

**Comparing the Stock Market and Iowa Land Values:  
A Question of Timing  
Michael Duffy  
ISU Department of Economics**

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 2006 estimated farmland value was \$3,204 per acre, a record high. This was an increase in Iowa land values of 10.0 percent over the 2005 estimate. Since 1990, the estimated average value of Iowa land has more than doubled going from \$1,214 to \$3,204 per acre.

On the other hand, the stock market, as measured by the Dow Jones Industrial (DJI) average, last year closed higher for the third time in six years with an increase of 16.3 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 12,463 in 2006, an increase of over 370 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 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 and Cash Rental Rates for Iowa, FM 1851 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 5.5 percent with a standard deviation of 11.2 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 8.5 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 5.7 percent of land value since 1950. The Dow Jones Industrial dividend has averaged 3.7 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 2006 would have 106.37 acres worth approximately, \$340,806 or they would have 34.71 shares of the Dow Jones Industrial, worth approximately \$432,565. In other words, the value of the DJI investment would be 21 percent higher than the stock investment.

Figure 1.

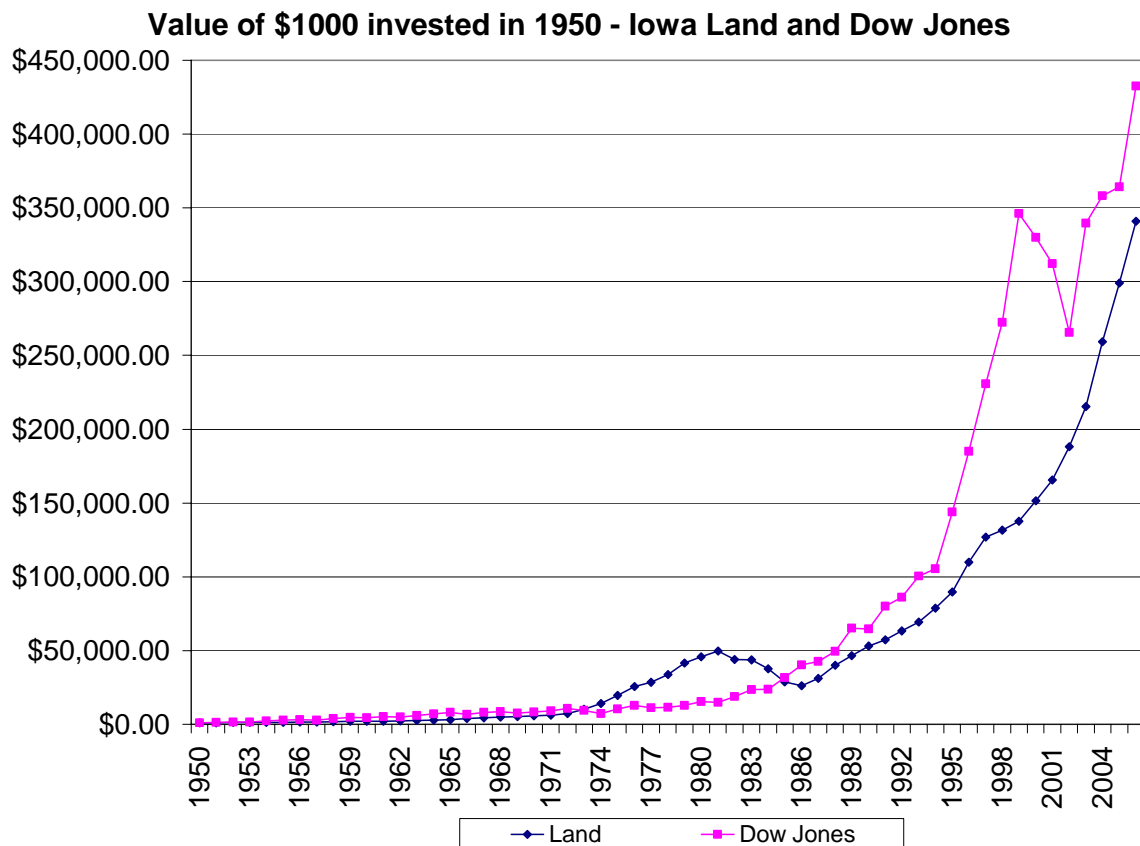


Figure 2 shows what would happen if the \$1,000 investment in land or the DJI had been made in 1970. At that time \$1,000 would purchase 2.4 acres or 1.2 shares in the DJI. By 2006, the land investment would have been worth \$55,997, while the DJI investment would have been worth \$53,667. A land purchase in 1970 would have approximately 4 percent greater value relative to a Dow Jones investment.

