



# Ag Decision Maker

A Business Newsletter for Agriculture

Vol. 9, No. 7      www.extension.iastate.edu/agdm      June 2005



## Comparing the stock market and Iowa land values: a question of timing

by Mike Duffy, extension economist, (515) 294-6160, mduffy@iastate.edu

Recent increases in Iowa farmland values and the turbulence in the stock market have resurrected a perennial question. Which is a better investment—the stock market or farmland?

Iowa farmland values have risen over the past four years and recent estimates

suggest that this increase is continuing. Based on the Iowa State Land Value Survey, the 2004 estimated farmland value was \$2,629 per acre, a record high. This was an increase in Iowa land values of 15.6 percent over the 2003 estimate. Since 1990, the estimated average value of Iowa land has more than doubled going from \$1,214 to \$2,629 per acre.

On the other hand, the stock market, as measured by the Dow Jones Industrial (DJI) average, last year closed higher for the second time in four years with an increase of 3 percent. Even though the DJI lost more than a quarter of its value (27.4 percent) between 1999 and 2002, its overall record has been positive over the past 13 years. Stock values rose from 2,633

in 1990 to 10,783 in 2004, an increase of nearly 300 percent in spite of the declines in recent years.

Are the changes in the stock market, low interest rates, 1,031 exchanges, and increases in land values causing people to shift to land investments? Does purchasing land make sense economically, in the short term and the long term?

To determine which option provides the better investment, this paper compares and contrasts the various returns over the

*continued on page 2*

**Handbook updates**  
For those of you subscribing to the handbook, the following updates are included.

**2005 Farmland Cash Rental Rates – C2-10**  
(13 pages)

**Historic County Cropland Rental Rates – C2-11** (5 pages)

Please add these files to your handbook and remove the out-of-date material.

*continued on page 6*

### Inside . . .

- Farmers tend to respond similarly, the world around ..... Page 4
- Cash rental rates continue to climb in 2005 ..... Page 6

Comparing the stock market and Iowa land values: a question of timing, continued from page 1

past 50 years. It also discusses some of the important factors to consider over the next few years.

The returns to land or stocks are composed of two parts. The first is capital gains or the increase in value. Obviously, this also could be a capital loss if values decrease. The second component is yearly returns.

Another consideration for investors is that land has an unavoidable annual ownership cost not associated with stocks. Average property taxes have now been subtracted from the rent value in our calculations and this adds to our understanding compared to previous versions of this comparison.

The data used for this analysis comes from three sources. *The Iowa Land Value Survey*, FM 1712 (AgDM File C2-70) and *Cash Rental Rates for Iowa*, FM 1851 (AgDM File C2-10) come from Iowa State University surveys. The average land tax per acre comes from the USDA, Economic Research Service. And, the Dow Jones Industrial averages and yearly dividends come from the Dow Jones Web site, [www.djindexes.com/jsp/industrialAverages](http://www.djindexes.com/jsp/industrialAverages).

The annual percentage changes since 1950 in the DJI and Iowa land values reflect considerable yearly variation in both investments. For land, the average percentage change is 5 percent with a standard deviation of 11 percent. Percentage changes for land range from a negative 30 percent to a positive 32 percent. The Dow Jones Industrial shows an average percentage change of 9 percent with a standard deviation of 16 percent. The yearly percentage change in the DJI ranges from a negative 28 percent to a positive 44 percent.

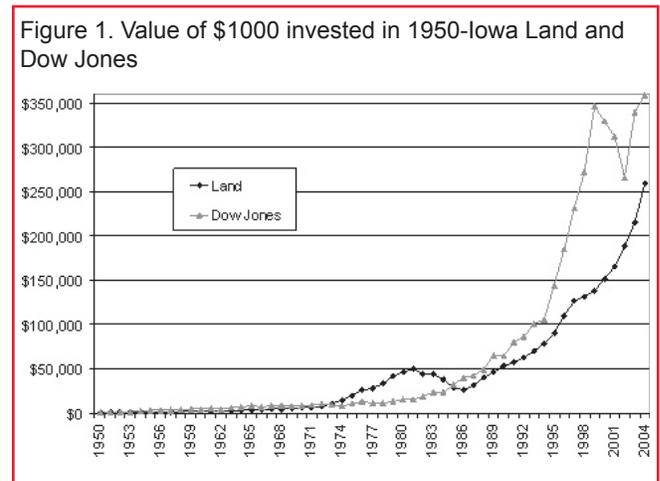
Land rent after taxes has averaged 5.8 percent of land value since 1950. The Dow Jones Industrial dividend has averaged 3.8 percent of the DJI closing level over the same time period.

