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# Farmmland: A Go

By Scott H. Irwin  
and Gregory D. Hanson

## In The Past?

THE RATE OF RETURN TO FARM ASSETS HAS LONG BEEN A subject of interest. Whether farm assets provide owners with a competitive return is of practical significance and is also central to many debates concerning farm policy. A common assertion in these debates is that rates of return to farm assets are low.

A long-term perspective on the performance of farm assets is presented in the attached table. Total annual returns to farm assets are compared to total returns for widely held securities investments and inflation over 1941 through 1988. Total returns are the sum of income and capital appreciation returns and are expressed in pre-tax nominal terms.

The first two columns of the table show the average return and risk of the seven alternative investments and inflation. In a return-risk framework, farm assets compare favorably with the other investments: farm assets had the third highest average return and the third lowest risk. Only common stocks and small stocks had higher average returns, but these were earned at the cost of substantially higher risks. In the case of small stocks, risks were about four times that of farm assets.

It is interesting to note that the returns on farm assets dominated the returns on the two long-term bonds included in the comparison. Domination in this context means that farm assets had both a higher average return and a lower risk than the bonds.

The previous comparisons were made on a stand-alone basis. However, few individuals hold only one asset in their portfolio. This suggests that the performance of farm assets also needs to be analyzed in a portfolio context. A useful indicator of the portfolio diversification potential of farm assets is the simple correlation between farm asset returns and the returns of the alternative investments. This is shown in the

third column of the table. Note that perfect positive correlation is indicated by a +1 and perfect negative correlation by a -1. From a portfolio perspective, negative correlations are desirable because this indicates that returns from the two investments tend to move in opposite directions.

Farm assets score highly based on correlation with the other investments. Five of the six correlations with the alternative investments are negative, a highly unusual result. This shows that farm assets will improve portfolio performance by smoothing out fluctuations in overall portfolio returns. Also, the positive correlation with inflation indicates that farm assets provide a modest inflation hedge.

## Now?

OVER THE LONG RUN, FARM investment. A farm investment morning and read in the business has become worthless, as common stock. Land is durable and is considered by many the investment-risk spectrum.

But a large number of far

### Annual Asset Total Returns Comparison, 1941-1988

	Average Return	Risk	Correlation with Farm Assets
Percent			
Farm Assets	8.1	8.1	
Common Stocks	13.2	16.4	-.13
Small Stocks	20.0	29.3	.11
Long-Term Corporate Bonds	5.0	9.5	-.39
Long-Term Government Bonds	4.5	9.4	-.42
Intermediate Term Government Bonds	5.1	6.1	-.47
Treasury Bills	4.3	3.5	-.37
Inflation	4.6	4.1	.41

Source: USDA, Ibbotson Associates

Note: Risk is defined as the standard deviation of returns.

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## Farms

Percent



Percent



# RFOLD

graphic look at key economic figures

## Good Investment?

LAND HAS BEEN A GOOD investment or does not wake up one business news that farm land can happen with the price of land, unique to each locale, to be at the lower end of the market. Farmers that bought land ten

years ago are no longer in business. The USDA estimates that 200,000 to 300,000 farmers were foreclosed, had their debt restructured or quit farming due to financial problems in the 1980s. Many of these "farm economy casualties" lost their shirts by assuming land was a safe investment, that would not fall in value.

During the last 20 years it has been difficult to get a reading on prospective changes of land prices. In fact, many of our sophisticated land models are notorious for not working when we most need reliable forecasts. This predicament led the USDA's outlook program to

develop a land purchase/affordability model to complement our theoretical models.

In 1979 Emil Melichar, an economist with the Federal Reserve Bank, pointed out the critical importance of current income to changes in land prices. Our model focuses on the relationship Melichar identified. We pose the question:

- Given price and cost projections, what share of commercial farmers could afford to buy land?


Studies have shown that farmers, not outside investors, are the driving force behind movements in land prices. When returns from farming are such that one of every ten commercial farms could make scheduled interest payments, after a 25 percent down payment, competition for land is not likely to be intense. In contrast, if the calculations show that four or five of every ten farmers are capable of bidding for land with similar financing terms, competition will drive land prices higher.

The former situation prevailed for corn farmers in 1984 (the first year available in our USDA farm level data). In that year land values fell 25 percent in the Corn Belt. The latter case prevailed in 1986-88. In turn, Corn Belt land values increased 20 percent in 1987-88 and are projected to have risen another six or seven percent in 1989. The land cashflow model also projects a rapid bidding-up of the value of wheat land in the 1987-89 period.

The land purchase cashflows gave "bullish" signals during 1986-89, but model results for 1990 now point to less intense bidding, and presumably slower growth in land prices. There remains substantial strength in land markets, four of ten farmers can cashflow a land purchase from earnings. But higher current land prices and projected declines in cash grain commodity prices now suggest lower returns to land investment than two or three years ago.

To this point the current rise in land prices has made good economic sense—especially for farmers with savings built up for a sizable down-payment. But the bottom line today is that farmers and investors (especially nonfarm investors) need to recognize that a land investment in 1990 may not lead to as large a return as during 1987-89.

Emil Melichar's article, "Capital Gains versus Current Income in the Farming Sector," appeared in the December 1979 issue of the *American Journal of Agricultural Economics*.

See the Box on page 45 for an explanation of the "land affordability model." 

### and Affordability: Commercial That Can Cashflow Land Purchases

