

# AGRICULTURAL EXPERIMENT STATION

KANSAS STATE AGRICULTURAL COLLEGE  
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DEPARTMENT OF AGRICULTURAL ECONOMICS

## FARM LAND VALUES IN KANSAS<sup>1</sup>

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### FACTORS ENTERING INTO THE VALUE OF LAND

The underlying principles involved in the valuation of land are the same as those met with in placing a price on any commodity. Demand and supply are the governing factors regardless of whether the commodity to be valued is a farm or a bushel of wheat. When agricultural land is considered, land income is the controlling factor on the side of demand. This income varies directly with the price of farm products. As farm prices climb, the income from land increases, the ownership of the land becomes more prized, and the consequent bidding raises values. When a slump in prices of agricultural products occurs, the situation is reversed. But it is necessary to go another step in the analysis and find what controls agricultural prices. In the last analysis, it is the demand of the population for food and other farm products. The size of the population, then, and its rate of growth are most important in determining demand for land. This state-

**Acknowledgment.**—The writer wishes to acknowledge the work in collecting and summarizing Kansas land value data performed by Eric Englund and Millard Peck, now of the Bureau of Agricultural Economics, United States Department of Agriculture, but formerly of the Department of Agricultural Economics, Kansas Agricultural Experiment Station. The major portion of the material in the tables is from data compiled by these men.

1. Contribution No. 56 from the Department of Agricultural Economics.

ment requires some modifications. The wealth and purchasing habits of the population must be considered as well as its size. The extent of the market for farm products must also be considered. The diet of the people is another important consideration, for a given area may provide for a larger number of people if the diet is changed to foods that require less land in their production.

Three other factors may or may not exert a considerable influence upon the prospective buyer and seller. The first is anticipated future income; the second, amenities that may be attached to the particular parcel of real estate in question; and the third, the taxes that are levied on the land. In buying land one purchases the right to a series of annual incomes. The annual income in the years to come may be greater or less than in the year that the transaction is made. No one knows definitely whether it will tend upward or downward but every person who thinks about land prices usually has quite definite ideas as to its future course. And people usually are decidedly optimistic or pessimistic about the future. There are times when most people view the future of land income in the same manner. If they are extremely optimistic, a land boom usually follows. If they are generally pessimistic, a slump in land values occurs.

The term "amenities" is used to include anything characterized by agreeableness of situation, climate, or condition. In the case of agricultural land, they may consist of an agreeable neighborhood, a good school or church nearby, or a personal attachment to the farm. There are instances when amenities exert a greater influence than income in determining land values.

The increasing heavy tax load that land is bearing has lessened the demand for land and will continue to do so unless some of the load is shifted to other forms of wealth.

It is on the supply side that the chief differences between land and other commodities exist. The total land area is fixed and only a comparatively small portion of this total area is of value in producing crops. The smaller productive area is called the economic land supply. Unlike the total area of land, the economic land area is not fixed in size.

When a swamp is drained, an arid section irrigated, or a new crop which utilizes hitherto unproductive land, introduced, the economic land supply is enlarged. Production may be increased without changing the area of land under cultivation. This may be accomplished by more efficient production on a given area, such as by the use of proper tillage methods, better seed, and other good practices. Changes in the use of land thus give rise to variations on the supply side.

#### LAND VALUES IN THE PAST

A study of present and future land values should be prefaced by something concerning the past trend in prices. The history of land prices in the United States is a story of a steady, sometimes rapid increase in prices with only a few instances of important declines. From 1850 to 1890 land prices rose steadily. Due to monetary and other disturbances, there was a decline in the decade from 1890 to 1900. From 1900 to 1920 a remarkable advance was witnessed. This period of 20 years should be divided into two parts, (a) the period from 1900 until the outbreak of the World war and (b) the war and post-war inflation period. Several reasons are responsible for the price rise in the early period: (1) The purchasing power of farm products increased. (2) About 1900, most of the good land in the public domain had been claimed and people realized for the first time that the land supply was limited. (3) Monetary conditions were favorable to higher prices for everything. There was on the one hand a great increase in the supply of gold and on the other a tremendous increase in the use of credit.

