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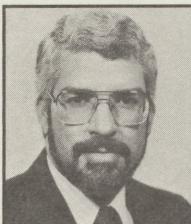
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# Commodity Markets And Farmland Values

by Keith J. Collins

**F**armland values are rising, raising questions of why, how much, and for how long? The answers start with farm financial conditions and what they mean for U.S. average farmland values. Simply looking at commodity markets is not enough to assess farm well-being, so comprehensive measures of farm income are used. Even so, these estimates sometimes move in opposite directions, such as net cash farm income, which measures cash flow, and net farm income, which measures production value. Sometimes the story is downright confusing. As land prices plunged in the 1980's, net cash farm income was rising steadily, usually setting a new record each year.

Nevertheless, the relationship between land values and farm conditions is fairly clear. When times are good, farmers and investors want land; they borrow and buy, and land prices rise. When times are tough, farmers and investors seek to consolidate financial positions and pursue better investment options; they stop buying, or they sell, and land prices fall. Falling land prices in the 1980's have not only summarized commodity market performance,

they have told the story of lost wealth, lost ability to borrow, lost interest income for banks, and lost property tax revenues for rural communities.

### *How commodity markets influence land values*

Because farmland is an income-producing asset, its price is determined by the same factors that determine the price of any similar asset, namely, the expected net earnings accruing to the land, interest rates, and the return on alternative investments.

The expected net return to farmland is tied to commodity market performance. A potential land buyer would start by computing current gross receipts. They would depend on what and how much could be produced per acre and whether the commodity is eligible for enrollment in a government production-adjustment program. If so, what is the target price and acreage reduction requirements, the assigned program payment yield, and the current market price? Then, input costs must be considered—everything from hired labor to seed costs. Financing costs must be covered, and residual returns to the

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land owner must be deducted for the landowner's time, taxes, and risk.

In order to generate expected income, all these variables must be projected for future years. This involves assessing everything from future domestic and export demand, to changes in technology. Then, when all this is done, the net returns expected in the future may be

compared with returns from alternative investments. For example, the lower the interest rate, the more the potential land buyer would be willing to pay for the land.

### *Explaining changes in U.S. farmland values*

U.S. farmland values doubled during the 1970's, pulled up by expectations of rising real farm incomes. Inflation lowered real interest rates, making debt instruments unattractive investments. Instead, physical assets, such as land, provided a better inflation hedge for investors. The export boom of the 1970's led to expectations of global crop shortages in the 1980's and rising real commodity prices. Despite declines in total farm income and large annual fluctuations, average farm income levels in the mid-to-late 1970's exceeded earlier periods and influenced expectations for the next decade.

U.S. farmland values peaked in 1982

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at \$823 per acre. The subsequent decline in farmland values—the first since the 1950's—came as real interest rates shot up and inflation fell. Commodity markets moved to large surpluses, with exports declining and market prices dropping to price support levels. Expectations swung from global shortages to chronic overcapacity.

During 1970-72, a 3-year moving average of U.S. net cash farm income per acre of land in farms averaged 8 percent of the U.S. average farmland value. As the land boom proceeded,

income fell to 4 percent of farmland value by 1979, making land a poor investment, unless capital gains were considered. (In retrospect, land prices in the late 1970's were sustainable in relation to early 1970's commodity returns.) By 1985, income was up to 6.5 percent of land value and by 1987, at 8.6 percent, it had about returned to the pre-1973 level.

### *Effect of commodity returns and government programs*

During the 1970's, the rapid rise in farmland values was probably only marginally influenced by government programs. Record high commodity prices and expanding exports kept mar-

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ket prices above government price and income support levels and few government payments were made. The high, but variable, farm incomes of the period were derived principally from market returns.

In the 1980's direct government payments and price supports have had an increasing influence on supporting land values. Total farm returns have been much more dependent on government payments. Government outlays on price and income support averaged \$3 billion per year during the 1970's. Under the 1985 farm bill, outlays averaged over \$20 billion per year during 1986-88.

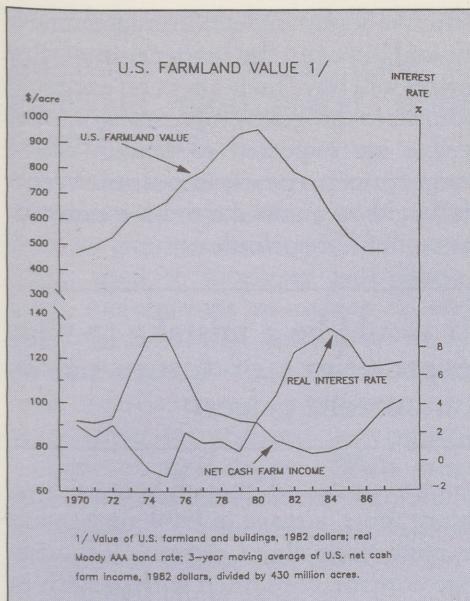
Commodity programs affect land values by providing price and income

support as incentives for participating in acreage control programs. Payments for reducing acreage—as well as any higher market prices caused by price supports or the acreage reduction—affect land values by increasing expected return to land. The transfer of billions of dollars annually to farmers and the expectation that transfers will continue into the foreseeable future keep land values higher than otherwise.

Despite farm programs having income stabilization as an objective, the market outcome for a crop harvested in any year can vary greatly and affect land values accordingly, particularly regional values. In the Corn Belt, the region where land prices fell the most from the past year to 1988, target prices have been fairly stable. But changing market prices, acreage reduction program, and production costs have changed net returns to production:

Crop Year	Corn Target Price -\$/bu.	Average net returns to corn production 1/ -\$/acre-
1982	2.70	78
1983	2.86	86
1984	3.03	60
1985	3.03	58
1986	3.03	58
1987	3.03	102
1988 (estimate)	2.93	50

1/ Value of U.S. corn production plus government payments less total cash expenses per acre of corn planted and idled. Figure for 1988 assumes yield of 82 bushels per acre, season-average corn price of \$2.60 a bushel, and disaster payments of about \$1.5 billion.



