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Land Value Trends in the United States†

By ERNEST KURNOW*

THE most recent prior study of land values under taxable property¹ by states was made in 1938. Subsequent studies were most likely not undertaken because of the lack of basic statistical data. The only continuing measure of land value under taxable property since that time (by Raymond Goldsmith in connection with his perpetual inventory of wealth) contains no data for individual states.²

The 1957 Census of Governments,³ however, has again made available the basic data that are needed to estimate land values by state. The present study was undertaken to make such estimates as well as to trace the trend and cyclical fluctuations in the distribution of land values among the states since 1922.⁴ This article reports the major findings of the study.

Method of The Study

Two steps were involved in the estimation of land values for this study. The first step required an estimate of the market value of real property for each state. The basic data were obtained from the 1957 Census of Governments.

† This study was made possible by a grant from the Lincoln Foundation. It is part of a larger study reported in, Joseph S. Keiper, Ernest Kurnow, Clifford D. Clark, and Harvey H. Segal, *Theory and Measurement of Rent* (New York, New York: Graduate School of Business Administration, New York University, 1959) mimeographed. Part of the study is to appear in a forthcoming book to be published by the Chilton Company, Philadelphia, Pa.

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¹ Taxable real property other than public utilities.

² Raymond W. Goldsmith, *A Study of Savings in the United States* (Princeton, New Jersey: Princeton University Press, 1955), Vol. III, pp. 11-38. More recent data may be found in current issues of the *Statistical Abstract of the United States*.

³ United States Department of Commerce, Bureau of the Census, *1957 Census of Governments, Volume V: Taxable Property Values in the United States* (Washington, D. C.: 1959).

⁴ Data for 1922 are from, United States Federal Trade Commission, *National Wealth and Income* (Washington, D. C.: 1926); data for 1930 and 1938 are from, Robert R. Doane, *The Anatomy of American Wealth* (New York, New York: Harper and Brothers, 1940).

The assessed value of property was first divided by the estimated ratio of assessed value to market value for each class of property.⁵ The market values, thus obtained for each class of property, were aggregated to determine the market value of property within a state.

The market value of real property includes the value of improvements in addition to the value of land. As a second step, therefore, it was necessary to separate out the value of land. Data for this purpose were obtained from the reports published by state agencies. Thirty-one states and the District of Columbia publish separate data for the assessed value of land. These figures were used to determine the proportion of real property value represented by land in those states. For nine of the 17 states for which published data were not available, the larger cities report aggregate data on the assessed value of land. These figures were used to estimate the land-to-real-property ratio for urban areas. In addition, the land-to-real-property ratios for farms and acreage were available for these states in state reports. The overall land-to-real-property ratio for a state was computed as the weighted average of the urban and farm and acreage ratios.⁶

The land-to-real-property ratios for the remaining eight states were based on appraisal data supplied by insurance companies. These eight states are among the smallest; in all they account for approximately 8 percent of the market value of real property in the United States.

⁵ Residential non-farm, farms and acreage, vacant lots, commercial and industrial, and all other.

⁶ For details see, Keiper, *et. al.*, *op. cit.*, appendix Table B. 11.

There are several limitations to the data and the method used in the study. The ratios of assessed value to market value estimated in the 1957 Census of Governments are based on a sample of measurable sales in each state. They are used in this study to estimate the value of all real property. It is, therefore, assumed that the ratios for sold properties reflect closely enough, for purposes of this study, the relation between assessed value and market value of all property. Furthermore, since sample data are used the ratios are subject to sampling errors.⁷

Although there are shortcomings in the Census data, they are far superior to the data available to earlier researchers. The assessment ratios used in prior studies were based on legal requirements and on the judgments of state officials. The use of the legally prescribed ratios—usually 100 percent of market value—was hazardous because such ratios were rarely attained in actual practice. The estimates based on the judgment of tax officials, in the absence of objective studies, were likewise subject to large errors. The net effect of these errors was to understate the market value of real property.⁸

There are additional shortcomings in the method used to separate land values from real property values. In the first place, it would have been more desirable to have had data on the proportion of land value to total value of real property for various classes of property. Such information would have been especially desirable since the Census of Governments enabled us to derive the market value of real property by class in each state. Unfortunately, only a handful of states have such data available and the Census of Governments did not collect

data on the assessed value of land and improvements separately.