The war and post-war inflation period carried land prices, along with other prices, far beyond the point that normal demand for products from the land justified. Some of this increase in land values was undoubtedly due to improvements in production technique which resulted in the more economical production of farm products. The decline occurred in the deflation period after July, 1920. Land values rode the toboggan along with other commodities, going downward from 1920 until the present time. These facts are illustrated in Table I which gives the land values as of March 1 each

year as reported by the Bureau of Agricultural Economics, United States Department of Agriculture. It will be observed that during the last year "the average value of farm real estate per acre as reported by the crop correspondents declined on an average of one point in the Bureau's index for the country as a whole. (One index point equals 1 per cent of the pre-war average; that is, 1 per cent of the three-year average value prevailing during the period, 1912-1914.)" During the period from March 1, 1920, to March 1, 1921, the decline in the index number was thirteen, in 1922 there was a drop of eighteen points, in 1923, four, in 1924, five, in 1925 and 1926, three each, in 1927, five, and in 1928, two points. The drop of one point in the index number in 1929 was the smallest decline during any year since 1920.

Table I also shows the index number of land values for Kansas and some of its neighboring states.<sup>2</sup> The high point in Kansas land values was never so high as that for the

TABLE I.—FARM REAL ESTATE: AN INDEX NUMBER OF ESTIMATED VALUE PER ACRE FOR THE UNITED STATES AND FOR KANSAS AND NEAR-BY STATES, 1920-1929.  
 (1912, 1913, 1914=100 per cent)

STATES	U. S. D. A. Index of all farm land with improvements as of March 1 (a)									
	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
United States.....	170	157	139	135	130	127	124	119	117	116
Kansas.....	151	149	130	127	118	115	113	113	113	113
Nebraska.....	179	166	144	139	128	123	123	119	117	116
Missouri.....	167	156	133	127	117	112	104	99	96	95
Oklahoma.....	166	160	159	133	125	131	130	128	127	127
Colorado.....	141	132	123	113	98	92	89	82	82	82
Texas.....	174	156	133	128	137	146	146	141	139	138
Iowa.....	213	197	162	156	143	136	130	121	117	116

(a). From United States Department of Agriculture Circular No. 101. "The Farm Real Estate Situation, 1928-1929."

2. The information upon which the index numbers appearing in Table I are built, was secured from reports made by cooperating farmers and real estate dealers throughout the country.

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country as a whole, or as that for any of the nearby states with the exception of Colorado. Thus in 1920 the index number for the country as a whole stood at 170 (that is, 70 per cent above pre-war) and in Iowa at 213, while in Kansas it was only 151. Consequently, less drastic declines in Kansas would be expected as compared with other states. The index number for Kansas has declined from the 1920 high point of 151 to 113 whereas for the United States as a whole the decline has been from 170 to 116 and for Iowa from 213 to 116. As will be pointed out later, there is reason

TABLE II.—KANSAS LAND VALUES BY DIFFERENT METHODS, 1910-1928.

Year (a)	Selling value based on bona fide sales		Census	U. S. D. A. index based upon reporters' estimates
	Expressed as dollars	Expressed as index numbers (b)		
1910	\$36.79	93.5	\$40.05	...
1911	38.31	97.4	.....	...
1912	38.94	99.0	.....	101
1913	39.51	100.5	.....	99
1914	39.54	100.5	.....	99
1915	39.55	100.6	.....	103
1916	40.09	101.9	.....	109
1917	43.00	109.3	.....	115
1918	45.25	115.0	.....	122
1919	54.19	137.8	.....	132
1920	60.46	153.7	62.50	151
1921	57.83	147.0	.....	149
1922	52.07	132.4	.....	130
1923	49.62	126.2	.....	127
1924	46.65	118.6	.....	118
1925	47.52	120.8	50.26	115
1926	48.00	122.0	.....	113
1927	48.10	122.3	.....	113
1928	47.15	119.9	.....	113

(a). Data on land values to and including the year 1923 are taken from Bulletin 235 of the Agricultural Experiment Station on "The Trend of Real Estate Taxation in Kansas from 1910 to 1923."

(b). Base years are the same as those used in U. S. D. A. Index. 1912, 1913, and 1914 = 100 per cent.

to believe that land values in Kansas have actually increased slightly in the past few years.

