup>8</sup> This procedure, it should be noted, does not compute an internal rate of return discounted to the terminal year; rather, it calculates for each tract an internal rate of return for each of the various costs in the several years, compounded from the date of each expenditure to the sale (terminal) date, and then it averages these costs together to provide a composite return figure. This type of aggregating simply weights by dollars in the year of purchase and the year of each tax-payment and other expenses, whereas the discounting procedure implicitly weights transactions in the early years more heavily than in the latter. All current dollars were converted to constant dollars, based on Wholesale Price Indexes (Berry), for Cincinnati, 1816-



return on invested capital were then aggregated into weighted means per dollar invested for all tracts in each county, and for all tracts in all the counties. To place the earning rates of the large speculators (the 1966 study) within the same time span as the small speculators of this study, the earnings of the large speculators were recalculated after eliminating all tracts resold after 1860.<sup>9</sup> The activities of both speculator groups, therefore, are measured only in the years 1845-1860.

## II

Are economic theorists correct in assuming that large speculators in public lands did better than small speculators? The evidence that will be presented here suggests a negative answer. Large and small speculators, on the average, fared equally well. A complicating factor, however, is the use of military bounty land warrants to purchase land. Military warrants in the 1840's and 1850's circulated in eastern markets at discounts from the land office minimum price ranging from five to fifty percent, depending upon supply and demand factors.<sup>10</sup> In frontier Iowa more than one-half (52.4 percent) of all Congress land offered for private acquisition was located with military warrants. This is one-third more than any other state. The large speculator group in the nine sample counties located 59.6 percent of their entries with warrants, which was seven points above the state average; the small speculators entered only 45.8 percent of their locations with warrants, or almost seven points *below* the state average (Table 4). Thus, the large speculators exploited the land paper market far more than the smaller speculators.

There are two ways to estimate costs of warrant entries. Since the actual price that buyers paid for warrants is unknown, the simple and most conservative method is to ignore the discounts and consider warrant purchases as the cost equivalent of cash entries at the land office minimum price of \$1.25 per acre. This might be viewed as an upper bound cost estimate. However, because the large speculator group paid for a greater proportion of their land with warrant paper than the small speculator group, this simple method inflates the land cost figures for the large

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1861, all commodities, weighted 1824-46 = 100. U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1957* (Washington, D.C.: G.P.O., 1960), p. 121.

<sup>9</sup> The Iowa Land Records Collection, unfortunately, does not contain post-1860 deed register data. In the 1966 study, all tracts entered by the ten largest original entrants in the nine counties were traced in the deed registers beyond 1860, with the final sale taking place in 1889. This procedure, which requires intensive searching in the various courthouse records, was not considered essential to this comparative study.

<sup>10</sup> Swierenga, *Pioneers and Profits: Land Speculation on the Iowa Frontier* (Ames: Iowa State University Press, 1968), p. 145. Table 6.1 lists monthly dealers' advertised selling prices of 160-Acre Military bounty land warrants in New York and Washington for the years 1848-1860. Natalie Disbrow obtained the price data from the Riggs and Corcoran Collections, Library of Congress, and graciously shared it with me.

TABLE 4  
 LAND WARRANT ENTRIES AS A PERCENTAGE OF TOTAL ACREAGE  
 SOLD, LARGE AND SMALL SPECULATORS, IN NINE SELECTED  
 COUNTIES OF CENTRAL IOWA, 1845-1860

County	Large Speculators			Small Speculators		
	Total Acreage Sold <sup>a</sup>	Total Land Warrants	Per- cent	Total Acreage Sold	Total Land Warrants	Per- cent
Appanoose	37,915	15,049	39.7	7,340	3,568	48.6
Benton	51,588	27,986	54.2	9,833	3,468	35.3
Boone	40,674	25,945	63.3	10,103	4,374	43.3
Carroll	43,672	40,976	93.8	4,920	4,200	85.4
Hardin	56,122	33,036	58.9	9,853	4,202	42.6
Madison	54,461	35,951	66.0	11,903	3,634	30.5
Marion	40,457	21,777	53.8	5,041	3,618	71.8
Poweshiek	71,215	31,089	43.7	8,946	3,280	36.7
Wapello	16,139	14,099	87.4	4,298	2,778	64.6
Totals	412,243	245,908		72,237	33,122	
Weighted Averages			59.6			45.8

<sup>a</sup> Entries sold after 1860 are excluded.