Figure 2.

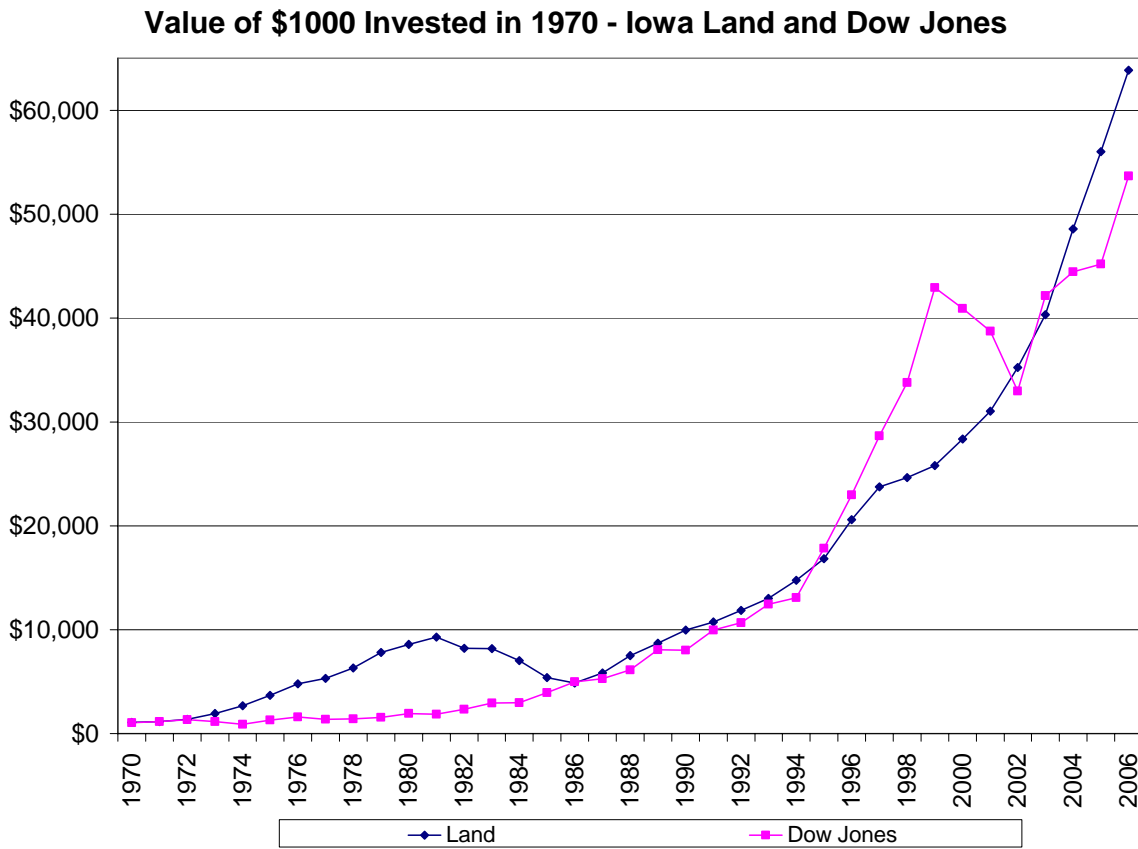


Figure 3 presents the results of a \$1,000 investment had it been made in 1980, near the earlier peak in Iowa land values. In 1980, the \$1,000 investment in land would have purchased only .48 acres of land or 1.04 shares of the DJI. By 2006, the land investment would have been worth \$7,741 while the DJI investment would have been worth \$29,578. This means the DJI investment would be worth more than three and a half times the land investment.

Figure 3.