In the second place, there exists some doubt as to the quality of the assessment data. Fortunately, there has been a marked improvement in recent years in the quality of the assessments, especially in the larger states. Since the war 41 states have provided assistance to local assessment authorities in one or more of the following ways: (a) preparation of assessment manuals, (b) preparation of forms for assessors, (c) the development of assessment systems, (d) conducting assessor schools, (e) programs for field training, and (f) provisions for tax map services.⁹ This assistance and the increasing prominence of professional organizations have done much to enhance assessment practices in recent years. Nevertheless, some weaknesses in the quality of the data do exist.

In the third place, the use of assessment data to determine proportions to be applied to the market value of real property assumes implicitly that the assessment ratios used apply equally to land and improvements. Thus, a ratio of .40 does not necessarily imply that both land and improvements were assessed at 40 percent of market value. To the degree that assessors are consistent no special problems are created. However, if there is a lack of consistency, then the use of assessment-based proportions might result in an overstatement or understatement of land values. If assessors, however, have been applying procedures as outlined in recently published manuals, the assessment ratios should apply equally to land and improvements. In addition, there is no evidence to show that such errors are all in one direction. In all likelihood there

⁷ The Department of Commerce used random samples of sales, and hence was able to estimate sampling errors. See, *1957, Census of Governments*.

⁸ Keiper, *et. al.*, *op. cit.*, pp. 210-211.

⁹ Federation of Tax Administrators, *Equalization Programs and Other State Supervisory Activities in the Property Tax Field* (Chicago, Illinois: 1957) pp. 25-26.

is a tendency for such errors to cancel each other.

Land to Real Property Value Ratio

The basic data used to determine the ratio of land to real property value, as stated earlier, were derived mainly from state reports. In general, a similar procedure was employed in the earlier studies for the years 1922, 1930, and 1938. Since 1922 there has been a downward trend in the relative importance of land values as a component of real property value. This downward movement has been at a more rapid rate during the period 1938-56 than the period 1922-38—an average annual rate of decline of approximately 2 percent as compared to approximately 1 percent. Thus, land values accounted for 60.8 percent of all real property values in the United States in 1922, for 52.6 percent in 1930, and for 51.9 percent in 1938. By 1956, however, land values had decreased to only 36.0 percent of real property values. The same general pattern is reflected in the land to real property value ratios for each individual state.¹⁰ The decrease in the land to real property value ratio appears to contradict what is sometimes referred to as the “law of increasing rent.” This “law” refers to the fact that with time the land-to-real-property-value ratio increases as the value of improvements decreases because of depreciation and obsolescence. If, in addition, the value of land were to increase during the same period because of progress in transportation facilities or other civic and industrial improvements, the ratio would increase more markedly.¹¹

It must be remembered, however, that this law refers to an individual piece of

real property over time and not to an aggregate of real property values. There is no doubt that the land-to-real-property value ratio is higher for all individual properties¹² that existed in 1922 and that were still in existence in 1956. The ratio for the aggregate of real properties, however, depends not only on the ratio for the properties that existed at the two dates but also on the ratio for the new properties built between the two dates and the proportion that the value of newly developed properties is to the value of the old. The land-to-real-property ratio for newly developed property is generally below the average for existing properties. Therefore, the aggregate land-to-real-property value ratio may remain constant and even decrease if the proportion of newly developed properties is high enough.¹³ It is not surprising, therefore, that the aggregate ratio fell between 1922 and 1956. This period, with the exception of the years between 1930 and 1945, was marked by great building activity.

Although the land-to-real-property ratios have decreased in each state, they follow the same general pattern in 1956 as in 1922. As a rule, the ratios are highest in states where natural resources, including fertility of the soil and minerals, are particularly important. City land values do not tend to affect the ratios decisively because there is a tendency for increases in urban land values to be balanced by the intensiveness with which urban land areas are improved.¹⁴

Land Value Trends: United States

The value of land (under taxable property other than public utilities) is

¹⁰ Federal Trade Commission, *op. cit.*, pp. 31-2; Doane, *op. cit.*, p. 195.

¹¹ See also, Raymond Goldsmith, “A Perpetual Inventory of National Wealth,” *Studies in Income and Wealth*, Vol. XIV (New York, New York: National Bureau of Economic Research, 1951), pp. 33-4 (fn).

¹⁴ *Cf.*, Federal Trade Commission, *op. cit.*, p. 34.

¹⁰ Ratios for individual states may be found in Keiper, *et. al.*, *op. cit.*, appendix Table B. 11.

¹¹ With a possible exception of blighted urban areas, rundown mines, and certain agricultural properties.

estimated as \$243.7 billion for 1956. Land values increased from \$94.8 billion in 1922 to \$111.6 billion in 1930 (Table I) but declined during the depressed years of the thirties to \$94.2 billion in 1938.