A few assumptions are necessary to determine which provides the better investment. It is assumed \$1,000 is invested in each alternative at the beginning of the period discussed. The amount of land or stock purchased will depend on the existing value. For example, if land was \$500 then you could buy 2 acres with the initial investment.

Another assumption is that all of the rent or the dividend earned in any year will be reinvested in the land or the stock market. This will increase the number of units held. To continue the example above, if the after-tax rent was \$27.50 per acre then the amount of rent earned was \$55 (2 acres times \$27.50). The \$55 would be reinvested in land at the end of the year. Suppose the land values had increased to \$550 over the year, then at the end of the second period there would be 2.1 acres, the original 2 acres plus the .1 acres that could be purchased with the \$55 in rent.

Land taxes are the only ownership cost considered for land. There is no ownership cost assumed for stocks. No transactions costs or other costs are considered in this analysis.

Figure 1 shows the return to \$1,000 invested in 1950. At that time, \$1,000 would have purchased 4.59 acres or 4.25 shares of the DJI. Using the assumptions above, an investor at the end of 2004 would have 98.65 acres worth approximately \$259,344 or they would



Comparing the stock market and Iowa land values: a question of timing, continued from page 2

have 33.21 shares of the Dow Jones Industrial, worth approximately 358,132. In other words, the value of the DJI investment would be 28 percent higher than the stock investment.

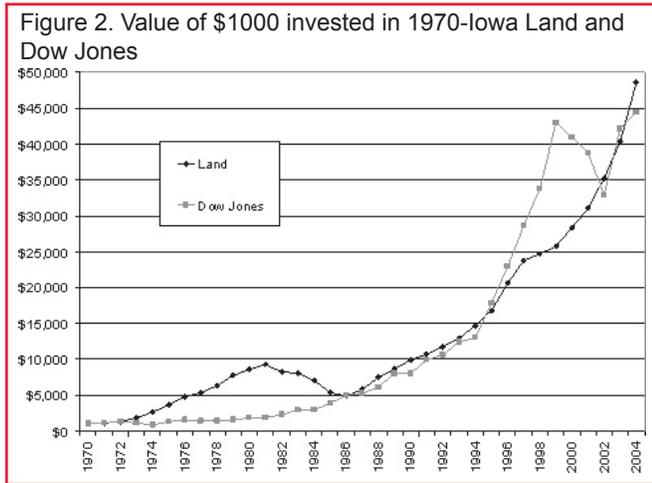


Figure 2 shows what would happen if the \$1,000 investment in land or the DJI had been made in 1970. At that time \$1,000 would purchase 2.4 acres or 1.2 shares in the DJI. By 2004 the land investment would have been worth \$48,582, while the DJI investment would have been worth \$44,433. A land purchase in 1970 would have approximately 8 percent greater value relative to a land investment.

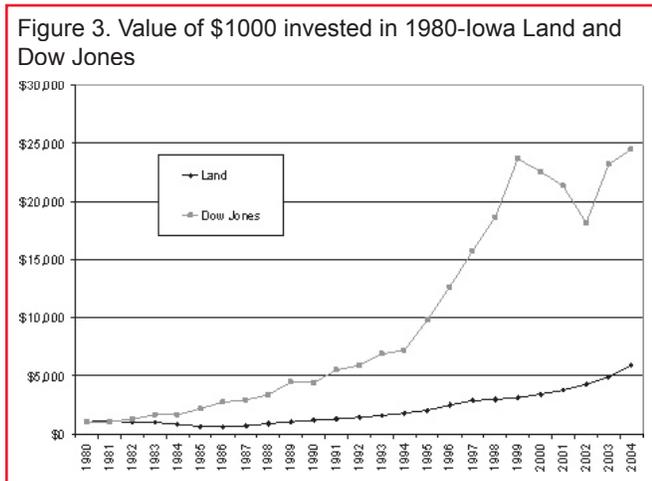


Figure 3 presents the results of a \$1,000 investment had it been made in 1980, near the earlier peak in Iowa land values. In 1980, the \$1,000 investment in land would have

purchased only .48 acres of land or 1.04 shares of the DJI. By 2004, the land investment would have been worth \$5,891 while the DJI investment would have been worth \$24,488. This means the DJI investment would be worth nearly four times the land investment.

