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Alabama Farm Real Estate: A Comparison of Returns and Values Since 1970

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Alabama's farm real estate market has realized large value increases in recent years. Numerous factors seem to be influencing the farm real estate market such as historically low interest rates, the popularity of 1031 Exchanges, the desire for recreational land, the satisfaction received from the amenities of "rural" living, and the search for investment opportunities that will possibly outperform the stock market and other potential investments. We thought it might be useful to evaluate these changes in the Alabama farm real estate market since 1970. This time frame includes several important segments: a so-called growth period (1970-81), the farm crisis period (1982-87), and the current period (1988-07). We will also look at variations in farm real estate values for the 2000's (2000-07) and for the entire period (1970-07).

BACKGROUND

Returns from farmland ownership accrue from two primary sources: annual net income generated by the use of farm real estate and the appreciation in farm real estate values over time. In this analysis, we will use annual USDA data for cash rents to represent cash returns to farm real estate and annual USDA land value estimates for farm real estate values. Cash rental rates are a gross return, not a net return, because landlord expenses for such items as insurance, property taxes, repair and maintenance, management (possibly 2-12% of gross return depending on the level of involvement of the landlord), etc. have not been deducted. Thus, the estimate may somewhat overstate net return. Also, government transfers related to the real estate that may accrue to the landlord are not included. (Note that share rental is common in Alabama. However, it is not evaluated in this article because of the lack of data. With share rental the landlord and tenant share market price and production risks, while with cash rental the tenant totally bears both risks.)

The rate of cash return (percent) each year is calculated by dividing the cash rental rate by the market value of real estate. Similarly, the annual change in real estate value is calculated as a percentage change from year to year. Total return to farm real estate ownership per year is the sum of these two items.

Some farm real estate owners and potential owners are interested in how the market has performed relative to inflation. A frequently asked question is: Is farm real estate a good hedge against inflation? Thus, inflation adjusted (real) real estate values are calculated using the Consumer Price Index (CPI) to adjust for inflationary pressures (1982-84=100). Real rates of

return represent the difference between the total annual return (from cash rental and value changes) and the inflation rate.

CHANGES IN VALUES AND RETURNS: 1970-2007

Cash Returns: The rate of cash return (rent-to-value) has declined fairly steadily over the time frame from roughly the 6% level in the early 1970's to about 1% recently as shown in Table 1. Cash return averaged 3.1% annually for the period. Basically, cash rental levels have been fairly static while real estate values have increased. Generally, one would expect the rental rate for an asset to increase as the value of that asset increases. However, this relationship has not occurred. Is this the result of a lack of information concerning value changes on the part of landlords or is it simply the market operating? That is, there is an aging farmer population, more farmer retirements, and more people leaving agriculture coupled with fewer tenants. As a result, there is more farmland available for rent than tenants desire to rent. Thus, cash rental rates are static or depressed. Depressed commodity prices resulting from well supplied markets due to, among other factors, advances in technology and globalization have likely also had an impact. Government programs may have also affected rental rates.

Real Estate Values: Returns generated from changes in farm real estate values were quite variable, ranging from a high of 29% for 2005 to a low of -6.7% in 1983 (see Table 1). Over the entire period, farm real estate value changed an average of 8.0% annually (see Table 2). The most negative changes in value were noted during the 1980's farm financial crisis. Rapid, double digit, increases have been experienced during recent years.

Total Returns: Total return (annual rate of cash return plus annual percent change in real estate value) averaged 11.1% annually for the 1970-2007 period, with a range from -4.0% in 2002 to 30.2% in 2005. Annual real returns, adjusted for inflation using the CPI (1982-84=100), ranged from -6.2% in 1983 to 26.8% in 2005. Over the period, negative real returns were noted for six years (1982-84, 1987, 1991, and 2002) and the annual real return for the period averaged 6.4% (see Table 2). Purchase of farm real estate was a good hedge against inflation for the 1970-2007 period. While inflation increased 4.4 times, real estate values increased 14.5 times.

VALUE CHANGES BY TIME FRAME

Farm real estate values and rates of return varied substantially over the 38 years evaluated (see Table 2). Four-time periods were selected for further analysis: farm growth period (1970-81); farm crisis period (1982-87); current period (1988-07); and the 2000's (2000-07).

Farm Growth Period (1970-81): Between 1970 and 1981, farm real estate value changes averaged 14.2% and total return averaged 19.1%. Cash rental levels roughly doubled while real estate values almost quadrupled. Large value increases were noted for 1974 (24%), 1979 (21.3%), and 1980 (22.1%). Real, inflation adjusted, total returns averaged 11.2% for the period.

Farm Crisis Period (1982-87): Macroeconomic policies and problems with world economies had major adverse impacts on the farm sector during this period. Nationally, per acre farm real estate values declined from \$823 to \$599 (-27.2%), and average of -5.4% annually. In Alabama, per acre land values declined from \$885 to \$786 (-11.2%), an average of -2.2% annually. Rent-to-value ratios held fairly constant during the period at roughly 3%. Thus,

average annual returns (not adjusted for inflation) were still positive at 0.9%. However, in inflation adjusted terms, average annual total returns were -2.9%.

