

Resources & Environment



Jack Harrison

Value of Farm Real Estate Climbs Again In 1997

Agricultural real estate values in the U.S. continued to climb during 1996. USDA's estimate for the national average value of all agricultural real estate as of January 1, 1997 is \$942 per acre, up 5.8 percent from a year earlier. The major factor in the value of most agricultural land continues to be the long-run returns expected from commodity production. However, nonfarm factors, such as pressure from residential and commercial development, or the potential for recreational use, play an increasingly important role.

The 1997 average per-acre agricultural real estate value (land and buildings) was up 3.8 percent, in inflation-adjusted terms, from 1996. Several states showed double-digit growth, with the largest increase estimated at 11 percent. Average values for the Lake States, Corn Belt, Mountain, and Pacific regions all increased at rates that equaled or exceeded the national average. No states showed a decrease in average farm real estate value, though several were steady or up only slightly over 1996.

State average cash rents for cropland and pasture in 1997 were generally up from 1996. Only four states registered a decline in irrigated or nonirrigated cropland. The Appalachian region reported the largest gains in cropland rents, followed by the Lake States region.

USDA surveys, based on information obtained from farm operators, have generally been consistent with the results of regional surveys which rely on alternative procedures and respondents. For example, recent information from regional Federal Reserve surveys of agricultural lenders indicate that agricultural real estate values have continued to increase in 1997. Results from the Florida Land Value Survey, conducted by the University of Florida, note that the state has struggled recently with poor market prices for citrus products and strong competition from foreign vegetable producers, which have been reflected in a leveling of average prices for farmland. These conditions most likely will continue to impede increases in average land values in the southern and central parts of Florida.

The increase in agricultural real estate values during 1996 marks the 10th consecutive year that values have risen since the low point in the national average in 1987 following the farm financial crisis of the 1980's. Since 1987, the national average agricultural real estate value has risen 57 percent, which translates into a 15-percent gain when adjusted for inflation.

While the national average value bottomed out in 1987 at \$599 per acre, a number of states had reached their lows before then, and many others, located mostly in the West, did not reach their lowest levels until several years later. Four states in the Northeast never actually experienced a decline in agricultural real estate values during the 1980's.

Patterns of growth in farm real estate values reflect the diverse nature of agriculture across the U.S. States in the Northeast, Lake States, Corn Belt, Northern Plains, Appalachian, and Southeast regions all began their recoveries in 1987 or before. Since then, four of these regions have exhibited gains of 20 percent or greater, in inflation-adjusted terms, for the period. The other two, the Southeast and Northern Plains, showed growth of 17 and 11 percent.

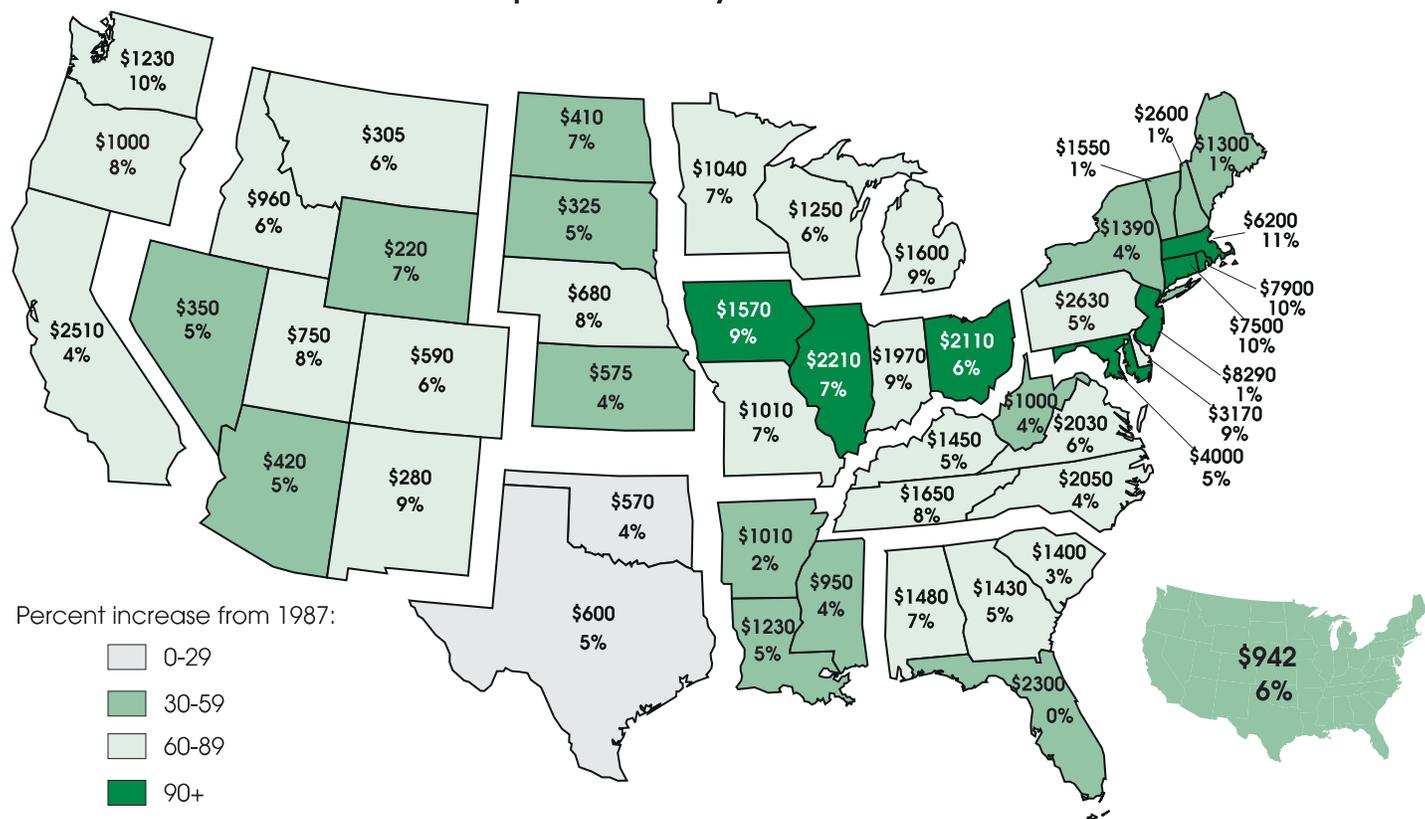
States in the western regions followed a different trend. Texas, Oklahoma, and several of the Mountain States did not reach their low values until the early 1990's. Agricultural real estate values in Texas in particular have tended to move in a countercyclical pattern. Values in the state are currently 41 percent, in inflation-adjusted terms, below the high value of 1985, a year when most other states were already experiencing falling values. The inflation-adjusted value in 1997, however, is 10 percent above the low set for the state in 1993, when most other states had already shown significant recovery.