TABLE I—TRENDS IN LAND VALUES UNDER TAXABLE REAL PROPERTY OTHER THAN PUBLIC UTILITIES: 1922-1956
(dollar figures in billions)

Year	Value of Land
1922.....	\$ 94.8
1930.....	111.6
1938.....	94.2
1956.....	243.7
<hr/>	
1922-30	
Per cent change.....	17.7
Average annual rate.....	2.1
<hr/>	
1930-38	
Per cent change.....	-15.6
Average annual rate.....	- 2.1
<hr/>	
1938-56	
Per cent change.....	158.7
Average annual rate.....	5.4
<hr/>	
1930-56	
Per cent change.....	118.4
Average annual rate.....	3.0
<hr/>	
1922-56	
Per cent change.....	157.1
Average annual rate.....	2.8

Source: Keiper, et. al., *op. cit.* Appendix Table B. 12.

By 1956, as we have seen, land values had increased to \$243.7 billion.

The relative increase in land values was 17.7 percent between 1922 and 1930—an average annual rate of increase of 2.1 percent. Between 1930 and 1938 the value of land decreased by 15.6 percent—an average annual rate of decrease of 2.1 percent. Land values then increased 158.7 percent between 1938 and 1956—an average annual rate of increase of 5.4 percent. The rate of increase during this period is large because the depressed year of 1938 was used as a base.

More meaningful comparisons result in measuring the relative change between

1930 and 1956 and between 1922 and 1956. Land value increased 118.4 percent between 1930 and 1956—an average annual rate of growth of 3.0 percent. The rate of growth in land values during this period thus exceeded that of the 1922-30 period. Over the entire 34-year period the value of land increased 157.1 percent—an average annual rate of 2.8 percent.

The rate of growth in land values parallels the rate of growth in real property values. However, since the land-to-real-property value ratio has been decreasing over time, the rate of growth in land values has been slower than that of real property as a whole.¹⁵ Expressed in another way, the value of improvements has been increasing with greater rapidity than the value of land.

The slower rate of growth in land values as compared to real property values is in part due to the fact that the effect of price changes is more pronounced for improvements than for land. No indexes exist for the price of land. However, the United States Department of Agriculture prepares a farm real estate index which reflects changes in the price level of farm land and improvements. The Department also prepares indexes of construction costs of farm-operator dwellings and farm service buildings. The indexes of farm construction, which we will assume reflect changes in price level for farm improvements, increased approximately 165 percent between 1922 and 1956. The index of farm real estate, which reflects changes in price level of farm land and improvements, increased only about 66 percent during the same period. If we were to assume that the value of agricultural land accounts for about 70 to 80 percent of agricultural real property, the increase in the price level

¹⁵ The value of real property between 1922 and 1956 increased by 334.4 percent. See, Keiper, et. al., *op. cit.*, p. 221.

of agricultural land would have been approximately 25 to 40 percent between 1922 and 1956.

It is doubtful that the same degree of disparity exists between the changes in price level of urban land and of urban improvements. Even if we assume that the price movements for land and improvements parallel each other for urban lands, the rate of growth in aggregate land values would, nevertheless, be less than that of real property values because of the difference between price changes of agricultural land and improvements on that land.

The change in land values, in addition to reflecting changes in price level, is also influenced by the difference in the quality of the basic data available for this and earlier studies. As we have seen, the earlier studies tended to understate the value of real property and, since land values are computed as a proportion of real property values, land values were likewise understated. Such understatement in the earlier studies tends to exaggerate the increase in value of land, whether measured in current or constant dollars.

Comparisons of land value over time are also distorted by the fact that only the value of land under taxable property is being measured. The value of tax-exempt property has increased considerably since 1922.¹⁶ This flight of property from the tax base tends to understate the percentage change in land values.

Land Value Trends: Regions and States

The difficulties in comparing land values arising from changes in the price level, from differences in the quality of the basic statistics, and from changes in the relative importance of tax-exempt property can be avoided in large part by following the trends in the ratio of land

value in a state or region to that of the United States. The region-to-United States and state-to-United States land value ratios for 1922 and 1956 are presented in detail in Table II.

The table indicates that wide disparity exists in the trend of region-to-United States land value ratios and in state-to-United States land value ratios. In general, the greatest increases have taken place in those regions and states in which population and industrialization have grown most rapidly. The largest declines have occurred in the predominantly agricultural regions and states.

The greatest increases in land value ratios occurred in the Pacific region. In 1922 this region accounted for 9.1 percent of the total land value of the country. By 1956 its share had risen to 16.6 percent. The increase was due entirely to the phenomenal, more than five-fold, increase in land values in California. The land value ratios decreased for the other two states of the region—Oregon and Washington.