Current Period (1988-07): After the farm crisis, land values resumed their upward climb, although at a somewhat slower pace than the growth period for most years. Cash rent-to-value averaged 2% annually, while real estate value increases averaged 7.3% annually, giving a 9.3% average annual total return. In inflation adjusted terms, total returns averaged 6.3% per year.

The 2000's (2000-07): Rent-to-value levels during the period declined from 1.5% to 1.0% as cash rents only increased slightly while real estate values showed substantial strength with average annual changes being 9.7%. Total return averaged 11.1% annually and, with fairly benign inflation, real total returns averaged 8.3%.

VALUES AND RETURNS FOR SELECTED PURCHASE DATES

Rates of return on farmland investments can vary greatly depending on purchase timing. Table 3 evaluates three different purchase dates (beginning of the growth period, 1970; end of the growth period, 1981; and end of the farm crisis period, 1987). Resulting potential comparative returns are noted for 2007.

Start of 1970 Growth Period Purchase: A typical Alabama farm could have been purchased for \$200 per acre in 1970 (see Table 3). Given an average price of \$3,100 in 2007, values increased 1,450% over the period or 40.3% per year. Average annual cash return was 12.2% for the period—calculated as the cash rental rate per year divided by the \$200 original price.

End of 1970 Growth Period Purchase: Given purchase at the end of the growth period (1981) when value was \$910 per acre, the average annual increase in value would have been 9.6% (see Table 3). The average annual cash return over the period was 2.2%.

End of Farm Crisis Period Purchase: Assuming perfect timing and purchase at the bottom of the market for the farm crisis period (1987), typical land could have been purchased for \$786 per acre (see Table 3). Average annual return from value appreciation would have been 15.5%, while annual cash return would have been 2.4%.

WHAT ABOUT PURCHASE OF ALABAMA FARM REAL ESTATE TODAY

Should you purchase Alabama farm real estate today? As we noted, timing is very important. But, we are at a historic high in value, with three recent years of rapid value appreciation. Are we at a point like 1981, just prior to a period of decline in values or are we at a point like 1970 which was part of a continuum of value increases. On the non-agricultural side of the market, barring fairly major economic change, the factors noted at the start of the article should, in the near term, persist – relatively low interest rates, the desire for recreational land and the amenities of rural living, plus the search for feasible alternatives for investment funds. On the agricultural side of the market, conditions have actually improved. Commodity prices and potential farm income have increased with the interest in bio-fuels which may stimulate farmer demand for farmland. While corn and soybeans are not currently major enterprises in the State, \$4.00/bu. corn and \$9.00/bu. soybeans can stimulate interest. But, will these price levels last? What do you think? The current energy policy adopted by the U.S. Congress will likely provide price support for these commodities for the near term.

If you enter the market today, what would you expect? We have noted that a major portion of returns to land ownership has been the result of value appreciation. What does the rent or income component look like? What value levels are supported by it? We can analyze this question using the value formulation: $V = I/r$; where V = value, I = net income, and r = a capitalization rate. We have used the cash rent in the prior analysis to represent net income. Transposing the equation, we can solve for the capitalization rate (cap. rate): $r = I/V$, or, as we have calculated, the rent-to-value level. Note that this value (a market derived cap. rate) declined over the period from 6.6% in 1970 to 1.0% in 2007.

Let us use a 3.0% capitalization rate, roughly the midpoint for the period, for our value analysis. What values will the cash rents (proxies for net income) support? For 1970, it was $13.20/.03 = \$440$ and for 2007, it was $30.30/.03 = \$1,010$. That is, in 1970, the income generating capacity of the real estate supported more than double the value level ($440/200=2.2$). In 2007, the farm earning capacity, supported roughly one-third of the value ($1,010/3,100=0.325$). The influences of the non-agricultural sector and value appreciation expectations in Alabama's farm real estate market are large. That is, today's values are not largely dependent on expectations of farm earning capacity, the primary base for long-term value expectations.

Using more enterprise specific cash rents and the fairly conservative 3% cap. rate lends some value information relative to particular land uses. The 2006 Alabama Farm Analysis Association Summary Report provides 5-year average (2001-05) cash rents for cotton and peanuts at \$49.00 and \$75.85, respectively. Using the value formulation ($V=I/r$ with $r=.03$), these proxies for net income translate into land values of \$1,633 per acre for cotton and \$2,528 per acre for peanut land. At a 4% capitalization rate, estimated farm income oriented land values are \$1,227 and \$1,896 per acre, respectively. These amounts remain less than USDA value estimates which continues to support the importance of non-agricultural factors in the Alabama farm real estate market. They also show the sensitivity of land value estimates to the choice of capitalization rate.

Good luck as you evaluate the purchase, or sale, of Alabama's farm real estate. The market is dynamic and there are a myriad of factors that influence it – many outside the realm of agriculture. We hope the information presented will add to your understanding of the Alabama farm real estate market and help you make more informed resource allocation decisions.

