Trends in Land Values in Kansas

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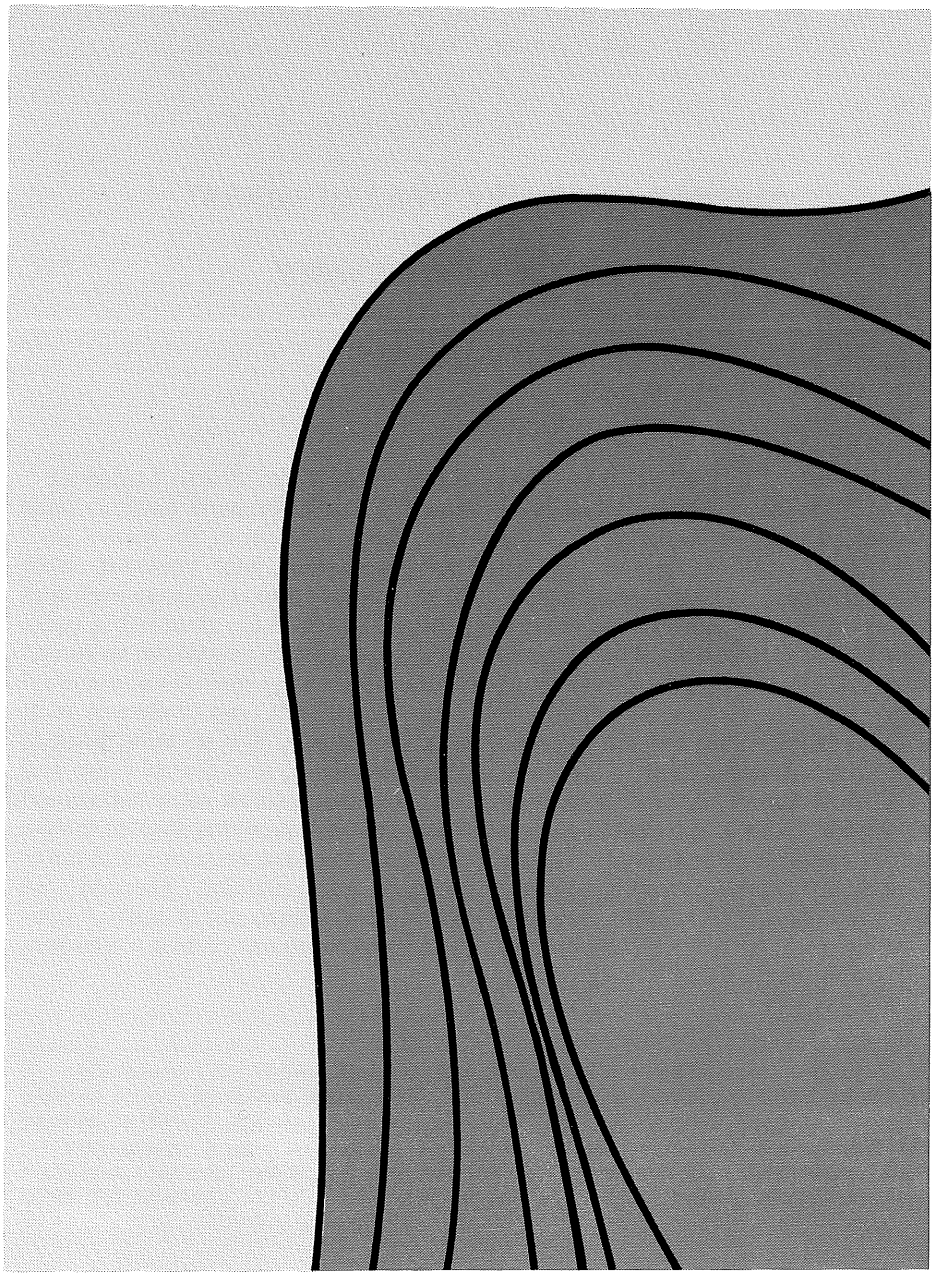

TRENDS IN LAND VALUES IN KANSAS*

Wilfred H. Pine and M. E. Johnson**

INTRODUCTION

Farmland prices in Kansas more than doubled from 1972 to 1977 and then leveled off in late 1977 and early 1978. Knowing land values or prices and their changes is quite important to many individuals, such as the starting farmer or the farmer wanting to expand his operation by buying or leasing land. If he intends to buy, the farmer wants to know what he will have to pay and how much he will have to borrow. Does the market price reflect farm earnings and/or include potential nonfarm uses? What is the relation between use value for property taxation and market value? What is the capital gain if the property is sold by the purchaser or by an heir of the estate? Is farm land a good hedge against inflation? How are creditors affected by changes in land prices?

