Estimating Past
Farm Real Estate Values
with Limited Information

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An estimate of farm real estate value at a past time is sometimes needed, usually for tax purposes. The data with which to begin are sales records either of the real estate in question or of similar real estate. But even if such data are not available, estimates may still be made.

Published localized estimates of farm real estate value don't exist for Missouri. However, the Economic Research Service of the United States Department of Agriculture has over the years collected and published state average data that can be used for developing necessary estimates. These data are published in the series, *Farm Real Estate Market Developments* (FREMD), and may be ordered from Superintendent of Documents, U.S. Government Printing Office, Washington D.C. 20402.

Table 1 is straightforward. On the average, farm real estate in Missouri was estimated to be worth $64 in 1950. One way of estimating the value of a particular piece of farm real estate is to assess how it compared to the average for the state. If the land in question is good Missouri river bottom land then the probability is high it was worth more than the average $64 per acre. There are no published figures to guide us in how substantial an adjustment is appropriate.

If the date for which estimates are to be made is after 1911, approximations of average value can also be derived from an index series published by FREMD (Table 2).

If we know that in 1972 the farm real estate in question was worth $385 per acre we can solve for its value in any year. Of course we must assume that this real estate's value behaved as did the average in Missouri.

$$\frac{\text{Index for year value is known}}{\text{Value/acre for year in which value is known}} = \frac{\text{Index for year in which value is sought}}{X = \text{Value/acre for year in which value is sought}}$$

$$\frac{50.3 \text{ From Table 2 (1972)}}{\$385 \text{ Known independently (1972)}} = \frac{10.5 \text{ From Table 2 (1912)}}{X = \text{Estimate sought (1912)}}$$

We can solve this equation for X.

$$(50.3)(X) = (385)(10.5)$$
$$50.3X = 4042.5$$
$$X = \$80.37$$

This produces an estimate of $80 per acre for the real estate in 1912.

Another approach is to compare a known value to corresponding average values in Missouri and make an estimate of an earlier relationship on that basis.

$$\frac{\text{Value/acre for year in which value is known}}{\text{Average per acre value of Mo. for year in which value is known}} \times \frac{\text{Average Mo. per acre value for year in which farm value is sought}}{} = Y = \frac{\text{Value per acre of farm for year in which value is sought.}}{}$$

$$\frac{\$385 \text{ known independently (1972)}}{\$261 \text{ from Table 1 (1972)}} \times \frac{\$53 \text{ from Table 1}}{1912} = Y$$

We can solve this equation for Y

$$Y = (1.475)(53) = \$78.18$$

Note that the $78.18 estimate differs from the earlier $80.37 estimate. The reasons are rounding error and the fact Tables 1 and Tables 2 are each derived by a different procedure. Even so, the procedures used here allow "ball park" estimates.

If the assumption that the value of the farm real estate in question behaved as did the average in Missouri can't be used, the adjustments considered to be appropriate can be made. In making adjustments, take care to recognize that many things change value. The hard surfacing of a road, a change

Table 1. Average Farm Real Estate Value (Land and Buildings) per Acre, Missouri, 1912-1985*

Year		Year	
1912	$ 53	1949	$ 64
1913	54	1950	64
1914	56	1951	75
1915	55	1952	85
1916	58	1953	82
1917	61	1954	79
1918	66	1955	82
1919	72	1956	87
1920	88	1957	94
1921	83	1958	102
1922	71	1959	110
1923	69	1960	115
1924	63	1961	120
1925	61	1962	127
1926	57	1963	132
1927	55	1964	145
1928	54	1965	155
1929	54	1966	168
1930	53	1967	186
1931	46	1968	200
1932	39	1969	217
1933	32	1970	224
1934	33	1971	236
1935	33	1972	261
1936	34	1973	294
1937	34	1974	384
1938	33	1975	396
1939	31	1976	456
1940	32	1977	548
1941	32	1978	641
1942	35	1979	726
1943	39	1980	902
1944	43	1981	990
1945	48	1982	945
1946	53	1983	856
1947	59	1984	856
1948	60	1985	659

*As of March 1 before 1976, February 1 1976-1981 and April 1 in 1982 and subsequent years.
Source: *Farm Real Estate Market Developments* and Farm Real Estate Historical Series Data: 1850-1970, ERS, USDA.

Table 2. Index of Average Farm Real Estate Value per Acre, Missouri 1912-85* (1977 = 100).

Year	Index	Year	Index
1912	10.5	1949	13.4
1913	10.9	1950	13.5
1914	11.2	1951	15.7
1915	11.0	1952	17.6
1916	11.7	1953	17.7
1917	12.4	1954	16.7
1918	13.5	1955	17.4
1919	14.8	1956	18.0
1920	18.1	1957	19.1
1921	16.9	1958	20.4
1922	14.4	1959	21.8
1923	13.8	1960	22.3
1924	12.7	1961	22.8
1925	12.1	1962	24.0
1926	11.3	1963	24.8
1927	10.7	1964	26.9
1928	10.4	1965	28.7
1929	10.3	1966	31.5
1930	10.0	1967	35.2
1931	8.6	1968	38.2
1932	7.2	1969	42.0
1933	5.9	1970	43.6
1934	6.2	1971	45.8
1935	6.3	1972	50.3
1936	6.4	1973	56.2
1937	6.6	1974	72.8
1938	6.4	1975	75.2
1939	6.3	1976	84.8
1940	6.4	1977	100
1941	6.5	1978	115
1942	7.2	1979	127
1943	8.0	1980	154
1944	8.9	1981	165
1945	9.9	1982	153
1946	11.1	1983	133
1947	12.2	1984	133
1948	12.5	1985	102

*As of March 1 before 1976, February 1, 1976-1981 and April in 1982 and subsequent years.
Source: *Farm Real Estate Market Developments.*

in school district, the location of a new closer road, the use of nearby land—all influence value.

The method outlined here requires access to current issues of FREMD if values of the real estate are known only for later than 1985.

There are many situations in which the methods outlined here don't have the necessary precision. If this is the case an explicit appraisal may be necessary. For information on farm appraisal see UMC Guide 405, "Farm Real Estate Appraising."