Ag Decision Maker

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Producers can choose their farm program for 2013

by William Edwards, extension economist, 515-294-6161, wedwards@iastate.edu

Rather than craft a new farm bill this winter, Congress passed the American Taxpayer Relief Act of 2012, which extended the previous farm bill (Food, Conservation and Energy Act of 2008) for another year. The provisions for the Average Crop Revenue Election (ACRE) and Direct and Counter-cyclical Payment Program (DCP) will be unchanged from 2012, with one exception. Producers who enrolled in ACRE during the 2009 through 2012 crop years were obligated to remain in ACRE through 2012. That obligation does not extend through 2013, however. Each producer can choose to enroll each farm that she or he manages in either the DCP program or the ACRE program this year, regardless of which program the farm was enrolled in last year. The Farm Service Agency began sign-ups for DCP and ACRE for the 2013 crops on Feb. 19, 2013. The DCP sign-up period will end on Aug. 2, 2013, and the ACRE sign-up period will end on June 3, 2013.

Briefly, two gross revenue per acre triggers are in effect under ACRE, one at the farm level and one at the state level. Actual revenues, based on the farm and state yields and the average marketing year price for the September through August period, must be below both of the corresponding trigger levels for a payment to be made. Farm-level triggers will depend on recent yields for each farm, but the state-level trigger is the same for everyone. The ACRE program does not allow the state trigger to increase or decrease more than 10 percent from one year to the next. For the past three years, increases in both the corn and soybean revenue trigger levels in Iowa have been limited due to the 10 percent cap. Thus, they have not increased as fast as actual revenues, and no ACRE payments have been made in Iowa during the time the program has been in effect.

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Handbook updates

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

Historical Corn Yields by County – A1-12 (10 pages)

Historical Soybean Yields by County – A1-13 (10 pages)

Corn and Soybean County Yields – A1-14 (4 pages)

Iowa Farm Custom Rate Survey – A3-10 (2 pages)

Historic Cattle Prices – B2-12 (6 pages)

Financial Performance Measures for Iowa Farms – C3-55 (8 pages)

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

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Inside . . .

Iowa State University Extension and Outreach

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State level trigger revenues for Iowa for the 2013 crop are currently projected as $781/acre for corn and $574/acre for soybeans, using the current USDA forecasts for the 2012 average marketing year prices. These could change slightly over the next seven months. This means that if the state average corn yield for 2013 is 160 bushels/acre, for example, the marketing year price for the 2013 crop will have to average less than $4.88/bushel to trigger an ACRE payment. Likewise, if the state average soybean yield is 47 bushels/acre, for example, the 2013 marketing year price will have to average less than $12.21/bushel to trigger a payment. Current futures contracts covering the 2013 marketing year are projecting prices substantially higher than these.

As before, enrolling in ACRE reduces the farm's direct payments by 20 percent. Conversely, farms not enrolled in ACRE in the past can decide not to enroll in 2013 and receive 100 percent of their direct payments. Payments rates will be the same as in 2012, and funds will be distributed in October.

To analyze their individual sign-up decisions, producers can use the ACRE Payment Estimator, decision file A1-45 on the Ag Decision Maker website. For more information visit your county Farm Service Agency office.

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

by Michael Duffy, ISU Department of Economics, 515-294-6160, mduffy@iastate.edu

This article is an update of earlier versions. Its purpose is to examine the following question: Which is a better investment, the stock market or farmland?

Iowa farmland values have shown yearly increases for 11 of the past 12 years. The values remain at record high levels where they have been for the past nine years. Based on the Iowa State University Farmland Value Survey, the 2012 estimated average farmland value in Iowa was $8,296 per acre. This was an increase of 23.7 percent from the 2011 estimate. Iowa land values have increased by double digits eight of the past nine years. This year marked the third consecutive year that values have increased more than 15 percent. The estimated land values have increased more than two and a half times since 2003.