**LAND VALUES IN KANSAS**

In studying land values in Kansas the bona fide sales of real estate made in each county have been used to compare with the U. S. D. A. index and also to show the trends in the different farming areas within the state.<sup>3</sup> The acres sold each year represent from 1 to 4 per cent of the total acreage and, it is believed, constitute a fair criterion of what the land of the particular county is selling for. For convenience an index number based on these sales has been calculated. The census is another source of information on land values. The

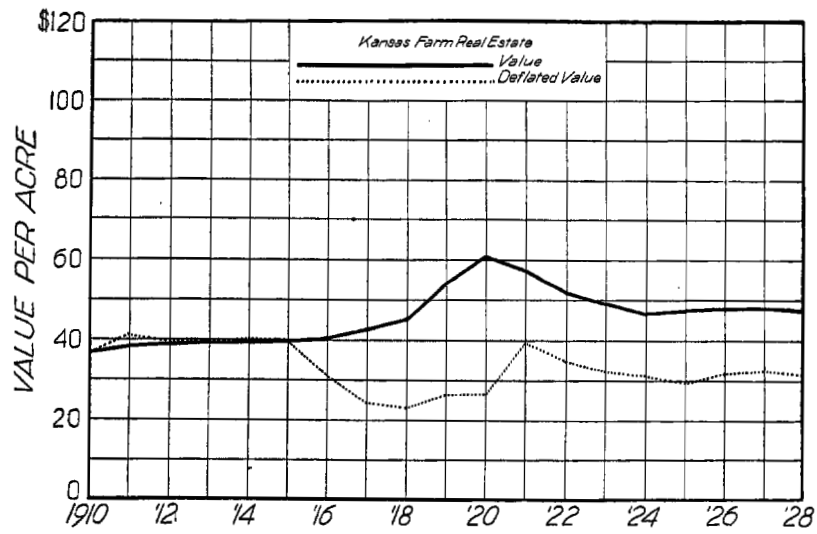


FIG. 1.—The trend of land values in Kansas, 1910 to 1928, showing value and deflated value of farm real estate. (The deflated value was obtained by dividing value by Bureau of Labor statistics index number of wholesale price of all commodities.)

three different indicators of land value trends, namely, the U. S. D. A. index, the selling value based on bona fide sales, and the census are compared in Table II.

It is interesting to note that the index numbers derived

<sup>3</sup> Data on trends of land values and taxes appear in Bulletin 235 of the Agricultural Experiment Station on "The Trend of Real Estate Taxation in Kansas from 1910 to 1928," by Eric Englund. The method used in determining average selling value per acre is described in the appendix of this bulletin.

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by the two different methods are essentially the same for the entire period up to 1925. Since 1925 the method based on bona fide sales records a slight improvement which the U. S. D. A. index does not show. Since the latter is based on estimates and the former on actual sales it seems reasonable to conclude that some increase in value has taken place.

The trend of Kansas farm real estate values and their deflated value obtained by dividing the land values by the Bureau of Labor statistics index number of wholesale prices is shown graphically in figure 1. The deflated values show what the trend in values would have been had the purchasing power of the dollar remained the same. The graph illustrates the trend in real estate values as just discussed and also dem-

TABLE III.—CALCULATED SELLING VALUE OF FARM LAND IN KANSAS BY FARMING SECTIONS.

Year (a)	Corn belt	General farming	Bluestem belt	Eastern wheat belt	Western wheat belt	Western grazing region
1910	\$63.41	\$46.86	\$35.33	\$44.36	\$17.60	\$ 9.32
1911	66.39	48.28	37.59	46.66	17.88	9.77
1912	68.88	51.94	37.31	47.32	18.99	9.31
1913	71.11	50.24	39.04	49.07	18.25	9.60
1914	71.97	51.25	43.27	47.47	15.81	9.40
1915	71.10	52.65	37.45	49.19	15.92	10.03
1916	70.98	52.16	39.44	48.97	17.78	10.97
1917	75.24	55.14	43.05	52.02	20.08	12.66
1918	79.68	56.65	47.18	55.46	20.37	12.49
1919	87.44	69.64	55.17	69.73	25.20	14.70
1920	103.64	81.24	63.65	71.44	29.07	18.13
1921	99.45	78.49	69.70	67.35	28.14	16.88
1922	89.72	69.08	53.30	61.51	25.41	16.96
1923	84.62	65.60	51.18	58.37	25.79	15.49
1924	81.96	54.54	52.16	53.74	27.19	13.83
1925	75.44	57.69	47.34	58.25	27.66	15.07
1926	82.16	56.70	49.27	56.33	28.80	15.61
1927	78.35	57.11	48.51	59.37	27.48	18.22
1928	75.11	54.48	45.38	58.66	26.51	17.48

(a). Data on land values to and including the year 1923 are taken from Bulletin 235 of the Agricultural Experiment Station on "The Trend of Real Estate Taxation in Kansas from 1910 to 1923."

onstrates the fact that Kansas land values were not abnormally inflated except by the decreased purchasing power of the dollar.