Source: See text.

speculators. Therefore, I used the more complex but precise method of estimating the cost of warrant entries based on dealers' current selling prices. The cost was fixed at the equivalent of dealers' selling prices of land warrants in eastern metropolitan markets during the month of land entry, plus five cents per acre to approximate the spread between eastern and western prices. This method provides truer cost figures and also incorporates into the calculations the relative advantage enjoyed by the large speculators, due to their apparent ability more fully to exploit the warrant paper market. On the other hand, one has no way of determining whether the speculators purchased warrants regularly through the eastern markets or whether they established independent sources of supply at lower prices, as did the largest Iowa nonresident speculator firm, Easley & Willingham of Halifax, Virginia, in the early 1850's. In the land boom of the mid-1850's, however, the demand for warrants was so strong and the size of the market so vast that most land speculators were forced to rely upon warrant brokers for a steady supply, and even then they were often disappointed by unfilled orders.<sup>11</sup>

In the final analysis, whether the cost basis is \$1.25 per acre or the market price of warrant paper, the comparative earnings differential between the large and small speculator groups in Iowa is virtually nil. Based on the upper bound cost estimate of \$1.25 per acre, the small speculator group averaged 66.5 percent and the large speculators 64.5 percent, a spread of only two points (Table 5). Recalculating the earn-

<sup>11</sup> Robert P. Swierenga, "The Western Land Business': The Story of Easley and Willingham, Speculators," *Business History Review*, XLI (Spring 1967), 3-7, and Swierenga, *Pioneers and Profits*, pp. 160-62, 168-70.



ings with the lower bound estimate of dealers' warrant prices raises the overall rates of return by ten points, but the relative earnings of the two groups shifts by only 4.7 points. The small speculators averaged 75.3 percent, compared to 77.0 percent for the large speculators. Thus, the small speculators enjoyed a slight edge according to the upper bound cost estimates, and the large speculators fared slightly better if lower bound warrant cost estimates are used. The difference of only 1.7 points, however, remains negligible. Despite their heavier use of land warrants, large speculators did not earn more than the smaller speculators. The equity effects of land speculation were apparently as minimal as the efficiency effects.

A prime reason for the success of the small speculator group was their generally higher sale prices. As Table 5 shows, the smaller buyers averaged \$1.25 per acre more on their land sales than did the large buyers (\$4.45 compared to \$3.20). Demanding higher sale prices may have been dictated by the fact that the small buyers paid higher prices initially for their land because they made less use of warrants. Since a greater proportion were local farmers, it is also possible that some of their sales involved improved land. In such cases there would have been an additional investment in breaking the sod, fence construction, well digging, and perhaps building construction. Moreover, since more of the small speculators were local residents, they may have had a better grasp of land values. The data on average length of land ownership between entry

TABLE 5  
COMPARISON OF AVERAGE SALE PRICES AND ANNUAL NET RATES OF RETURN EARNED BY LARGE AND SMALL SPECULATORS IN NINE SELECTED COUNTIES OF CENTRAL IOWA, 1845-1860 (CONSTANT DOLLARS)

County	Average Sale Prices		ANNUAL NET RATE OF RETURN				Average Investment Period per Acre (months)	
			Upper Bound Cost Estimate <sup>a</sup>		Lower Bound Cost Estimate <sup>b</sup>			
	Large	Small	Large	Small	Large	Small	Large	Small
Appanoose	2.64	3.92	22.6	47.3	31.9	61.8	20	28
Benton	2.96	4.52	43.2	70.8	50.0	76.6	20	25
Boone	2.73	4.39	48.1	64.3	56.0	69.1	14	25
Carroll	3.69	3.64	103.0	84.2	142.4	105.2	11	13
Hardin	2.91	4.73	57.4	96.3	65.7	105.9	15	20
Madison	2.96	4.77	48.0	79.0	59.3	83.2	20	27
Marion	2.39	3.22	23.9	35.2	37.1	52.7	19	39
Poweshiek	4.67	3.70	130.0	41.9	135.0	45.6	18	30
Wapello	2.63	7.82	22.4	35.4	46.5	46.2	31	52
Weighted Averages	3.20	4.45	64.5	66.5	77.0	75.3	18	27

<sup>a</sup> Cost computations on land warrant entries of \$1.25 per acre.