This publication is intended to aid concerned persons or groups in answering such questions. In it, changes in Kansas land prices and related factors, along with some causes of changes, are described. Dollar values as provided by the United States Department of Agriculture are shown for Kansas and for the United States (48 states). Changes in land values by crop reporting district are expressed in index numbers (1967=100), which are relative values.

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**Economist, Kansas Agricultural Experiment Station, Manhattan, Kansas, and State Statistician, Crop and Livestock Reporting Service, U.S. Department of Agriculture, Topeka, Kansas 66683. The Economics, Statistics and Cooperative Service, U.S.D.A., provided selected unpublished data.

GENERAL TRENDS

Land values in Kansas have increased yearly, 1954 and 1970 excepted, since World War II (Table 1 for 1960 to 1978). The increase from 1959 to 1973 (14 years) averaged about 5 percent (compounded annually); the average value doubled during that period. The value almost doubled again during the next 5 years (1973 to 1978); though that increase was at nearly a 14 percent annual rate (compounded), the increase in 1978 over that for 1977 was only one percent.

Land values increased somewhat more for the 48 states than for Kansas from 1960 to 1978 (Table 1). The rate of increase in adjoining states was approximately the same as for Kansas, but the rate was higher in the Corn Belt states (Iowa, Illinois, Indiana and their neighboring states).

Net farm income per acre in Kansas remained relatively steady (between $6 and $8) for the 10 years 1960 to 1970 (Table 1). It then moved up rapidly for three years (to $28.90 for 1973), but in the next three years declined (to $10.49 for 1976).

Table 1. Average value of land and buildings per acre for Kansas and the United States and average net farm income per acre for Kansas, 1960-1978

Year	Value of land per acre[1]		Average net farm income per acre[2]
	Kansas	U.S.	
1960	$101	$116	$ 7.91
1961	102	118	8.07
1962	107	124	7.76
1963	112	130	7.08
1964	115	138	6.00
1965	123	146	7.78
1966	135	158	8.31
1967	144	168	6.71
1968	156	179	6.38
1969	162	190	7.97
1970	159	195	10.82
1971	162	204	12.45
1972	174	220	18.12
1973	199	246	28.90
1974	253	302	18.57
1975	296	342	13.22
1976	330	387	10.49
1977	376	450	
1978	380	490	

1. March 1 for 1975 and prior years; February 1 for 1976-1978.

2. Includes inventory changes and represents income of farm operators. Computed from Kansas Crop and Livestock Reporting Service estimates of acres per farm and the Economics, Statistics and Cooperative Service, U.S.D.A. net income per farm (State Farm Income Statistics, Supplement to Statistical Bulletin 576, September 1977).

Source: Farm Real Estate Market Developments, ESCS, U.S. Department of Agriculture.

FACTORS AFFECTING LAND VALUES

Income. A resource has value because of the value of goods or services it produces or is expected to produce. Land usually is capable of producing an income for a long time, perhaps indefinitely. Consequently, current land value is based on a sum of future net incomes, with those incomes discounted back to the present. Because future net incomes must be estimated and because many buyers, sellers, and others have different estimates and discount rates, values will differ. Also, factors closely associated with the land, such as nearness to a city or to a recreation area, often influence market price. Though such factors represent a form of income or expected future income, many are difficult to identify and measure. That results in risk and uncertainty and involves speculation. Such speculation is important to a buyer who expects to sell later at a higher price while not expecting future incomes to increase beyond his original estimates.