The preceding discussion has had to do with average land value for the state as a whole. Values in a particular section do not always follow the general course. A detailed study of particular sections of the state as is indicated in Table III is therefore of interest.

The trends for each section are shown graphically in figures 2, 3, 4, 5, 6, and 7. It will be noted that the farming sec-

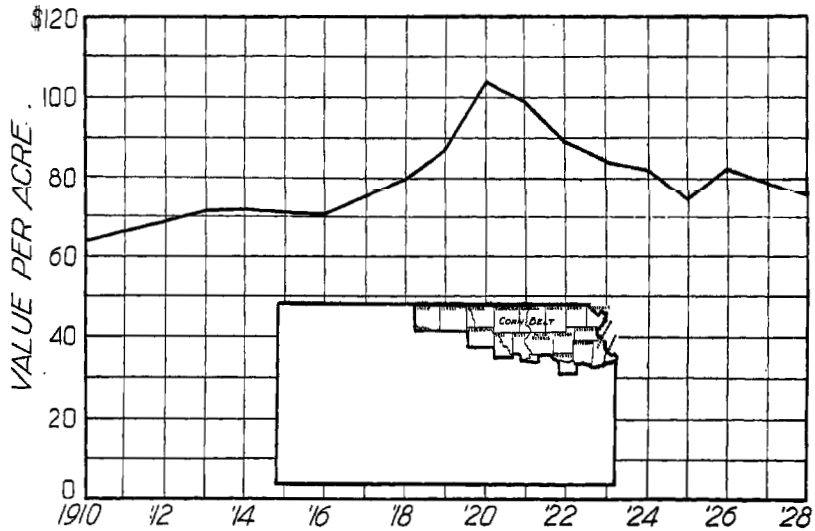


FIG. 2.—The trend of land values in the corn belt of Kansas, 1910 to 1928. (Calculated selling value was obtained from records of bona fide sales of farm real estate reported by the county assessors to the State Tax Commission.)

tions in the eastern part of the state, including the corn belt, general farming belt, and the bluestem belt, have shown either a decrease or only a small increase in land values since 1925. A few counties in the area stand out as exceptions to this general rule. The increase in land values in the region comprising the eastern and western wheat belts and the western grazing region has been mostly in the southern part of the area. The area lying west of the eastern boundaries of Harper, Kingman, Reno, McPherson, and Sa-



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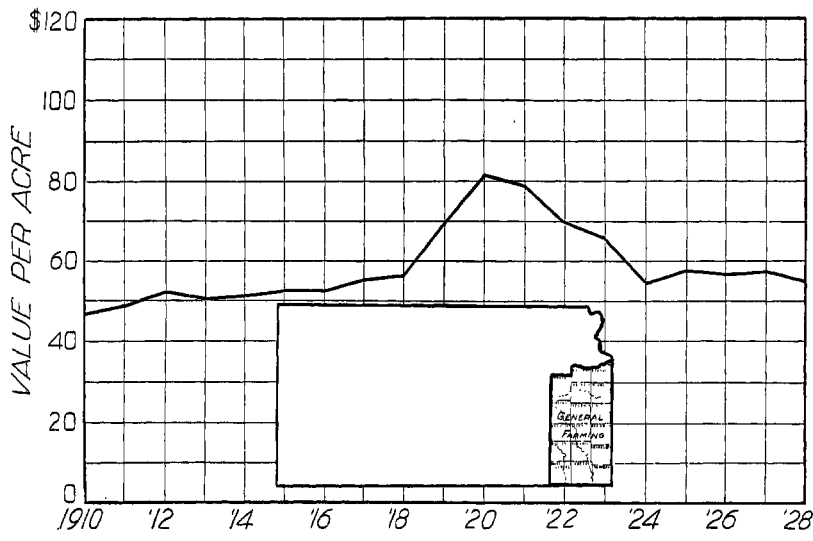


FIG. 3.—The trend of land values in the general farming section of Kansas, 1910 to 1928. (Calculated selling value was obtained from records of bona fide sales of farm real estate reported by the county assessors to the State Tax Commission.)