Other sizeable increases in the relative importance of land values took place in the South Atlantic and West South Central regions. In the South Atlantic states, the region-to-United States land value ratio increased from 8.9 percent in 1922 to 11.4 percent in 1956. Substantial increases in land value ratios occurred in Florida, North Carolina and Delaware. The ratios also increased for all other states but West Virginia, where the ratio decreased from 2.0 percent in 1922 to 0.8 percent in 1956.

In the West South Central region the the region-to-land value ratio increased from 7.5 percent to 9.3 percent. This increase reflects mainly the increase in land values in Texas. The increase in the ratio for Louisiana was counterbalanced by the decrease in the relative

¹⁶ Keiper, *et. al., op. cit.*, p. 224.

importance of land values in Arkansas and Oklahoma.

TABLE II—VALUE OF LAND UNDER TAXABLE REAL PROPERTY (OTHER THAN PUBLIC UTILITIES) AND PERCENTAGE TO TOTAL UNITED STATES VALUE OF LAND FOR REGIONS AND STATES: 1922 and 1956
(dollar figures in millions)

Region and State	1956		1922	
	Value	Per cent of U.S. Total	Value	Per cent of U.S. Total
New England.....	9,735	4.00	4,162	4.39
Maine.....	690	.28	384	.41
New Hampshire.....	548	.23	226	.24
Vermont.....	333	.14	135	.14
Massachusetts.....	4,383	1.80	2,532	2.67
Rhode Island.....	606	.25	270	.29
Connecticut.....	3,175	1.30	615	.65
Middle Atlantic....	42,146	17.30	15,392	16.25
New York.....	21,465	8.81	7,589	8.01
New Jersey.....	7,289	2.99	2,061	2.18
Pennsylvania.....	13,392	5.50	5,742	6.06
East North Central.	46,697	19.17	21,718	22.92
Ohio.....	9,894	4.06	5,513	5.82
Indiana.....	6,126	2.52	2,685	2.83
Illinois.....	18,441	7.57	7,476	7.89
Michigan.....	8,806	3.61	3,294	3.48
Wisconsin.....	3,430	1.41	2,750	2.90
West North Central	31,939	13.10	21,341	22.52
Minnesota.....	4,762	1.96	4,141	4.37
Iowa.....	7,654	3.13	5,296	5.59
Missouri.....	6,141	2.52	3,529	3.72
North Dakota....	1,961	.80	1,207	1.27
South Dakota....	1,885	.77	1,707	1.80
Nebraska.....	4,059	1.67	2,630	2.78
Kansas.....	5,477	2.25	2,831	2.99
South Atlantic.....	27,911	11.44	8,417	8.88
Delaware.....	471	.19	114	.12
Maryland.....	2,585	1.06	672	.71
Virginia.....	3,535	1.45	1,215	1.28
West Virginia....	1,942	.79	1,930	2.04
North Carolina..	6,138	2.52	1,336	1.41
South Carolina..	1,922	.79	636	.67
Georgia.....	3,712	1.52	1,126	1.19
Florida.....	6,342	2.60	1,018	1.07
Dist. of Columbia	1,264	.52	370	.39
East South Central.	11,391	4.66	4,258	4.50
Kentucky.....	3,038	1.24	1,087	1.15
Tennessee.....	3,122	1.28	1,505	1.59
Alabama.....	3,283	1.34	888	.94
Mississippi.....	1,948	.80	778	.82

West South Central	22,538	9.25	7,144	7.54
Arkansas.....	2,121	.87	1,036	1.09
Louisiana.....	3,621	1.49	782	.83
Oklahoma.....	3,056	1.25	1,300	1.37
Texas.....	13,740	5.64	4,026	4.25
Mountain.....	11,033	4.53	3,697	3.90
Montana.....	1,268	.52	729	.77
Idaho.....	1,803	.74	481	.51
Wyoming.....	600	.25	180	.19
Colorado.....	3,045	1.25	917	.97
New Mexico.....	848	.35	276	.29
Arizona.....	1,781	.73	585	.62
Utah.....	1,107	.45	394	.42
Nevada.....	581	.24	135	.13
Pacific.....	40,332	16.55	8,627	9.10
Washington.....	4,150	1.70	2,222	2.34
Oregon.....	2,885	1.18	1,402	1.48
California.....	33,297	13.67	5,003	5.28
TOTAL.....	243,722	100.00	94,756	100.00

Source: Keiper, et. al., *op. cit.*, Appendix Table B. 12.