Although net farm income per acre in Kansas remained relatively constant from 1960 to 1970, land values increased 60 percent. Income almost tripled the next four years (from $10.82 in 1970 to $28.90 in 1973), while land prices increased only 25 percent. Subsequently, however, land prices in Kansas moved up sharply (27 percent in one year, 1973 to 1974), whereas income dropped sharply (to $10.49 in 1976, last year for available information). But some lag in land prices, which continued to increase to 1977, could be expected.

Net income is the result of yields, prices received, and costs. High yields and prices associated with strong foreign demand, for example, caused the increased net income in 1973. Prices of crops were high in 1974, but yields were down, livestock prices down, and costs up; so net income decreased sharply in 1974 and continued downward in 1975 and 1976. Cost of fertilizer, energy, and machinery increased sharply after 1973.

Available capital. To date (1978), funds have continued to be available to most United States farmers. Total debt claims on farm assets increased almost 50 percent in the United States between 1974 and 1978. In 1977 some rural bankers reported slower repayment of loans, slower growth in deposits, and higher loan-deposit ratios; for many, cash flow or liquidity was a problem. Total debt in the United States currently (1978) is about 16 percent of assets for the farming sector. The situation for both borrower and lender improved late in 1977 and early in 1978. Government farm programs contributed to that improvement.

Farm enlargement and technology. The average farm size in Kansas in 1978 was nearly a section (640 acres) of land, 100 acres more than 10 years ago and 200 acres more than 20 years ago. That trend, encouraged by new technology, including large farm machines, has contributed to greater efficiency in farming. Farm output in relation to input increased sharply in the United States in 1975, after a decline in 1974.[1] Although fluctuating from year-to-year, due particularly to yield variations of crops, productivity (output related to input) has continued to increase about 2 percent a year.

Enlarging a farm commonly results in increases only in variable costs (such as for seed, fertilizer, fuel); hence, more could be paid per acre for a tract to enlarge a farm than for an entire farm. At least four of five tracts purchased in

1. Changes in Farm Production and Efficiency," U.S. Department of Agriculture Statistical Bulletin No. 581, 1977.

the Northern Plains (includes Kansas) in 1977 were to enlarge farms. That, along with new technologies in farming, has increased farm efficiency; and part of the benefits of efficiency get capitalized into the value or price of the land.

Inflation and Investment. General inflation affects land prices as well as other sectors of the economy. One study showed that land prices, the consumer price index, and farm productivity follow the same general trend.[1] In January, 1978 prices in the United States were 87.2 percent above those for January, 1967. The index rose from 139.7 in January 1974 to 187.2 in January, 1978. Wholesale prices of farm products vary more than do prices paid by farmers. The trend for both has been generally upward, even though the sharp increase in prices received in 1973 and 1974 subsequently dropped somewhat. Prices paid have continued to increase since 1974.

As land prices increased, both farmers and nonfarmers found investing in land attractive. In recent years stock markets have not provided the same investment opportunities or hedges against inflation as they did previously. High farm incomes of 1973 and 1974 and the expectation of continued high incomes boosted the farm real-estate market, but the sharp decline in income in 1975 and later cooled off the land market.

Other factors. With a fixed land area and a growing population (U.S. and world), output of farm products per acre of land must increase through increases in yields by new technologies. There will be continued pressure on the land resource.

Interest in owning land and possibly in living in rural areas continues. Rising gasoline prices likely have reduced the strength of this factor, but farm or potentially nonfarm uses influence land values near cities. Problems exist in predicting nonfarm uses as well as farm returns.

1. Sutton, Terry P. and Wilfred H. Pine, "Stability of Factors Affecting Land Prices," Kansas Agricultural Experiment Station Research Paper 13, February, 1973.

FUTURE TRENDS

Trends in land values in future years will depend on the factors mentioned in the previous section. As long as there is growth in world population (which creates greater demand for farm products) and as long as there are increases in levels of living (including nutrition), demand for land for nonfarm uses, and general inflation (decreases in value of the dollar), there will be demand for land—and hence increases in land prices. New technologies and new production areas in Africa, South America, and elsewhere will tend to reduce pressure on land use in the United States, though undoubtedly factors that tend to build up pressure will have the greater impact.