The composite value of the stock market, as measured by the Standard & Poor's Index (S&P) average, has started recovering from the disastrous 2008 year. Even though the S&P lost 34 percent of its value between 2000 and 2008, its overall record has been impressive since 1990. Stock values rose from 328.75 in 1990 to a December 2012 close of 1,422.29, an increase of over 300 percent in spite of the decline in 2008.

To determine which option provided the better investment, this article compares and contrasts the returns to farmland and the stock market since 1960. It also discusses some of the important factors to consider over the next few years.

Background

The returns to land or stock shares 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.

Owning land has an unavoidable annual ownership cost not associated with stocks. Property taxes must be paid and should be included in a comparison of owning stocks or farmland. Additionally, if farmland is held as an investment and not by an owner-operator, there could be a professional farm manager involved and the fee for this service would have to be considered. There is also a need for some maintenance and insurance with farmland not associated with owning stocks.

The data used for this analysis comes from various sources. The Iowa average land values come from the yearly Iowa State University Extension and Outreach publication FM 1825. The average

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farmland rental rate was obtained from USDA/ Economic Research Service (ERS) in the Land Use, Value and Management briefing room. The average land tax per acre is calculated using data from ERS farm income data. Taxes per acre were calculated as the real estate taxes paid divided by the total number of acres.

The Standard & Poor's averages and yearly dividends for 1960 to 2012 were taken from the website of Dr. Robert J. Shiller at Yale University, www.econ.yale.edu/~shiller. The value used is the December close of each year.

A few assumptions are necessary to determine which provides the better investment. It is assumed $1,000 is invested in each alternative at the end of the year. The amount of land or stock purchased will depend on the existing value. For example, in 1960 the average farmland value in Iowa was $261 per acre. So, for $1,000, 3.83 acres could have been purchased.

A second assumption is that all the net land 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, average Iowa farmland rent in 1961 was $17.10 per acre. Average taxes in 1961 were $3.79 per acre. Using a 7 percent of gross rent management fee and a 6 percent of gross rent charge for insurance and maintenance, the net return per acre in 1961 was $11.08.

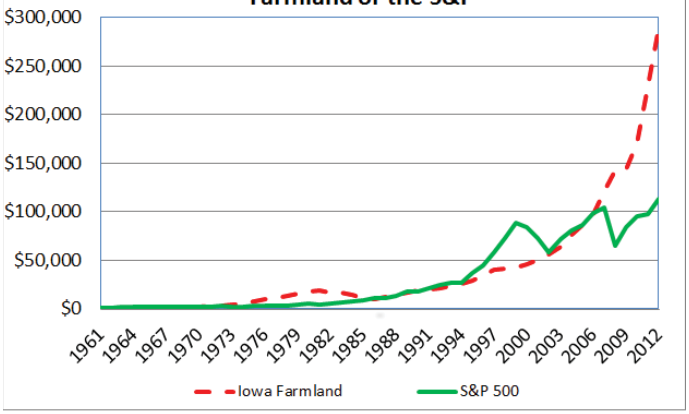
The net rent in 1961 represented a 4.25 percent return. For the $1,000 investment, this would be a return of $42.50. In 1961, the average land value had remained unchanged at $261 per acre. If the entire return were invested back into land, .16 acres could have been purchased. So, at the end of 1961, the investor would have 3.99 acres worth $1,042. This process is repeated each year in the analysis.

Land taxes, a management fee, insurance and maintenance are the only ownership costs considered for land. There is no ownership cost assumed for stocks. No transactions costs or other costs are considered in this analysis.

The annual percentage changes since 1960 in the S&P and Iowa land values reflect considerable yearly variation in both investments. Land values changed an average of 7.6 percent with a standard deviation of 12.4 percent. Yearly percentage change for land ranged from a negative 30.1 percent to a positive 32.5 percent. The Standard & Poor's yearly closing value showed an average percentage change of 7.8 percent with a standard deviation of 16.2 percent. The yearly percentage change in the S&P ranged from a negative 40.7 percent to a positive 35.0 percent.