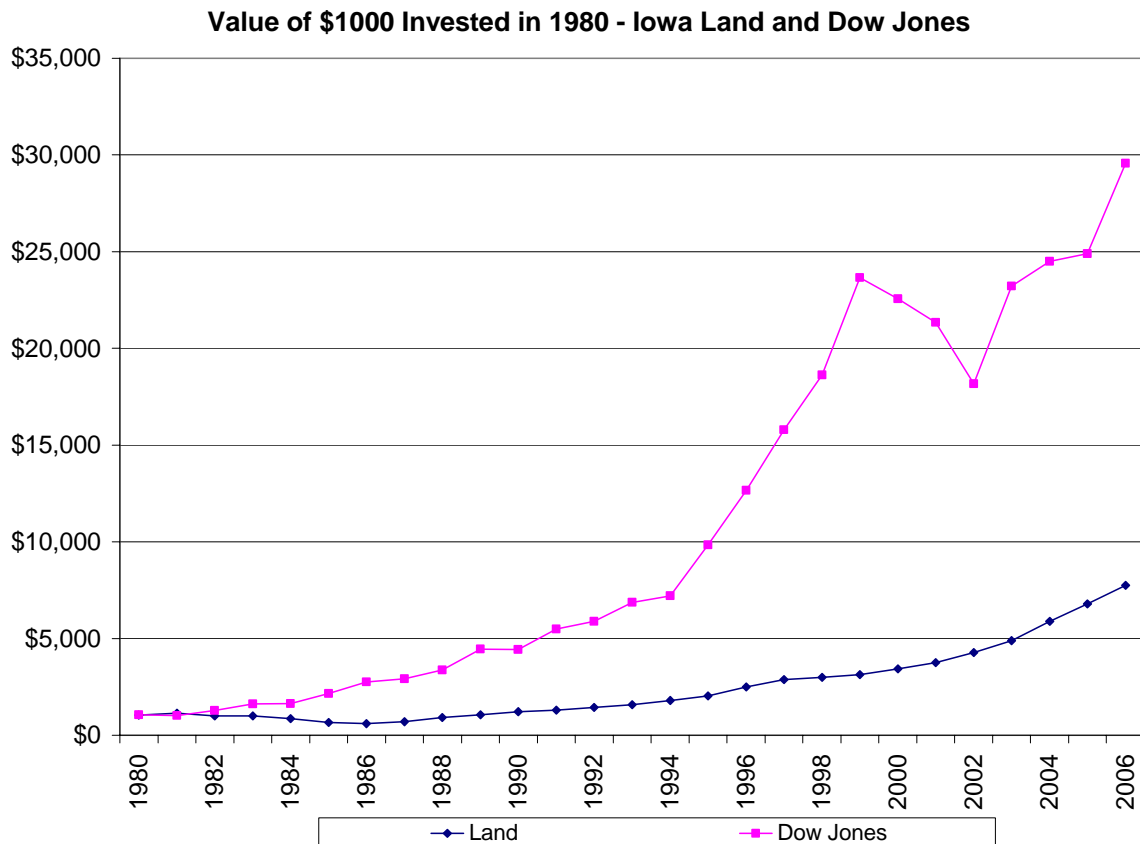
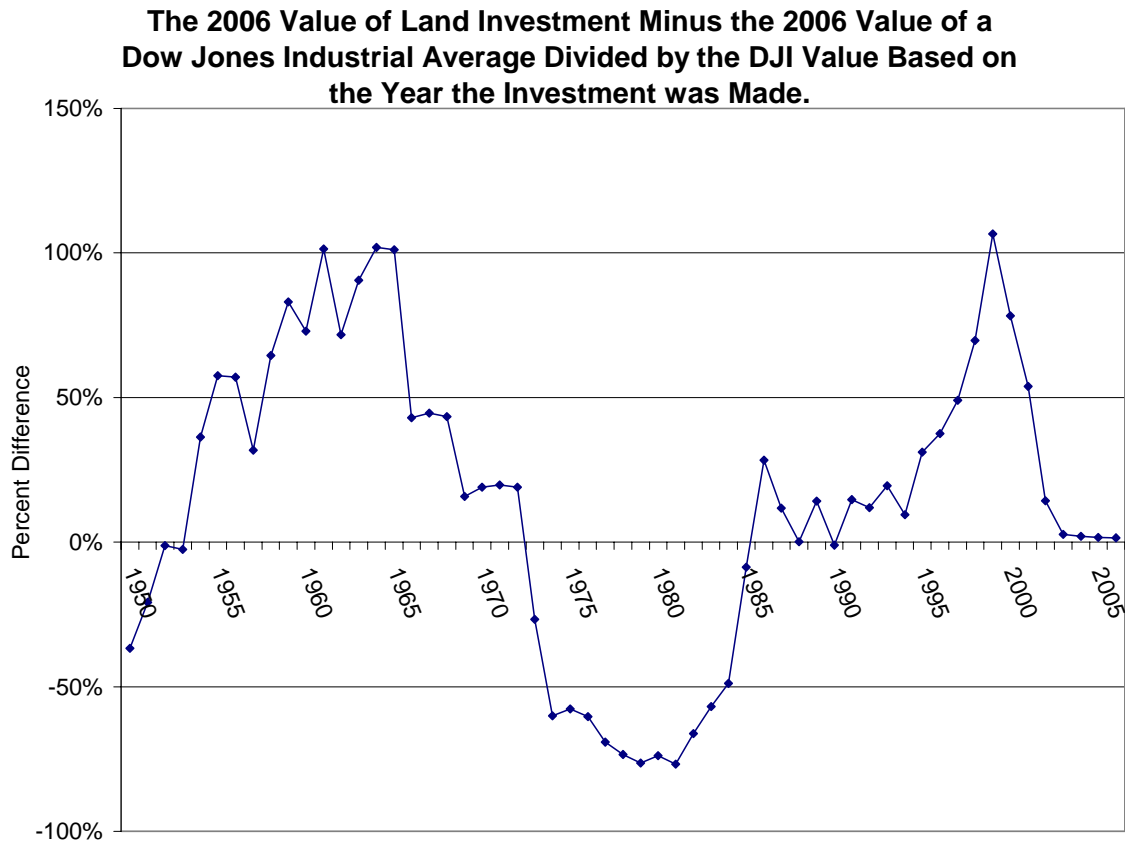