<sup>b</sup> Cost computations on land warrant entries based on dealers' current selling prices.

Source: See text.

and first resale indicate, too, that the smaller speculators were more willing to wait for their price. The large speculators, on the other hand, were primarily wholesaling land with the objective of rapid turnover at only a moderate price mark-up. The average ownership period of the small speculators was longer by one-third—twenty-seven months compared to eighteen months for the large speculators (Table 5). The net effect for the small speculators of freezing their investment funds for a third again as long, was to negate the sale price advantage, due to the compounding of interest charges and greater tax costs. Because small buyers priced their land higher, they retarded sales and doubled their tax costs. The small investors paid an average of two annual tax bills compared to only one by the large speculators.

Turning from the overall figures to those disaggregated by individual counties, one is struck by the wide variation between counties (Table 5). The smaller investor group obtained higher returns than the large speculator group in six counties, had the same earnings rate in one county, and were far outdistanced in two counties. In Appanoose County the smaller speculators averaged nearly twice as much as the large speculators; in Benton, Hardin, Madison, and Marion counties they averaged about one-third more, and in Boone one-tenth more. Both groups were even in Wapello, the earliest settled and most developed county. In the two counties with the most speculation in government lands, Carroll and Poweshiek, the large investors earned exceptionally high earning rates, 142 and 135 percent respectively, compared to 105 and 46 percent for the small speculators.

The variance in Carroll County is largely the result of a disproportionate number of nonbonafide deeds among the small speculators. They sold one-fourth of their acreage at prices ranging from the land office minimum of \$1.25 to 20 cents per acre, whereas the large speculators sold only ten percent at these give-away prices. This, at least, is what the deeds registers show. But it is quite likely that most of these low priced sales involved partial financing arrangements, in which the full purchase price was not recorded. Some of the remainder involved other unusual circumstances, such as sales to relatives. By simply eliminating these sales from the study and recalculating earnings estimates, the results show that both groups of investors in Carroll County earned extremely high average rates of 145 and 138 percent respectively. In no other county did the elimination of deed prices involving partial financing or other unusual circumstances make as big a difference as in Carroll.<sup>12</sup>

Poweshiek County is the other case of extreme disparity in earnings between large and small speculators. Most of this difference is due to the sale by the large speculators of some 12,000 acres at very high prices,

<sup>12</sup> Deletion of tracts selling at \$1.25 per acre or less (in current dollars) resulted in overall earnings of 86.2 percent by the large speculators and 86.1 percent by the small speculators.

up to \$20.00 per acre.<sup>13</sup> These were lands located along the proposed line of the Mississippi and Missouri Railroad (Rock Island) and the Indiana and Illinois Central Railroad (Illinois Central) and the growing towns of Montezuma and Grinnell. The railroads themselves purchased nearly ten thousand acres in several large blocks in Scott and Jackson townships, paying two Indiana capitalists \$10 per acre.<sup>14</sup> In order to measure the impact of these railroad land purchases, all sales of \$10 per acre or higher were eliminated from the study for both speculator groups.<sup>15</sup> After recalculation, the overall earnings figure for the large speculators in Poweshiek dropped by more than one-half—from 135.0 to 57.0 percent. For the small buyers there was virtually no decline at all—52.7 to 52.6 percent. Eliminating the effect of the special sales along the proposed rail lines, therefore, reduces the difference in earnings rates between the large and small speculator groups in Poweshiek County to only 4.2 percentage points. The large investors, therefore, were more successful in the county primarily because they controlled large compact blocks of land desired by railroads. Nevertheless, whether or not sales above \$10 per acre are treated as special cases, the large investors fared better than the small speculator group.

### III

The distribution of earnings among the individual speculators provides yet another measure of the relative risks taken by each group. Did large speculators tend to have more high-yield investments and fewer losing ventures than small speculators? Or did both groups share essentially similar experiences? To answer these questions, I isolated all sales of each individual speculator in the sample counties and computed the average earnings rate for each. The frequencies of these earnings rates were then grouped into interval categories of varying widths to obtain a general distribution picture. The grouped data are presented in Table 6 and in a polygon graph (Figure 1) that contains on the horizontal axis the grouped percentage levels of earnings and on the vertical axis the percentage of small and large speculators at each level.