The yearly return to land after taxes, management fee and insurance and maintenance has averaged 4.5 percent of land values since 1960. The standard deviation of the yearly return to land has been 1.1 percent. The maximum yearly return was 7.9 percent while the low was 1.1 percent. The S&P yearly dividend has averaged 3.1 percent of the S&P closing level from 1960 to 2011. The standard deviation was 1.2 percent, the maximum yearly return was 5.4 percent and the lowest yearly return was 1.2 percent over the same time period.

Figure 1: Value of $1,000 Invested in 1960 in Iowa Farmland or the S&P



Analysis

Figure 1 shows the return to $1,000 invested in 1960. At that time, $1,000 would have purchased 3.83 acres or 17.6 shares of the S&P. Using the assumptions above, an investor at the end of 2012 would have 34.86 acres, worth approximately $289,164, or they would have 79.87 shares of the Standard & Poor's, worth approximately $113,592. In other words, the value of the S&P investment would be only 39 percent of the value of the land investment.

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There have been periods since 1960 when the returns to the stock market have been higher. However, for the most part, land has shown higher returns over the past 50 years. It is interesting to note the recent dramatic swings in the S&P, as shown in Figure 1.

Figure 2 shows what would have happened if the $1,000 investment in land or the S&P had been made in 1970. At that time $1,000 would purchase 2.39 acres or 11.1 shares of the S&P. By 2012, the land investment would have been worth $117,617, while the S&P investment would have been worth $52,839. An investment made in the S&P in 1970 would be only 45 percent of the value of an investment in land.

Figure 3 presents the results of a $1,000 investment had it been made in 1980, near the previous peak in Iowa land values. In 1980, the $1,000 investment in land would have purchased only .48 acres of land or 7.49 shares of the S&P. By 2012, the land investment would have been worth $16,729 while the S&P investment would have been worth $23,509. The land investment would only be 71 percent of the stock market investment.

Figure 4 shows a comparison of the returns in 2012 based on the year of the initial investment. This figure presents the returns to Iowa farmland as a percent of the returns to the S&P. If the value is above 100 percent, then the farmland would have a higher value; conversely, if the value is below 100 percent, then the S&P would have a higher value for an investment made in that year.

Figure 4 shows that the timing of the investment makes a difference in which appears to be a better investment. Land would have been the better investment in all years except the period from 1974 to 1984. This period coincides with the rise in land values during the 1970s. Land values in Iowa began their rapid rise in 1973 and peaked in 1981.

Figure 4 raises an interesting question regarding the situation we are currently experiencing. The last time the stock market appeared to be a better value was the last time the land market was booming. What will this chart look like in 20 years relative to the current time period?