Figure 4 shows a comparison of the returns based on the year of the initial investment. Figure 4 shows the difference between the investment in Iowa farmland and the Dow Jones Industrial as a percent of the value of the Dow Jones. A negative percentage indicates that the Dow Jones had a greater return 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.

Figure 4.



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 2006. 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 60 percent in 2006. 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 2006 they represented 35 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.

What will happen to the value of farmland over the next several years? As always, 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.

Several critical factors will influence land values and returns over the next few years. The first relates to the future of the government farm programs. As noted, farmers are the primary purchasers of farmland and net farm income influences how likely farmers are to entertain thoughts of buying land. Over the past several years, the majority of net farm income has come from direct government payments. While the 2002 Farm Bill will continue to provide a relatively high level of government payments, investors must consider whether those payments have already been factored into the cost and how long the payments will continue.

The second major unknown is the performance of the stock market over the next few years. If the market resumes its decline, it will have a decided impact on investor interest in farmland. Land that was purchased for recreational purposes could be returned to the market and depress prices. If the Federal Reserve takes steps to prevent major problems in the overall economy, mainly raising interest rates, land values will be affected. Finally, a declining stock market may encourage investors who are looking for a safer place for their money to consider land purchases. There could be positive and negative effects on land values from a prolonged decline in the stock market. At this time it is not possible to know which economic and social factors will exert the most pressure.

Interest rates are closely related to stock market performance. Today's historically low interest rates make long-term investments such as land more attractive.

Land values are always influenced by the returns available. The financial returns are affected by the levels of production and demand. Weather and technological changes have a tremendous influence on the supply. And, in the global economy, changes in supply and demand conditions around the world can impact Iowa land values.

In the longer term, there are changes occurring in agriculture that will have an influence on land values. One of these is the structural change of increasing farm size. If this trend continues, there will be fewer farms and farmers. This will alter many aspects of the rural countryside, including land values.

Another element of change is the increasing age of Iowa farmland owners. Based on Iowa State University studies, 48 percent of Iowa farmland was owned by people over the age of 65 in 2002. This means that over the next few years a sizeable percentage of Iowa farmland will change hands. Will it enter the market, will family members retain control, or will it be divided? No one knows for sure, but this is likely to have an impact on land values.

The relative performance of the land and stock markets has varied over the past 50 years. Timing has been the key to which investment produces the highest returns.

What are the future trends? What will happen to land values? These questions are difficult to answer. At present, in my opinion, land values will continue to hold steady with only slight changes. There will be year-to-year variations, depending upon the current conditions and outlook for agricultural returns. In the long run, I think that land values will increase. But, for how long and by how much, no one knows. And, there is always the potential for downside risk if government support programs change substantially.