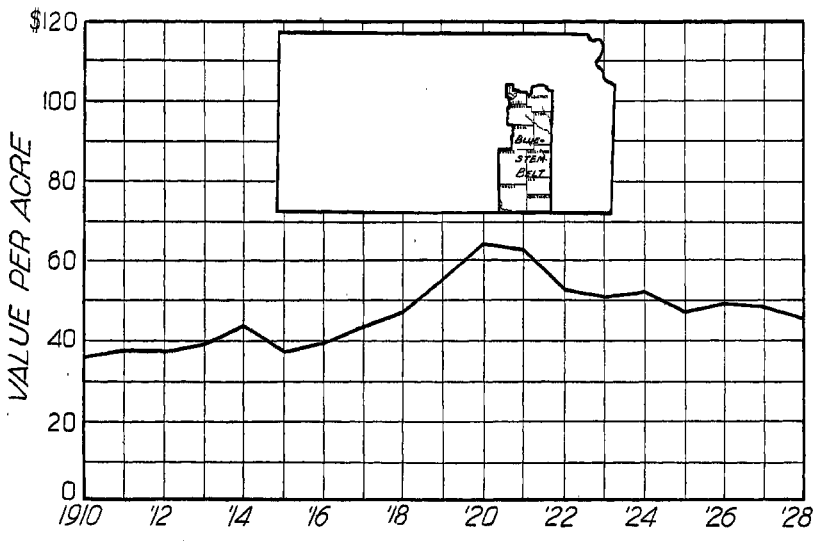


FIG. 4.—The trend of land values in the bluestem belt of Kansas, 1910 to 1928. (Calculated selling value was obtained from records of bona fide sales of farm real estate reported by the county assessors to the State Tax Commission.)

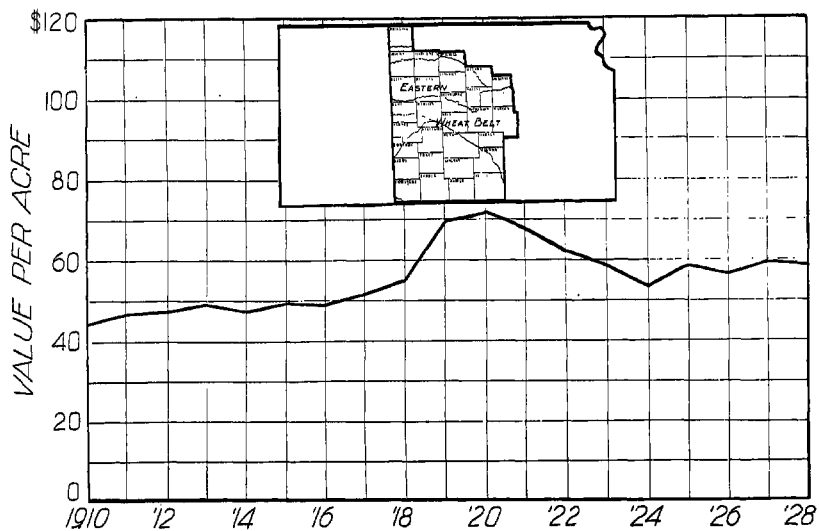


FIG. 5.—The trend of land values in the eastern wheat belt of Kansas, 1910 to 1928. (Calculated selling value was obtained from records of bona fide sales of farm real estate reported by the county assessors to the State Tax Commission.)