Table 1. Annual Per Acre Cash Rent, Real Estate Value, and Returns to Farm Real Estate Ownership, Alabama, 1970-2007

Year	Annual Cash Rent/Ac ^a	Real Estate Value/Ac ^a	Cash Rent as % of Value	Percent Change in Value	Annual Percent Return	Percent Change, CPI ^b	Real Percent Return
2007	30.30	3,100	1.0	12.7	13.7	3.1	10.6
2006	29.50	2,750	1.1	14.6	15.7	3.2	12.4
2005	29.50	2,400	1.2	29.0	30.2	3.4	26.8
2004	26.10	1,860	1.4	5.7	7.1	2.7	4.4
2003	26.80	1,760	1.5	3.5	5.0	2.3	2.7
2002	27.00	1,700	1.6	-5.6	-4.0	1.6	-5.6
2001	27.00	1,800	1.5	7.1	8.6	2.9	5.7
2000	25.00	1,680	1.5	10.5	12.0	3.4	8.6
1999	23.00	1,520	1.5	5.6	7.1	2.2	4.9
1998	25.30	1,440	1.8	5.9	7.7	1.6	6.1
1997	25.80	1,360	1.9	3.0	4.9	2.3	2.6
1996	27.40	1,320	2.1	4.8	6.9	3.0	3.9
1995	24.40	1,260	1.9	12.5	14.4	2.8	11.6
1994	22.40	1,120	2.0	12.0	14.0	2.6	11.4
1993	27.20	1,000	2.7	6.8	9.5	3.0	6.5
1992	24.90	936	2.7	8.3	11.0	3.0	8.0
1991	23.20	864	2.7	-2.9	-0.2	4.2	-4.4
1990	28.40	890	3.2	5.1	8.3	5.4	2.9
1989	25.70	847	3.0	5.9	8.9	4.8	4.1
1988	29.30	800	3.7	1.8	5.5	4.1	1.4
1987	23.80	786	3.0	-2.1	0.9	3.6	-2.7
1986	24.60	803	3.1	0.8	3.9	1.9	2.0
1985	27.10	797	3.4	-3.3	0.1	3.6	3.5
1984	24.30	824	3.0	-0.2	2.8	4.3	-1.5

Table 1. Continued

Year	Annual Cash Rent/Ac ^a	Real Estate Value/Ac ^a	Cash Rent as % of Value	Percent Change in Value	Annual Percent Return	Percent Change, CPI ^b	Real Percent Return
1983	30.60	826	3.7	-6.7	-3.0	3.2	-6.2
1982	30.10	885	3.4	-2.8	0.6	6.2	-5.6
1981	29.00	910	3.2	16.7	19.9	10.3	9.6
1980	28.30	780	3.6	22.1	25.7	13.5	12.2
1979	25.60	639	4.0	21.3	25.3	11.3	14.0
1978	23.50	527	4.5	10.5	15.0	7.6	7.4
1977	22.60	477	4.7	12.2	16.9	6.5	10.4
1976	19.30	425	4.5	16.8	21.3	5.7	15.6
1975	17.70	364	4.9	10.0	14.9	9.1	5.8
1974	16.60	331	5.0	24.0	29.0	11.0	18.0
1973	15.20	267	5.7	13.1	18.8	6.2	12.6
1972	14.20	236	6.0	4.4	10.4	3.2	7.2
1971	12.90	226	5.7	13.0	18.7	4.4	14.3
1970	13.20	200	6.6	7.0	13.6	5.7	7.9

^aSource: USDA Annual Survey of Agricultural Land Values and Cash Rents. Cash rental rates for 1994-2007 are averages of cropland and pastureland rental rates.

^bConsumer Price Index (CPI) changes were derived from data provided at: <http://ftp.bls.gov/pub/special.requests/cpi/cpiiai.txt>. The 2007 percent change was estimated based on data through July 2007.

Table 2. Average Annual Per Acre Returns to Farm Real Estate by Selected Time Period, Alabama

Time Period	Cash Rent as Percent of Value	Percent Change in Value	Annual Percent Return ¹	Real Percent Return ²
Farm Growth Period (1970-81)	4.9	14.2	19.1	11.2
Farm Crisis (1982-87)	3.3	-2.4	0.9	-2.9
Current Period (1988-07)	2.0	7.3	9.3	6.3
The 2000's (2000-07)	1.4	9.7	11.1	8.3
Entire Period (1970-07)	3.1	8.0	11.1	6.4

¹The annual percent return is the sum of the cash rent as a percent of value and the percent change in the value for the time period evaluated.

²The real percent return was estimated by adjusting the annual percent return using the Consumer Price Index.

Table 3. Estimated Returns to Farm Real Estate Purchases by Selected Ownership Periods, 1970-07, Alabama

Ownership Period	19XX Initial Purchase Price/Ac	2007 Expected Sale Price/Ac	Avg. Annual Percent Value Increase	Avg. Annual Rent-to-Value
Start of growth period to present (1970-2007)	200	3,100	40.3	12.2
End of growth period to present (1981-2007)	910	3,100	9.6	2.2
End of farm crisis period to present (1987-2007)	786	3,100	15.5	2.4