Figure 4 shows a comparison of the returns based on the year of the initial investment and the difference between the investment in Iowa farmland and the Dow Jones Industrial as a percent of the value of the Dow Jones. A negative percentage indicates that the Dow Jones had a greater return and conversely, a positive percentage indicates that land had the greater turn. For example, if the investment was made in 1962, land would be worth approximately 60 percent more than an investment in the Dow Jones. On the other hand, an investment in land in the early 1980s would be worth about 80 percent less than an investment in the Dow Jones.

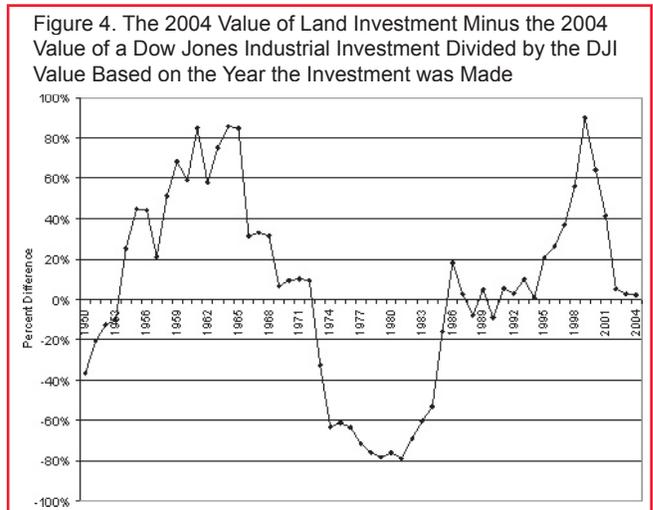


Figure 4 shows that the timing of the investment makes a difference in which appears to be a better investment. Land would have been a better investment if the investment was made in the late 1950s through the late 1960s. Similarly, starting in 1995, an investment in land has once again produced higher returns than the Dow Jones.

*Comparing the stock market and Iowa land values: a question of timing, continued from page 3*

This raises several interesting questions, including whether or not land is a “good” investment and which is the “better” investment. Much of the difference in returns can be attributed to taxes. If the taxes are not removed from the land rents, a \$1,000 land investment in 1950 would have outperformed the stock market at the end of 2004. Taxes have a large long-term effect on land returns, and the tax climate must be considered in making the investment decision. It should be noted that no costs have been removed from the DJI returns in our study.

It also is important to remember that the majority of farmland purchasers are already farming. Since 1989, the ISU Land Value Survey has asked the respondents who was the primary purchaser of farmland that year. In 1990 and 1991, existing farmers represented more than 80 percent of the purchasers. This number dropped to 56 percent in 2004. This is important because for the most part farmers do not buy land strictly as an investment. They buy land for a variety of reasons and the expected return is only one of many factors.

The proportion of purchasers classified as investors by the ISU land survey respondents has risen considerably over the past several years. In 1989, investors represented only 12 percent of the purchasers, but in 2004 they represented 38 percent of the purchasers. Many of the purchases over the past few years have been for a variety of nonagricultural uses, including summer homes, hunting camps, and other recreational purposes.

Investors also may purchase farmland to diversify their financial portfolios. Given what has happened to the stock market, the lessons learned in the land market during the 1970s and 1980s should not be forgotten; that is, what goes up also can go down and there is no such thing as a market that will always increase.



## Farmers tend to respond similarly, the world around

by Daryll E. Ray, Blasingame Chair, Excellence in Agricultural Policy, Institute of Agriculture, University of Tennessee, and Director, UT Agricultural Policy Analysis Center (APAC). (865)974-7407; dray@utk.edu; <http://www.agpolicy.org>

Why is it that we, as farmers, think that other farmers will be willing to do things that we won't do? In developing agricultural policy we often base our decisions on the premise that we can force farmers somewhere else in the world to make decisions that we would not be willing to make.

This fact struck me at a personal level the other day when a student from Argentina was vigorously complaining about the level of U.S. subsidies. He said that prices would not get better until something was done about U.S. subsidies.

I asked him what he would do if prices dropped by X percent. How would he change his behavior? He said he would still put a crop in. I then asked what he would do if he could not afford to put the crop in. He said he would lease the land to another farmer who would produce on it. Suddenly the light went on. Farmers in the U.S. are no more willing to change their behavior in response to low prices or reduced subsidies than farmers anywhere else in the world. But then again, we are still learning this lesson.

In the 1985 Farm Bill, Congress deliberately reduced the loan rate under the assumption that higher rates supported world price levels and encouraged wheat production in the E.U. The reasoning was that if the loan rate were reduced the European CAP export subsidies would become so expensive that they would have to be reduced. This, in turn, would force European farmers to reduce their wheat production, leaving more of the world export market available to American farmers.