LAND VALUES WITHIN THE STATE

The Census of Agriculture publishes average land prices by county every five years. (Values for Kansas counties, from 1870 through 1974, are brought together in KAES Bulletin 611, **100 Years of Farmland Values in Kansas.**) Data on land values are also acquired in the spring and fall by the Kansas Crop and Livestock Reporting Service, which uses them for estimating values by Crop-Reporting District (Figure 1). Though normally such information is not adequate to estimate values for small areas (counties), it has been used to compute index numbers showing relative values over a period of years by district. In this publication we update a series of bulletins on trends in land values in Kansas.

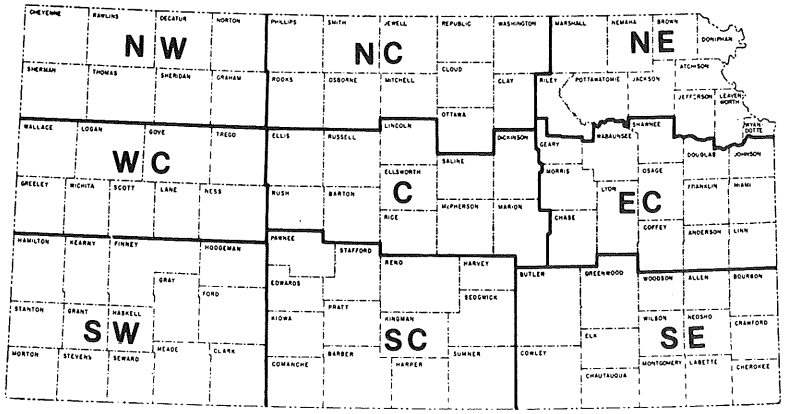

Figure 1. Crop-reporting districts, Kansas.

Sale data assembled (and in some cases analyzed) by various individuals and groups are used by appraisers and others.[1] Usually the data do not permit making reliable annual estimates for counties or other areas. The information, however, often permits one to compare prices for tracts with different characteristics.

Table 2 provides indexes of value (1967=100) of all land in farms and for pastureland only, by Crop-Reporting District, from 1962 through 1978. The value for each year is expressed as a percent of the value in 1967. Index numbers are computed from estimates of dollar values for each district (based on reports ending February 1 or March 1, as indicated). We used index numbers instead of dollar values, as reported to the Crop and Livestock Reporting Service, because of possible bias in values reported. We assumed the bias to be uniform (percentagewise) from year to year. Because the index numbers were based on a statistical sampling of the Crop-Reporting Districts, they measure the average change in the district and thus may not represent a particular farm.

Beginning in 1976, the Crop and Livestock Reporting Service has called for land values for irrigated cropland, nonirrigated cropland, and nonirrigated pasture (largely native pasture). The Service combines these on a weighted basis (acreage) to obtain values for all cropland and for all land in farms. Because only three years of data are as yet available, trends have not been computed. (Table 3 shows the values of categories of land in relation to all land in farms and ranches for the three years.)

As shown in Table 2, between 1962 and 1978 land values increased somewhat more in the north-central and northeast districts than elsewhere; increases there were fourfold. Though values increased more rapidly in eastern Kansas than elsewhere early in the 1970s, that was not so after 1974. Throughout the period irrigation in western Kansas continued to influence land values. Recently, high energy costs and possible exhaustion of water appear to be affecting prices of irrigated or potential irrigable land in western Kan-

1. "Kansas Farmland Sale Data," Kansas Society of Farm Managers and Rural Appraisers, compiled annually, is one example of a group collecting such data.