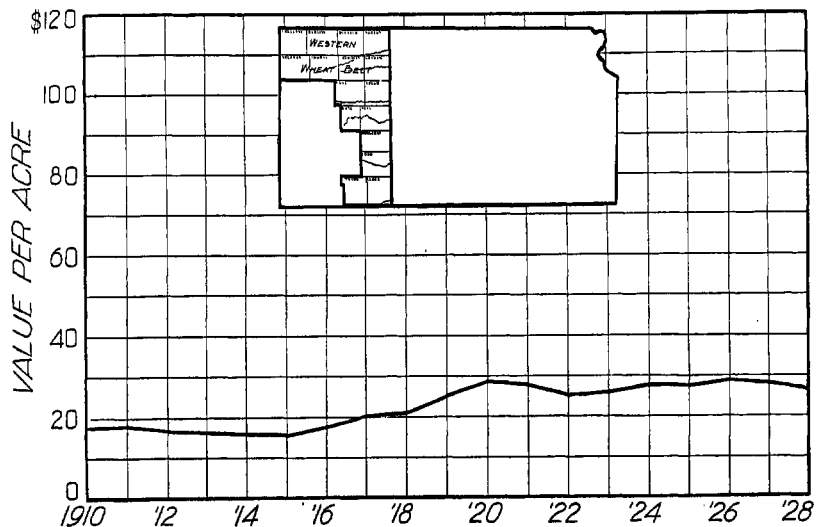


FIG. 6.—The trend of land values in the western wheat belt of Kansas, 1910 to 1928. (Calculated selling value was obtained from records of bona fide sales of farm real estate reported by the county assessors to the State Tax Commission.)

line counties to the Colorado line and south of the northern boundaries of Saline, Barton, Hodgeman, Kearny, and Hamilton counties, constituting a wedge-shaped area with the point of the wedge resting on the Colorado line, has, with the exception of a few counties, shown a large increase. The rise in value in this area may be attributed to the evolution in farming methods brought about by the combined harvester-thresher, the tractor, and other improvements in production methods. There is an indication, from 1928 reports,

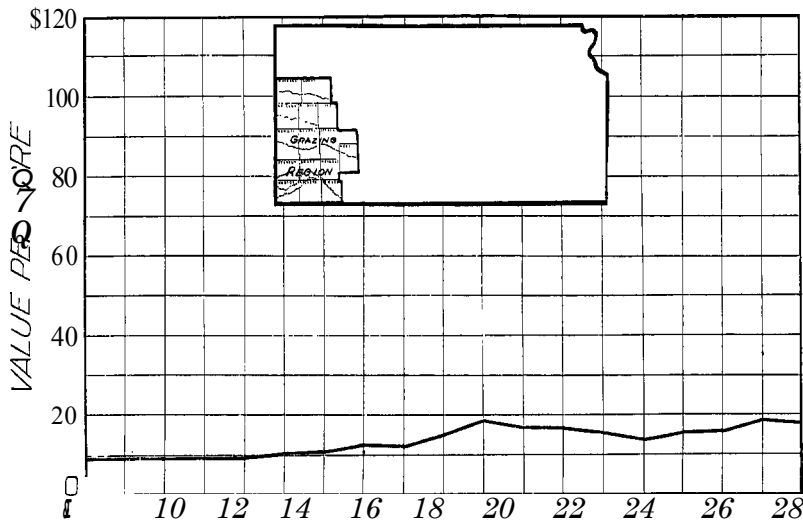


FIG. 7—The trend of land values in the western grazing region of Kansas, 1910 to 1928. (Calculated selling value was obtained from records of bona fide sales of farm real estate reported by the county assessors to the State Tax Commission.)

of some slackening in the price advance in this area. A few of the counties in the heart of this region showed price declines during the past year.

The northern part of the Kansas wheat belt presents a much different picture from the southern part. In the northern three tiers of counties, from the eastern boundaries of Republic, Cloud, and Ottawa counties to the Colorado line, there was a quite general decrease in values in 1925, 1926, and 1927 due to a series of crop failures. The reports for

1928 indicate that a definite reaction in this part of the state has set in since many of the counties which consistently showed declines in the earlier years gave evidence of marked improvement during the year.

#### **LAND VALUES IN THE FUTURE**

The factors previously mentioned are among the most important to be considered in forecasting land values. Interest rates, advantages of foreign countries in producing competing crops, and tariffs may be mentioned as other factors influencing land prices. There are others but they usually affect values in a locality and are not widespread. What light, then, do these factors shed on the general trend of land values?

On the demand side, population, the most important single item, seems destined to increase at a slower rate than in the past due to the falling birth rate and the restrictive immigration policy. Granting these facts, the present increase of about 1,700,000 persons a year in the United States does materially increase the demand for farm products and would be expected to cause higher land prices. But this has not been the case, for efficient methods have made possible a notable increase in agricultural production despite a decline in the area of crops, in the number of livestock, and in the number of persons engaged in agriculture. It is estimated that farm production in the United States in the five years, 1922 to 1926, was about 14 per cent greater than in the five years, 1917 to 1921, whereas population increased less than 9 per cent. As long as it is possible, by more efficient production, to meet the demands of the growing population on the present land area, no general trend upward in land values seems likely. It would seem, then, that for the next five to ten years, there will be no great change in land values except in some areas possessing particular advantages.