Figure 2: Value of $1,000 Invested in 1970 in Iowa Farmland or the S&P

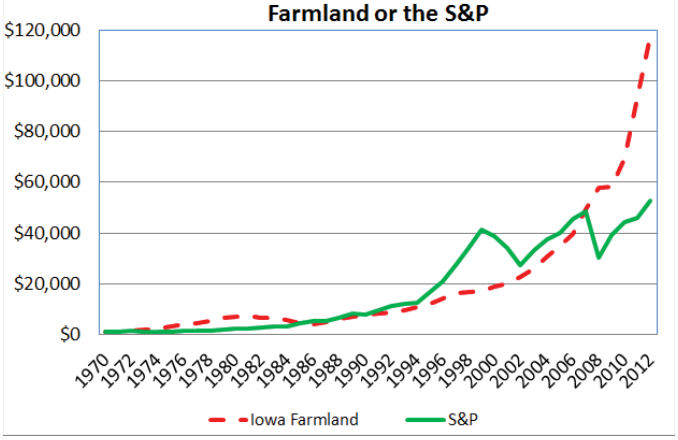


Figure 3: Value of $1,000 Invested in 1980 in Iowa Farmland or the S&P

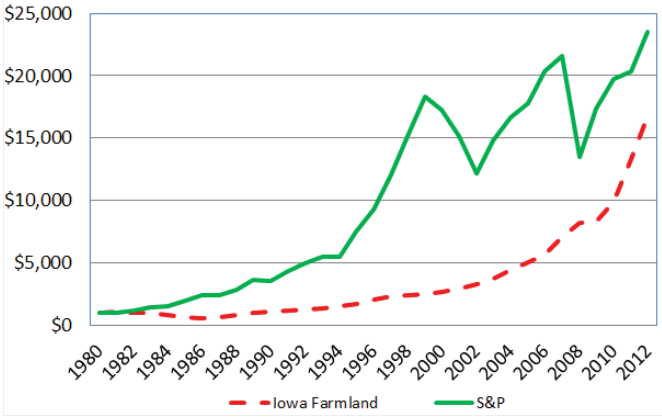
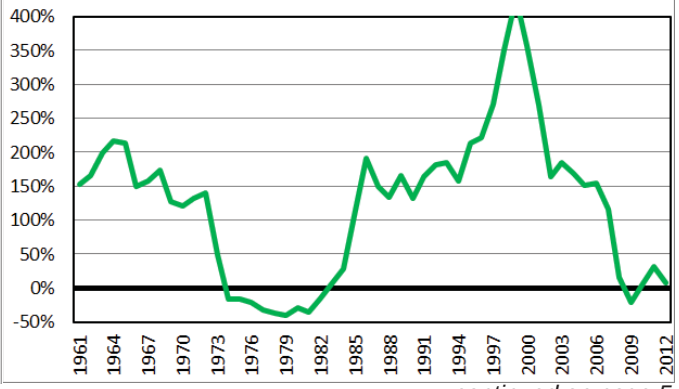


Figure 4: Value of an Investment made in Iowa Farmland as a Percent of an Investment in the S&P by Year of Investment



Conclusions

Which is the better investment, Iowa farmland or the stock market, is a complicated question and one for which there is no one best answer. Several factors need to be considered when trying to answer this question and several assumptions have to be made.

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In this article, real estate taxes, a management fee, insurance and maintenance were subtracted from the return to land. These were the only ownership costs assumed for land. There would be other costs that would vary with the individual circumstances.

This study also assumed there would be no transaction costs. There would be costs associated with either the purchase of land or the purchase of stocks.

Finally, this study assumed average performance for land values, rents and for the stock market. Deviations from average performance would produce different results.

The majority of land is purchased by existing farmers. They purchase the land for a variety of reasons that may or may not fit with traditional investment theory. In spite of this, land, over the long run, has produced competitive, if not superior, returns compared to the stock market.

What will happen to the value of farmland over the next several years? The future is hard to predict, but in this case it is especially difficult. There are several factors that will have an immediate impact on land values and other longer-term factors that will determine the future performance of land.

The value of land is determined by its income earning potential. For the most part, in Iowa, that means the returns to corn and/or soybeans. Returns will be influenced by a number of factors over the next several years. Oil prices, ethanol prices, crop yields, costs of production, economic recovery, alternative biomass sources, and a host of other major issues will have an influence on the price of land.

Another uncertainty in the land market is the changing landowner demographics. In 1982, 12 percent of the farmland in Iowa was owned by someone over 75 years old. By 2007, this percentage had more than doubled to 28 percent. In 2007, over half, 55 percent, of the farmland in Iowa was owned by someone over the age of 65. How this land will be transferred from one generation to the next is not entirely clear at this time. It appears that the majority of it will be passed on to the children, usually in equal shares. This means there will be more landowners and more out of state owners. Whether they will they want to continue to own the land or sell it is unknown. Too much land being offered for sale is not a problem at this time, but it could become one if the next generation doesn't want to hold on to the land.

The performance of the stock market for the next few years is also not clear. The U.S. stock market will be impacted by what happens in the European Union and China among other places in the world. We are no longer insulated from the economic conditions throughout the world.