Examining the frequencies and percentages in each category, we can see an overall similarity of the two series of data. Both groups had earnings rates that clustered between twenty and sixty percent and tailed off

<sup>13</sup> I charted each of these 308 "forties" on a township plat map to determine their exact location relative to rail lines, roads, towns, timber stands, etc. The deed records were also traced.

<sup>14</sup> These sales to Johnson and Tousey may not have been bonafide. A recorded sale price of \$10 per acre in 1855 for raw land is excessive. One has the suspicion that these men may have merely exchanged their land for railroad stock at the equivalent value. If this is true, there is especially good reason to delete the high-priced sales.

<sup>15</sup> Deletion of tracts selling at \$10.00 per acre and above (in current dollars) resulted in overall earnings of 58.5 percent by the large speculators and 70.2 percent by the small speculators.

TABLE 6  
GROUPED DISTRIBUTION OF ANNUAL NET RATES OF RETURN, LARGE  
AND SMALL SPECULATORS IN NINE SELECTED COUNTIES OF  
CENTRAL IOWA, 1845-1860 (CONSTANT DOLLARS)

Average Category	Large			Small		
	N	Percent	Cumulative Percent	N	Percent	Cumulative Percent
-46-0	10	3.3	3.3	12	7.2	7.2
0-20	31	11.7	15.0	23	13.8	21.0
20-40	72	23.2	38.2	31	20.2	41.2
40-60	64	20.9	59.1	33	19.0	60.2
60-80	35	11.4	70.5	26	14.8	75.0
80-100	22	7.3	77.8	10	5.4	80.4
100-150	28	9.0	86.8	18	12.8	91.2
150-200	17	5.3	92.1	5	3.0	94.2
200-300	12	4.0	96.1	4	2.4	96.6
300+	10	3.3	99.4	5	3.0	99.6
Totals	301			167		

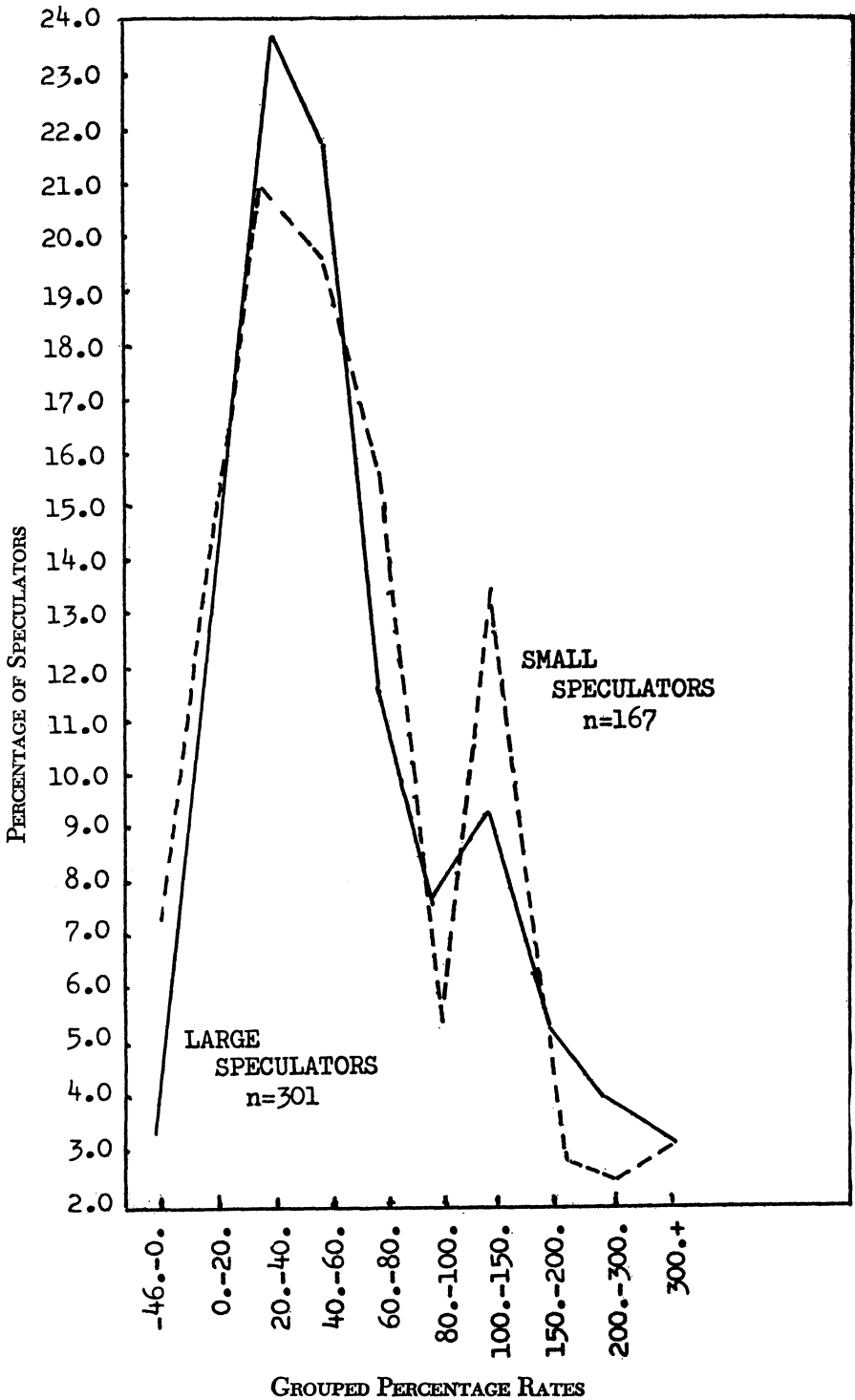
$X^2 = 10.2423$  not significant.  
Source: See text.