Table 2. Index numbers of values per acre of all land in farms and of pastureland, by crop-reporting district, Kansas, 1962-1978 (1967 = 100)[1]

Year	Crop-reporting district									State[2]
	NW	WC	SW	NC	C	SC	NE	EC	SE	
	All land in farms									
1962	77	80	76	70	73	81	75	70	70	75
1963	82	83	76	74	77	81	76	76	76	78
1964	87	94	86	77	82	84	81	84	78	83
1965	95	96	87	89	87	91	87	86	82	88
1966	91	102	94	98	93	95	89	99	87	95
1967	100	100	100	100	100	100	100	100	100	100
1968	105	116	103	102	106	113	117	115	110	108
1969	105	110	109	110	106	115	115	128	112	112
1970	98	94	99	115	99	110	116	141	116	110
1971	104	102	106	111	106	114	123	132	112	112
1972	112	102	110	122	112	116	144	147	123	121
1973	123	113	119	141	125	138	165	170	146	138
1974	162	164	181	176	156	169	190	201	178	177
1975	216	196	191	201	182	221	205	224	207	206
1976	250	234	231	238	223	235	225	226	209	229
1977	269	278	255	299	266	264	262	245	232	261
1978	275	263	246	280	253	269	290	265	250	264
	Pastureland									
1962	72	75	70	64	73	66	66	66	60	67
1963	76	75	77	69	77	74	69	70	67	72
1964	78	81	82	79	82	77	78	78	71	77
1965	84	80	84	87	88	87	79	85	76	83
1966	94	89	102	94	97	92	94	90	89	92
1967	100	100	100	100	100	100	100	100	100	100
1968	107	100	103	103	100	107	100	103	106	104
1969	108	99	105	109	109	108	113	123	109	111
1970	99	86	97	110	103	108	125	132	113	112
1971	104	91	103	110	103	116	134	132	113	115
1972	108	93	100	117	109	123	140	150	124	124
1973	121	98	113	125	119	126	153	164	139	134
1974	176	158	142	172	159	158	178	192	181	172
1975	200	174	168	196	178	190	197	210	209	195
1976	228	199	201	245	222	229	233	232	239	214
1977	264	230	228	265	253	249	251	249	259	238
1978	244	228	229	269	247	261	283	271	267	245

1. Based on responses of crop reporters to the Crop and Livestock Reporting Service. March 1 for 1962 through 1975 and February 1 for 1976 through 1978 for all land in farms and March 1 for pastureland rented for cash. (1976 was based on reports for 11 months.)
2. Based on values reported by ESCS, U.S.D.A.

sas. The land market showed more strength in eastern than in western Kansas in 1978.

Approximate 1967 values for land in farms for the crop-reporting districts are:

Northwest	(NW)	$106
West Central	(WC)	111
Southwest	(SW)	137
North Central	(NC)	121
Central	(C)	157
South Central	(SC)	174
Northeast	(NE)	163
East Central	(EC)	151
Southeast	(SE)	138

The 1967 value per acre may be used to compute the value per acre of all land in farms for any year for which index numbers are given (Table 2).

Table 3 shows the comparative values of categories of land for 1976 through 1978. Once a value has been calculated for all farmland, values for various categories can be estimated, provided that it is recognized they are averages for a crop-reporting district and might not apply to a specific tract. Relative values changed little during the three years. Value of all cropland, 20 to 25 percent above that for all farmland, was about the same throughout the state. Value of irrigated land was nearly double that of all farmland but varied some among the districts. Value of

Table 3. Relative values of categories of land in farms and ranches in Kansas, 1976-1978[1]

Category-Year	Crop-reporting district									State
	NW	WC	SW	NC	C	SC	NE	EC	SE	
All farmland										
1976	100	100	100	100	100	100	100	100	100	100
1977	100	100	100	100	100	100	100	100	100	100
1978	100	100	100	100	100	100	100	100	100	100
All cropland										
1976	123	121	128	117	117	119	120	123	125	122
1977	123	123	125	120	120	120	121	122	123	122
1978	123	121	124	120	119	120	119	124	124	121
Irrigated cropland										
1976	223	234	196	250	195	161	213	227	148	192
1977	228	229	193	242	210	166	216	236	186	189
1978	233	219	196	249	218	171	215	213	185	184
Nonirrigated cropland										
1976	111	103	97	111	115	118	120	127	125	113
1977	111	105	95	115	118	118	120	121	123	115
1978	109	104	93	114	116	118	118	123	124	115
Nonirrigated pasture[2]										
1976	59	63	44	74	71	64	69	81	83	69
1977	59	62	49	70	67	63	68	82	84	68
1978	60	65	49	70	68	62	72	81	83	69

1. Based on dollar values provided by Kansas Crop and Livestock Reporting Service. (Value of all farmland each year equal to 100.)