Hedonic Analysis of Farmland Values

Hedonic analysis is a method of economic modeling especially suited to valuing the various characteristics that are bundled in one marketable asset or product. This method is often used to study house sales, since a house is sold as a bundled package of individual characteristics (e.g., square footage, number of rooms, proximity to schools). Hedonic analysis facilitates the determination of underlying implicit values (prices) that each characteristic contributes to the overall value of the bundle making up a particular good or service.

Application of hedonic methods to the analysis of farmland is straightforward, as farmland also consists of bundled characteristics that are valued and sold as a unit. A parcel of farmland consists of unique amounts of various characteristics that contribute to agriculture-related returns, including soil properties, climate, suitability for high-value crops, potential for irrigation, and eligibility for enrollment in government programs. Farmland may also possess other characteristics that are not agricultural in nature yet contribute to the value of the land, such as proximity to urban areas, recreation sites, or major highways, or location in a particularly scenic area.

Farmland Values Rose in Nearly All States in 1997, and Are Up Dramatically from 1987 in Most States



Average value per acre on January 1, 1997, and percent increase from 1996

Economic Research Service, USDA

Farm & Nonfarm Factors In Real Estate Values

The causes of differences in land values among states and regions are as varied as agricultural land itself. Some of the difference is clearly the result of varying market and growing conditions that favor certain commodities at given times, and consequently the states and regions that produce them. For example, strong export markets for grains have contributed to optimistic earnings expectations for land suited to growing grains.

While a major component of the value of farmland in many areas reflects the returns expected from commodity production, nonfarm factors play a primary role in other areas. USDA's Economic Research Service (ERS) has been study-

ing agricultural land values in order to determine the influences of agricultural and nonagricultural factors on this critical asset. New research using hedonic analysis, a method for valuing the individual attributes of one marketable asset or product, has helped to determine the relative land value contributed by characteristics such as soil properties, climate, and proximity to urban areas.

Not surprisingly, the relative contributions of the various agricultural and nonagricultural characteristics to overall value vary significantly across the nation. A mild climate, plentiful precipitation, and productive soils tend to be positively related to the value of the land. The existence of fruit or nut trees, and vineyards, contributes additional value to a parcel.

The presence of an irrigation infrastructure on a parcel of farmland is a strong contributor to the value of that parcel. This influence is especially strong in many western states, where irrigation is vital to the viability of any agriculture enterprise. In the East, where irrigation is less essential, it provides a means of reducing risk by limiting the impact of fluctuations in precipitation that naturally occur.