sharply at the extremes. The chi square value of the categorical frequencies in Table 6 is so low that the differences in earnings rates between individuals in the two speculator groups could have occurred by chance in more than three out of ten cases. There is therefore no statistically significant difference between the two groups at the various earning levels. The small speculators did however bear a slightly greater risk. Over seven percent of them suffered net losses, compared to only three percent of the large speculators. Throughout the lower earnings levels, up to sixty percent, small speculators were more numerous than large investors. Only in the 60 to 80 and 100 to 150 percentage categories did the small investors outnumber the large ones. At the top earnings levels above 150 percent, more of the large investors made "killings" than the smaller buyers. These variations are minor and, as we have seen, are not significant in statistical terms.

#### IV

This study is limited to one state, Iowa, during the fifteen years prior to the Civil War. During this brief time, when the periodic land booms of the nineteenth century reached their frenzied peak in the mid-1850's, the Hawkeye State with its vast quantities of available Class I land became the center of national land speculation. By the thousands, large- and small-scale speculators alike turned to Iowa lands as a lucrative investment outlet, and few were disappointed. In the nine counties sampled, investors who purchased six hundred acres or more from the federal government amassed over forty percent of all land offered for

FIGURE 1  
GROUPED PERCENTAGE RATES OF RETURN



Source: Table 6.

sale, and they earned, on the average, about seventy-five percent per dollar invested on an annually compounded basis.

To measure the equity effects of public land disposal policies in these antebellum years, the entries of the large and small investors were distinguished and the earnings computed and aggregated for each group. With the calculations based on the land office minimum price of each tract, there was a slight earnings differential in favor of the small speculators. When land warrant discounts were substituted for the \$1.25 Congress price on all warrant entries, the large speculators had a thin edge. That they took full advantage of the warrant paper market in the East was the primary factor in the measure of success that they enjoyed. Therefore, Douglass North and others who share his viewpoint are only partially correct in believing that large investors had a better grasp of the land market mechanism than the small-scale speculator. The large speculators only had a better grasp of the warrant paper market, not the land market. They entered the land market at a cost advantage, but once into that market they did no better than the small speculators.

The equity effects of federal land policy in Iowa in redistributing income from small to large-scale speculators is minimal, it appears, although the large speculators better exploited the warrant paper market. The greater capital resources of the large speculators and their broader knowledge of the land and paper markets, therefore, gave them only a very limited advantage over their smaller rivals. The land market of the antebellum frontier was so sanguine that large and small buyers alike could successfully invest their capital. Whether speculators elsewhere in the west fared equally well is a question that requires further investigations, but at this point the evidence suggests that the equity effects of federal land policy were as trivial as the efficiency effects. Neither national growth rates nor income distribution were seriously affected by land speculation.

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