Guess what? European politicians may be even less willing than their U.S. counterparts to reduce farm support because they remember what it is like to be hungry (remember WWI and WWII). Even after the policy depressed prices of the 1985 and 1990 Farm Bills and payments of billions of dollars, we are now told that the E.U. will soon

be able to export wheat without export subsidies. So essentially the reduced prices and billions of dollars in deficiency payments bought us nothing for crop farmers.

Again with the 1996 and 2002 Farm Bills we have eliminated any mechanism that would put a floor under crop prices while supporting U.S. farm income with Loan Deficiency payments (LDPs) and Counter-Cyclical Payments (CCPs) and a healthy dose of fixed decoupled payments. The hope is that farmers in nations that compete with us for exports will reduce their production or at least slow down the rate of growth in their production.

The results of this pressure tactic have been spectacularly unsuccessful. It is hard to find any evidence that would suggest that our competitors have reduced their production in response to lower prices. One thing it has done is further impoverish farmers in less developed countries as well as farmers in general.

The drumbeat is becoming ever louder since the major problem in world markets is the level of U.S. subsidies. The reasoning goes like this: If U.S. farmers are deprived of their subsidies they will reduce production. In turn producers in other parts of the world, especially small farmers in less developed countries, will receive higher prices and be able to afford to expand their production.

But U.S. farmers think the same way that farmers all over the world think. Few U.S. farmers are willing to give up farming unless the banker makes it impossible. And, even then, the land is simply turned over to another and remains in production.

When policies are based on the premise that "farmers somewhere else are willing to make decisions that we are unwilling to make," we will get nowhere and farmers everywhere, in the absence of a weather event somewhere, will be plagued with low prices.



## Cash rental rates continue to climb in 2005

by William Edwards, extension economist, (515) 294-6161, [wedwards@iastate.edu](mailto:wedwards@iastate.edu)

Cash rental rates for Iowa farmland continued to rise modestly in 2005. Survey results from Iowa State University Extension estimated the average cash rent for corn and soybean land in the state to be \$135 per acre, compared to \$131 in the 2004 survey. All of the 12 areas in Iowa that were surveyed showed increases, ranging from \$2 to \$7 per acre. Central Iowa had the highest increase over last year, while the highest rents were reported in the east central region.

The most positive factor affecting rents was the record corn yields recorded over much of the state in 2004. Soybean production was much improved over 2003, as well. To some extent cash rental rates follow land values, which have remained strong in 2005. Unlike land sales, however, cash rents are not affected much by low interest rates or competition from nonfarm uses.

Lower grain prices and increased production costs may cause potential renters to be less aggressive about cash rent bids for 2005. Concerns about Asian rust affecting soybean yields add another negative factor to the market.

The latest survey also presents typical dollars of rent per bushel of corn and soybean yield for each county, based on the county

average yield for each crop during the last 10 years. This year the rent per bushel ranged from \$.87 to \$1.01 for corn and from \$2.86 to \$3.23 for soybeans. Rents per bushel were higher in areas with higher grain prices, and lower in the southern third of the state. The survey also includes typical rental rates for land producing oats, hay and pasture.

Estimates of rental rates were based on survey responses from over 900 tenants, landowners, farm managers, lenders and other people familiar with the land market. A complete summary of the 2005 "Cash Rental Rates for Iowa" is available at: <http://www.extension.iastate.edu/agdm/wholefarm/html/c2-10.html>.

Survey results are intended to be used as guidelines, only. The appropriate rent for an individual farm should take into account factors such as fertility levels, USDA program parameters, size and shape of fields, existence of seed production or manure application contracts, local grain prices, and other services provided by the tenant. Ag Decision Maker file C2-20 (<http://www.extension.iastate.edu/agdm/wholefarm/html/c2-20.html>) has more discussion about how to determine a fair cash rent. An electronic decision aid worksheet is included.

Updates, continued from page 1

### Internet updates

In addition to the Handbook updates, the following updates have been added to [www.extension.iastate.edu/agdm](http://www.extension.iastate.edu/agdm).

### A Grower's Perspective on ISO-C5-151 (3 pages)

#### ... and justice for all

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.)

Many materials can be made available in alternative formats for ADA clients. To file a complaint of discrimination, write

USDA, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Stanley R. Johnson, director, Cooperative Extension Service, Iowa State University of Science and Technology, Ames, Iowa.

#### Permission to copy

Permission is given to reprint ISU Extension materials contained in this publication via copy machine or other copy technology, so long as the source (Ag Decision Maker Iowa State University Extension) is clearly identifiable and the appropriate author is properly credited.