The region-to-land value ratio also increased but to a lesser extent in the Middle Atlantic and Mountain states. In the Middle Atlantic states the land values ratio increased from 16.3 percent to 17.3 percent. The major increase occurred in New Jersey with a slighter increase for New York. The value of land in Pennsylvania decreased as a percent of the national total. In the Mountain states the region-to-United States land value ratio increased from 3.9 percent to 4.5 percent with all states but Montana showing an increase.

The sharpest decline in the ratio of a region's land value to that of the country occurred in the West North Central Region where the ratio decreased from 22.5 percent to 13.1 percent. There was a sizeable decrease in the ratios for all states of the region.

Decreases in the relative importance of land values as part of the national total occurred to a lesser extent in the New England and East North Central regions. In the New England states the land

value ratio decreased from 4.4 percent to 4.0 percent. The decreases in the ratios for all other states of the region were almost offset by the increase in the ratio for Connecticut.

In the East North Central Region the ratio of its land value to that of the United States decreased from 22.9 percent to 19.2 percent. Michigan was the only state of the region that experienced an increase in its land value ratio.

In the only remaining region, the East South Central, land value ratios remained fairly constant, increasing from 4.5 percent to 4.7 percent. The stability in the land value ratio reflected the offsetting changes among the individual states of the region. Thus, land value ratios increased in Kentucky and Alabama; decreased in Tennessee; and remained constant in Mississippi.

The changes in the relative importance of individual states with respect to land values is also reflected when the states are ranked according to the magnitude of land values for each of the years 1922, 1930, 1938, and 1956.

California rose from a rank of 6 in 1922 to the top ranking state in 1956. Texas rose from 8th position to 4th position and Florida from 29th to 10th. Other states that improved their national ranking significantly include: (a) Connecticut, from 37th to 23rd; (b) New Jersey, from 17th to 9th; (c) Maryland, from 35th to 30th; (d) North Carolina, from 22nd to 11th; (e) Alabama, from 31st to 22nd; (f) Georgia, from 26th to 18th; and (g) Louisiana, from 32nd to 19th.

The states that dropped significantly in rank include: (a) Iowa, which dropped from 5th position to 8th; (b) Minnesota, from 7th to 14th; (c) North Dakota, from 25th to 32nd; (d) South Dakota, from 19th to 36th; (e) Oregon, from 21st to 29th; (f) Wisconsin, from 12th to 21st;

and (g) West Virginia, from 18th to 24th.

In general great gains in rank occurred in many of the South Atlantic and South Central States at the expense of the states in the West North Central Region.

Concentration of Land Values

The long-term trend has been toward greater concentration of land values among the states. A major contributing factor to this increase has been the tremendous growth in the land values in the state of California. This state alone, in 1956, accounted for approximately 14 percent of the value of land in the United States. The leading 5 states¹⁷ in that year accounted for 41.2 percent of the total value of land in the United States. In 1922, the leading 5 states¹⁸ accounted for only 33.4 percent of the total. The 10 top ranking states accounted for 57.6 percent of the total in 1956 as against 54.5 percent in 1922. The 15 top ranking states in both years, however, accounted for about 69 percent of the total land value.

The degree of concentration in land values also varies with fluctuations in general business activity. In 1938 the five leading states accounted for more than 44 percent of total land values—as compared to 41.7 percent in 1956 and 33.4 percent in 1922. In fact, the states of New York and California accounted for more than 25 percent of the total land value in 1938.

This high degree of concentration of land values in 1938 resulted from the ability of the industrial areas in the east, midwest, and the state of California to maintain the relatively high value of land. In other areas there was a sharp drop in land values. This diversity in the movement of land values reflects the fact

¹⁷ California, New York, Illinois, Texas, Pennsylvania.

¹⁸ New York, Illinois, Pennsylvania, Ohio, Iowa.

that the depression was less prolonged and less intense in industrial areas than in the agricultural sections of the country.

This paper confined itself to the presentation of data pertaining to the value of land under taxable real property—excluding public utilities. As yet very little information concerning the value of land under public utilities and tax-exempt property is available for states.¹⁹ Furthermore, there is a paucity of data

¹⁹ For national estimates of the value of land under public utilities and tax-exempt property *see*, Keiper, *et. al., op. cit.*, pp. 263-73.

relating to the distribution of land values under different types of property. It is unfortunate that the recent Census of Governments did not record separate figures for the assessed value of land. Such information would have been useful in estimating the value of land under different types of property. More precise and more complete data on the distribution of land values by state must await the gathering of more comprehensive basic data than has heretofore been possible.