The imbalance of trade is another area of uncertainty with respect to possible impacts on the U.S. economy and the performance of the stock market and the land market.

A complete discussion of all the factors that could influence the land or stock market is beyond the scope of this article. Suffice it to say there is considerable uncertainty as one looks ahead. While uncertainty about the future is not new, there is a level of concern for both the land market and the stock market.

Land and the stock market are different types of investments and assets. This simple comparison was based strictly on averages. There are a number of individual stocks that perform better than the S&P. But there are some that don't perform as well. Anyone contemplating the question of which is a better investment needs to know his or her goals.

Land's performance relative to the stock market over the past few years has been spectacular. Will this trend continue? Time will tell. Which is the better investment? As the old saying goes, timing is everything in the success of a rain dance.

2013 Iowa Farm Custom Rate Survey follows recent trend

by William Edwards, extension economist, 515-294-6161, wedwards@iastate.edu

The 2013 Iowa Farm Custom Rate Survey followed the recent trend of small but consistent increases in rates each year. Most operations showed increases of 3 to 5 percent over the average rates in the 2012 survey.

The values reported on the survey are the average of all the responses received for each category. The range of the highest and lowest responses received is also reported. These values are intended only as a guide.

There are many reasons why the rate charged in a particular situation should be above or below the average. These include the timeliness with which operations are performed, quality and special features of the machine, operator skill, size and shape of fields, number of acres contracted and the condition of the crop for harvesting. The availability of custom operators in a given area will also affect rates.

Several new operations and services were included in the 2013 survey, including vertical tillage, providing a seed tender, soybean combining with a draper head and mowing lawns.

The Ag Decision Maker offers a decision tool to help custom operators and other farmers estimate their own costs for specific machinery operations. The Machinery Cost Calculator can be found under Crops, then Machinery in the Ag Decision Maker table of contents.

The 2013 Iowa Farm Custom Rate Survey can be downloaded from the Extension Online Store, https://store.extension.iastate.edu, or the Ag Decision Maker website, www.extension.iastate.edu/agdm/, as Information File A3-10, Iowa Farm Custom Rate Survey. Print copies will be available at county extension offices.

Average Farm Custom Rates Reported for Iowa

Operation	1978	1988	1998	2012	2013
Chisel plowing, per acre	$6.00	$8.40	$9.65	$14.90	$15.20
Planting, per acre	$4.40	$6.80	$8.85	$15.60	$16.60
Spraying, per acre	$2.40	$3.50	$4.00	$6.35	$6.65
Combining corn, per acre	$16.20	$22.00	$23.40	$31.85	$32.90
Combining soybeans, per acre	$14.00	$20.60	$22.55	$31.10	$32.00
Baling square bales, per bale	$.21	$.29	$.36	$.55	$.60
Custom farming, corn, per acre	$58.00	$71.00	$75.80	$119.80	$126.65
Custom farming, soybeans, per acre	$50.00	$65.00	$70.65	$105.70	$112.40
Machinery operating wage, per hour	$3.50	$5.10	$7.20	$13.40	$13.30

Source: Iowa State University, Iowa Farm Custom Rate Surveys, FM-1698.

Updates, continued from page 1

Internet Updates

The following decision tool has been updated on www.extension.iastate.edu/agdm.

Average Crop Revenue Election (ACRE) Payment Estimator – A1-45 (Decision Tool)

Current Profitability

The following files and tools have been updated on www.extension.iastate.edu/agdm/info/outlook.html.

Corn Profitability – A1-85

Soybean Profitability – A1-86

Iowa Cash Corn and Soybean Prices – A2-11

Ethanol Profitability – D1-10

Biodiesel Profitability – D1-15

Returns for Farrow-to-Finish – B1-30

Returns for Weaned Pigs – B1-33

Returns for Steer Calves – B1-35

Returns for Yearling Steers – B1-35

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