2. Mostly native pasture.

nonirrigated cropland was higher relative to all farmland in the eastern districts than nonirrigated cropland relative to all farmland in the western districts.[1] Pastureland had a relatively higher value, in relation to all farmland, in eastern than in western Kansas.

MARKET STRUCTURE AND RELATED FACTORS

Rate of sale. The number of farm real estate transfers in Kansas decreased from 52.3 in 1974 to 30.2 in 1978 per 1,000 farms (Table 4). Although land prices continued to increase, lower farm incomes discouraged potential farm buyers. Also, land owners were putting high prices on their lands. Foreclosures continued at a low level. During the period some farmers used land for collateral to obtain loans to finance nonreal-estate purchases and others reported that they might sell some land to meet maturing obligations. Recent improvement in the farm sector probably will prevent any large liquidation.

Market participants. Little change has occurred as to who is buying or selling farm real estate. In the Northern Plains states (including Kansas) about 80 percent of the buyers are owner-operators or tenant-operators. We have been receiving inquiries about foreign buyers of farm real estate. To date little or no information is available.

1. Weighting caused part of the differences, particularly the irrigated acreage.

Table 4. Number of farm real-estate transfers per 1,000 farms, by various methods in Kansas, for years ending March 1, 1960-1974 and February 1, 1975-1978.

Year	Voluntary sales and trades	Foreclosures	Other[1]	Total
1960	19.9	0.5	16.5	36.9
1961	19.8	0.7	19.2	39.7
1962	22.0	0.6	17.3	39.9
1963	27.5	0.4	17.6	45.5
1964	23.9	1.3	17.7	42.9
1965	21.7	1.3	17.0	40.0
1966	25.0	0.5	15.7	41.2
1967	24.6	0.4	14.4	39.9
1968	27.7	1.4	15.0	44.1
1969	23.4	1.0	17.9	42.3
1970	19.8	0.8	13.2	33.8
1971	17.9	1.0	14.4	33.3
1972	26.0	0.7	19.2	45.8
1973	35.4	1.0	18.2	54.5
1974	45.0	0.5	6.8	52.3
1975	22.7	1.5	10.7	34.8
1976	17.7	0.6	10.1	28.4
1977	17.7	0.4	11.1	29.2
1978	18.6	0.9	10.7	30.2

Source: Farm Real Estate Market Developments, ESCS, U.S.D.A.
1. Estate settlements, gifts, tax sales, and other transfers.

Financing land purchases. About five of six voluntary transfers of land in Kansas in 1977 involved credit, with the average debt at 78 percent of the purchase price (Table 5). Both figures were down slightly from 1976, but still much above 1960. The Federal Land Banks and insurance companies during the period increased their roles in extending credit for land purchases in the Northern Plains states. Sellers help finance more than 40 percent of the borrowers, mostly through installment sale contracts. Although the farm real estate debt in Kansas was only 10.7 percent of the value of farm real estate in 1977 (Table 6), some of those who started farming and purchased land and other farm assets in 1973 and 1974 or more recently are faced with burdensome financial problems.

Table 5. Credit-financed transfers of Kansas farm real estate, percentage of all voluntary transfers, and amount of debt in relation to purchase price, for years ending March 1, 1960-1977.

Year	% of all voluntary transfers	Debt as % of purchase price
1960	55	61
1961	54	64
1962	60	66
1963	61	68
1964	61	72
1965	61	69
1966	67	78
1967	74	71
1968	74	72
1969	78	75
1970	76	76
1971	80	72
1972	82	72
1973	85	76
1974	81	82
1975	86	79
1976	87	81
1977	83	78

Source: ESCS, U.S. Department of Agriculture

Rental rates. Rental payments represent returns to the landowner and would be expected to influence land prices. However, landowners may expect to raise rents as land prices increase. Rental rates for farms rented wholly for cash and pastureland rented for cash increased somewhat less rapidly than did land values after 1971 (Table 7). Rental rates for pastureland as a percentage of the value of the land remained consistently lower than for all land in farms.[1]

Taxes. Taxes affect net returns and in turn are expected to affect land values. After a small decrease in 1973 real estate taxes per acre in Kansas continued to increase (Table 8). Land values increased while taxes were increasing, which might suggest that land prices would have increased even more if taxes per acre had decreased. If use-value assessment reduces taxes and land prices respond quickly, current owners would receive the benefits of lower taxes. Taxes per $100 of land value have decreased since 1970.