The states with the greatest reliance on irrigation, and thus where it has the largest impact on land values, can be found in the Mountain region. Irrigation is important but less vital to production in the Pacific and Northern and Southern Plains regions. While land values in the Pacific region tend to be higher on average than those in the Mountain region, the

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About the Survey

USDA's June Agricultural Survey (JAS), conducted by the National Agricultural Statistics Service (NASS) and the source of farmland values used in ERS research, is based on an area frame which divides the U.S. into "segments" representative of land uses across the nation. This area frame design, coupled with NASS's georeferencing of sample segments with latitude and longitude information, makes it possible to link farmland value data with other geographically based data sets, notably USDA's National Resources Inventory (NRI) and the Census of Agriculture. These data sets contain considerable information on farm production practices and site-specific environmental conditions.

As a result, the JAS is not only a survey of crop acreage, livestock inventories, and farmland values, but also provides the material for a rich data set on resource use and production practices for the entire nation. These data will facilitate research on land, resource, and environmental issues important to the agricultural community.

This is the first year that NASS has produced the current-year estimates of farm real estate value that update the USDA series on agricultural real estate values. Previously, ERS provided USDA's state-level land value estimates using the Agricultural Land Values Survey (1984-94) and the JAS (1995-97). NASS was primarily responsible for survey design and implementation, while ERS participated in questionnaire design and prepared estimates. This year and in future years, NASS will prepare the estimates as well as conduct the survey.

State estimates for 1997 are available from NASS by calling the order desk at (800) 999-6779 or the USDA AutoFAX at (202) 720-2000. Estimates are also available on the NASS Home Page at <http://www.usda.gov/nass/>.

proportion of the land value contributed by irrigation is much greater in the Mountain States. Irrigation is a factor in land values in the Delta and Southeast regions, but relative to other irrigated regions, its impact is weakest there.

The influence of direct government payments on land values, ERS found, is strongest in the Northern Plains and the Corn Belt, as well as in scattered areas of the Southern Plains, Northeast, and Mountain regions. These findings support the contention that government payments, to the extent that they are stable and predictable, contribute to expected returns and are therefore capitalized into the

value of the land. As government payment programs are phased down over the next 5 years, a commensurate decapitalization of payments would be expected to occur, contributing downward pressure on values. However, observed market values might not actually fall, because changes in other value determinants may have an offsetting upward effect.

Among nonagricultural elements determining farmland values, ERS has found that the demand for farmland in urban and urbanizing areas, generated by residential, commercial, and industrial development, is the predominant influence on farmland values. The value of land that has devel-

opment potential tends to be much higher than its value in agricultural use.

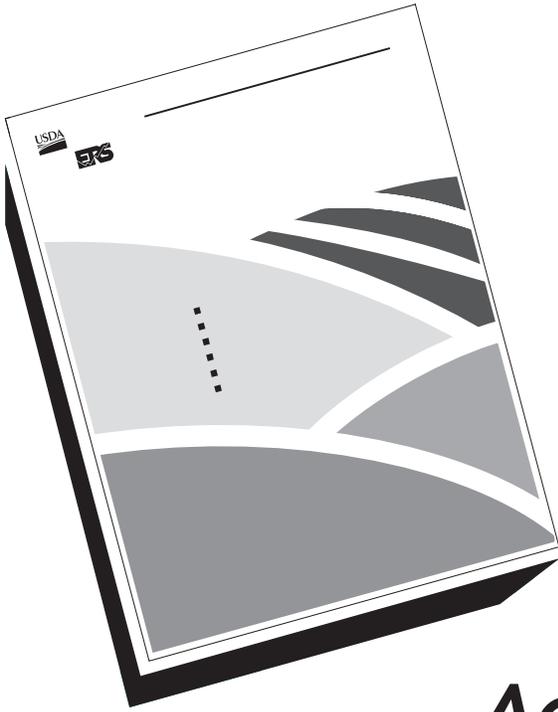
The impact of population is obviously important in heavily populated areas of the Northeast, California, Illinois, Ohio, Florida, and Texas, and to a lesser extent in the Appalachian region and several of the Mountain States—notably Utah, Arizona, and New Mexico. These mountainous regions have seen growing populations and attendant upward pressure on the value of limited private land—particularly land with potential as residential sites offering scenic mountain views or remoteness from heavily populated areas.

Demand for land for recreational purposes has also been found to contribute to land values, but this is a much less important determinant of value in most areas of the country. The farmland itself may be jointly used for recreational activities such as hunting or fishing. Some farmland is also located near facilities that provide recreation services, such as parks for camping or boating, ski resorts, beaches, cultural amenities, and historic sites.

Development of recreational facilities, campgrounds, ski lodges, beach houses, and the accompanying commercial enterprises (e.g. recreational equipment suppliers, gas stations, and grocery stores) require additional land. ERS has found that while recreational pressure is at work throughout the nation, it is especially prevalent in the Mountain and Northeast regions.

Returns from commodity production are still the major determinant of the value of most agricultural land. However, as the nation's population grows, nonfarm demands will increasingly contribute to the value of agricultural land.

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