

Econ 466
Spring, 2010
Team project 8
Land Finance Problem

In the 10 years since you graduated from ISU in Ag Business, you have made a killing as a regional sales rep for a large ag chemical company. You have amassed a small fortune of approximately \$250,000. However, you lost a sizable chunk as a result of the stock market crash a year ago. You think moving some or all of your current investments into farm land makes sense.

You have an opportunity to purchase a bare 80 for \$5500 per acre. You are interested in land only as an investment. You intend to liquidate this investment in 10 years. You want to assess the profitability, feasibility and risk associated with this investment. Here are some initial assumptions:

1. Current cash rent on the parcel (net of property taxes) is \$190/ acre
2. You expect rents will grow slowly over the next decade at around 2% per year
3. Your financial advisor has suggested that you could expect to sell the land for \$7500/acre in 2020. This sounds plausible, but you have no clue how he came up with this estimate.
4. You will need to finance the purchase. Your lender will require at least a 50% down payment
5. The loan she offers is at 6.5% interest with 40 year amortization
6. Your marginal ordinary income tax rate is 30%
7. Your capital gains tax rate is 15%
8. You want to achieve a before tax rate of return of 10%

Tasks

1. Develop a financial model that you can use to analyze this investment.
2. Discuss the profitability and feasibility of the land purchase.
3. What are the primary risks in this investment? How would you manage them? Use sensitivity or breakeven analysis to estimate your risk exposure.
4. Would you make this investment? If not, are there some changes in the terms of the investment that might make it more appealing? Justify your answer.

This project is due before 5:00 PM on April 2, 2010

Here is some historical land value information from the ISU Land Value Survey:

Table 1. Recent changes in Iowa farmland values.

Year	Value per acre	Dollar change	Percentage change
1980	2066	108	5.5
1981	2147	82	3.9
1982	1801	-346	-16.1
1983	1691	-110	-6.1
1984	1357	-334	-19.8
1985	948	-409	-30.2
1986	787	-161	-17.0
1987	875	88	11.2
1988	1054	179	20.4
1989	1139	85	8.1
1990	1214	75	6.6
1991	1219	5	0.4
1992	1249	30	2.5
1993	1275	26	2.1
1994	1356	81	6.4
1995	1455	99	7.3
1996	1682	227	15.6
1997	1837	155	9.2
1998	1801	-36	-1.9
1999	1781	-20	-1.1
2000	1857	76	4.3
2001	1926	69	3.7
2002	2083	157	8.2
2003	2275	192	9.2
2004	2629	354	15.1
2005	2914	285	10.8
2006	3204	290	10.0
2007	3908	704	22.0
2008	4468	560	14.3
2009	4371	97	-2.2