Between 1982 and 1987, Corn Belt farmland fell 50 percent in value while net returns decreased steadily, despite no reduction in target prices. During 1987 and 1988, Corn Belt farmland rose 9 percent in value, coinciding with a near doubling of corn net returns during 1987 from a year earlier. The large rise in corn sector returns helps explain why the Corn Belt had the greatest increase in farmland value among major farm producing regions during 1988.

### Commodity markets and land values: what's next?

Prior to the 1988 drought, commodity markets had been recovering steadily from their depths reached in mid-1980's. Reduced price support levels, export assistance programs, and access to stocks made possible by large issuances of commodity certificates, combined to boost demand. At the same time, steadily rising idled acreage has

curtailed production. Acreage idled in government programs has risen from 31 million in 1985 to an estimated 78 million this year.

Even before the drought, greatly re-

### Prior to the drought, markets had been recovering steadily.

duced stock levels were projected to raise wheat prices as much as 25 percent and soybean prices as much as 15 percent during the 1988/89 marketing years. Land values turned the corner in 1987 thus reflecting these improved income prospects in both crop and livestock markets along with stable real interest rates. The drought appeared to slow national average land price gains this summer, but not set them back.

U.S. net cash income in 1988 may be about the same as in 1987. Production values may be down substantially as indicated in the corn table. However, marketings from inventory and high prices may increase crop receipts, offsetting lower livestock and dairy returns. Despite this income strength, land prices could suffer in areas hard-hit by the drought, such as the Northern Plains. The drought may cause potential land buyers to discount future expected returns to land more heavily than before the drought because of greater perceived production risks. Prior to the drought, a typical 100 base acres of spring wheat would have had expected returns above the variable cash expenses of \$6,500 this year. A 60 percent production loss would drop net returns to \$500, ex-

cluding any Federal disaster payments or crop insurance indemnity payments. Building a few years like this into expected future returns would lower the rate of return to land, and consequently, market prices of land.

The recent rise in land values—at double digit rates in some areas—poses some difficult questions: Is this good for agriculture? Is this sustainable? While rising land values may make

## Rising land values may make bankers feel more secure about farm loans.

bankers feel more secure about farm loans and improve the balance sheet of farmers, there are risks to the farm sector. Farm income and land values are critically dependent on growing export markets. U.S. agriculture must have markets that are expanding at least as fast as productivity, and that requires steady export competitiveness. Rising land values may also lead some farmers into incurring debt to finance expansion. Rising debt fueled by increasing land values, creates the potential for another adjustment—a relapse—along the lines of the early 1980's.

The following are some very risky factors affecting the current increase in land values:

### *The drought*

Markets such as feed grains, which were badly out of balance in recent years, are quickly being restored to supply/demand balance. Other markets, such as wheat and soybeans, have stocks falling to unusually low levels. These developments mean higher commodity prices this year and less re-

strictive acreage reduction programs next year. However, the higher commodity prices will have little effect on expected returns for program crops, unless market prices are expected to remain above target prices, a nearly impossible event. It would be a mistake to base expectations of future prices on

### **It would be a mistake to base expectations of future prices on current prices.**

current prices. Although being able to plant more acreage in 1989 might raise expectations about returns, less acreage control, combined with growth in production, has historically meant a return to excessive production and lower prices.

### *Foreign supply and demand*

Accurate assessment of foreign production enables selection of acreage programs which neither short nor inundate markets. Even before the reaction of foreign producers to this year's high prices is known, there are some causes for concern. Foreign wheat production this year is expected to be the second highest ever, despite drought in Canada. Foreign coarse grain and oilseed production are expected to be at record highs. U.S. producers want the opportunity to produce more next year at higher prices, but so do competing exporters.

### *Government commitment to exports*

Extensive export assistance programs demonstrate the commitment to restore farm financial health through exports.

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## Subsidies are being used to motivate multilateral trade negotiations.

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However, there is a strong trade policy basis for export subsidies. Subsidies are being used to motivate multilateral trade negotiations to reduce or end global farm policies that distort trade. So while subsidies are now boosting farm returns, they may ultimately be responsible for reduced government support of agriculture. With large reductions in government support, a profitable U.S. agriculture will require competitive production costs, including reduced land values.

### *Farm program outlays*

Severe federal budget pressures seem likely to require continuation of the reductions in crop target prices initiated by the 1985 Farm Bill. The legislative environment may be more conducive to farm budget cuts now that land values are rising and farm financial stress is reduced.

### *Credit restructuring*

The legislated restructuring of debt for Farm Credit System and Farmers Home Administration borrowers has limited the number of farm foreclosures and land sales. In addition, debt write-downs have eliminated a claim on the future earnings of farmland.

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These developments are price strengthening factors for land, but only in the short term.

### *Production costs*

Production expenses fell by \$15 billion from 1984 to 1988, contributing to the land value rebound. Food, energy, and interest expenses fell. The large declines in these components are not likely to be repeated in the near future. Rising production costs in the face of declining target prices seem a more likely scenario.

Land prices now appear to be in line with the income return being earned in agriculture under current farm programs. If target prices decline in future years, incomes and land values can be maintained if global demand increases enough to permit idle land to be profitably returned to production. The prospects for this are better today than they were in the early 1980's when support prices caused U.S. commodities to be uncompetitive in world markets. Nevertheless, U.S. trade prospects and future land values are likely to depend on the trade policies of foreign nations and the domestic policy reaction to those policies.