1. Described more fully in "Cash Farm Rental Rates in Kansas," KAES Bulletin 594.

Table 6. Value of farm real estate, debt, and ratio of debt to value, Kansas, 1960-1978.

Year	Total value of land and buildings	Real estate debt Jan. 1	Ratio debt to value
	(million $)	(million $)	%
1960	5,062	356	7.0
1961	5,111	372	7.3
1962	5,351	400	7.5
1963	5,611	431	7.7
1964	5,782	499	8.6
1965	6,199	585	9.4
1966	6,745	660	9.8
1967	7,218	727	10.1
1968	7,798	838	10.7
1969	8,084	960	11.9
1970	7,934	1,026	12.9
1971	8,051	1,061	13.2
1972	8,613	1,116	13.0
1973	9,811	1,243	12.7
1974	12,397	1,413	11.4
1975	14,474	1,544	10.7
1976	16,104	1,733	10.8
1977	18,311	1,966	10.7
1978	18,430		

Source: ESCS, U.S. Department of Agriculture.

Table 7. Farms and pastureland rented for cash, average value and cash rent per acre, and rent as a percentage of value, 1960-1978, Kansas[1]

	Farms rented wholly for cash			Pastureland rented for cash		
Year	Value per acre	Cash rent per acre	Ratio, rent to value	Value per acre	Cash rent per acre	Ratio, rent to value
	$	$	%	$	$	%
1960	111	7.25	6.5	70	3.50	5.0
1961	118	7.10	6.0	67	3.25	4.9
1962	116	7.90	6.8	73	3.70	5.1
1963	121	8.45	7.0	78	4.00	5.2
1964	126	8.55	6.8	84	4.20	5.0
1965	135	8.60	6.4	90	4.45	5.0
1966	170	10.10	5.9	101	4.88	4.8
1967	155	9.07	5.8	105	4.81	4.6
1968	175	10.24	5.8	109	5.17	4.8
1969	176	10.48	6.0	122	5.96	4.9
1970	193	11.87	6.2	123	6.15	5.0
1971	179	11.71	6.5	125	6.05	4.8
1972	185	12.02	6.5	136	6.39	4.7
1973	216	13.65	6.3	144	6.84	4.7
1974	274	17.06	6.2	189	8.60	4.6
1975	319	18.63	5.8	215	9.30	4.3
1976	344	20.02	5.9	235	9.40	4.0
1977	374	20.29	5.4	262	9.80	3.7
1978	415	20.52	4.9	270	10.50	3.9

1. As reported March 1 or April 1 for calendar year indicated.

Source: ESCS, U.S.D.A. (Kansas Crop and Livestock Reporting Service for 1978)

Table 8. Farm real estate taxes in Kansas, 1940-1977.

Year	Tax per acre		Tax per $100 full value
	$	Index[1]	$
1940	.36	21	1.23
1945	.41	24	.86
1950	.72	43	1.09
1955	..92	54	1.14
1960	1.16	68	1.23
1965	1.30	77	1.06
1970	1.98	117	1.31
1971	2.05	121	1.27
1972	2.02	119	1.15
1973	1.96	116	.96
1974	2.29	135	.86
1975	2.36	140	.75
1976	2.48[2]	147	.75[3]
1977	2.66[2]	158	.71[3]

Source: Farm Real Estate Taxes, Recent Trends and Development, RET-12, ESCS, U.S. Department of Agriculture.

1. 1967 = 100
2. Estimated from change in total taxes on rural land and improvements reported by Property Valuation Division, State Department of Revenue.
3. Estimated from value per acre and estimated tax per acre.

Agricultural Experiment Station
Kansas State University, Manhattan 66506

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