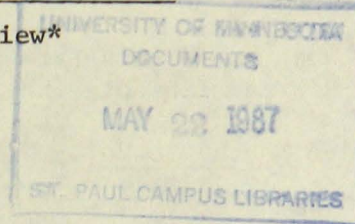


LAND VALUE/FINANCE/TRANSFER

An Overview*



I. Introduction

A. Objective

The objective of this educational program is to increase the participant's ability to deal with the major problems involved in buying and selling a farm.

The major decision areas to be considered are:

1. What is land of different quality selling for in this area?
2. What is the maximum bid price a particular person can justify?
3. How can the cash flow consequences of alternative financing arrangements be evaluated?
4. How can parents best transfer a farm to the next generation?

B. The basic dilemma in a buy land decision is illustrated by the following two statements:

1. Land is almost always a good investment--if you can pay for it.
2. The net income from a cropping program is almost never enough to cover land payments in the early years of the repayment schedule.

C. Decision framework

1. Some questions to consider before bidding on a farm.
 - a. Do you need more land to be efficient?
 - b. Are you getting good crop production now?
 - c. Will you be able to get good yields on the added acres?
 - d. Will a land purchase restrict your capital and credit for operating needs?
 - e. Will the land purchase create additional estate transfer and tax problems?
 - f. Are there alternatives to land purchase at this time?
2. Alternatives to farm purchase.
 - a. A farmer should be operating a large enough business to make a living with mostly rented land before buying.
 - b. Land purchase is like an investment in a growth stock--the farmer short of capital usually can't justify a low dividend paying investment. Higher annual returns come from investments in:
 - Operating costs for recommended practices
 - Livestock and livestock facilities
 - Machinery

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3. If decision is in favor of land purchase--two questions must be analyzed.
 - a. What would this farm land be worth to me?
 - b. How can I handle the cash flows?

II. What Is A Farm Worth? To Me?

A. The earnings approach

1. Future net earnings from the farm are estimated and discounted to a present value estimate.
 - a. A worksheet to do this is attached (worksheet #1). (Current earnings on crop land are 3 to 4 percent--so a capitalization rate of .03 to .04 in line F will yield expected market value for the crop land portion of a farm. The attached map shows cash rents paid for crop land of different qualities in each county. Multiplying this figure by 20 to 25 yields an approximate current crop land market value.)
 - b. A more complex formula that also considers financing and tax factors can be used by completing the first side of the attached BUYLAND input form and giving it to your Extension Director or Agricultural Instructor. (see example results on page 3)

B. The market approach

1. Other recent land sales are used to estimate the probable market price of a particular farm.
2. Adjustments are made for differences in land quality, buildings, location, size and time of sale.

III. Can I Handle The Cash Flows?

- A. Projected cash flows under five loan methods are available from the computer program BUYLAND.
 1. These can be used to compare alternative financing methods.
 2. Some example output will be provided.
- B. Worksheet #2 provides a worksheet for estimating whether or not the cash flows of a land purchase can be handled. If things really look tight, you will want to develop a more detailed cash flow.

IV. Land Financing Alternatives

- A. Contract for deed with owner
- B. Federal Land Bank or other commercial lender
- C. Farmers Home Administration
- D. Minnesota Farm Security Act

V. Land Transfer Issues

- A. Considerations in transferring the farm business
- B. Stages and tools in the transfer process
- C. Evaluating real estate transfer arrangements: tools vs. goals.

Table 1. Land bid variations given land earnings of \$50, annual growth in earnings of 4 percent, inflation rate in land values of 6 percent, and an after-tax desired rate of return of 8 percent.

Base Maximum Bid Price = \$1,216						
Input Line #	Price Bid Factor	Base Value	Changed Value	Maximum Bid Price	Changed Value	Maximum Bid Price
4	Down payment as a percent of purchase price	25%	5%	\$1,253	45%	\$1,181
5	Interest rate on borrowed funds	9.5%	8%	\$1,325	11%	\$1,120
6	Amortization period in ___ years	30 yrs.	20 yrs.	\$1,188	40 yrs.	\$1,234
8	Total marginal tax rate (fed. & state)	30%	15%	\$1,223	45%	\$1,208
9	Percentage of capital gains taxed on property sold at end of planning period	20%	12%	\$1,256	28%	\$1,175

Table 2. Land bid variations given land earnings of \$100, annual growth in earnings of 4 percent, inflation rate in land values of 6 percent, and an after-tax desired rate of return of 8 percent.

Base Maximum Bid Price = \$1,915						
Input Line #	Price Bid Factor	Base Value	Changed Value	Maximum Bid Price	Changed Value	Maximum Bid Price
4	Down payment as a percent of purchase price	25%	5%	\$1,973	45%	\$1,860
5	Interest rate on borrowed funds	9.5%	8%	\$2,086	11%	\$1,764
6	Amortization period in ___ years	30 yrs.	20 yrs.	\$1,871	40 yrs.	\$1,934
8	Total marginal tax rate (fed. & state)	30%	15%	\$1,983	45%	\$1,829
9	Percentage of capital gains taxed on property sold at end of planning period	20%	12%	\$1,949	28%	\$1,880

Worksheet 1. How much is land worth to me?

<u>Income</u>					Total
Crop					
Acres					
Yield					
Production					
Price					
A. Expected return					\$
<u>Direct costs</u>					
Seed					
Fertilizer					
Herb.+insect.					
Fuel+oil					
Custom hire					
Crop insurance					
B. Total direct costs					\$

Related operating and overhead

Machinery+equipment

Repair \$ _____

Depreciation or replacement _____

Interest _____

Trucking+marketing _____

Real estate—taxes _____

—maintenance _____

Insurance _____

Labor+management _____

Miscellaneous _____

C. Total related expenses \$ _____

D. Total costs (B+C) \$ _____

E. Residual return to land (A-D) \$ _____

F. Land value (E ÷ capitalization rate —%) \$ _____

G. Adjustments for location, bldgs., etc. (±) \$ _____

H. Estimated value of land (F±G) \$ _____

I. Land value/acre (H ÷ acres) \$ _____

Sensitivity analysis: Effect of change in prices, costs and capitalization rate

<u>Residual return</u> <u>per acre</u>	<u>Capitalization rate</u>		
	3%	4%	5%
		value/acre	
\$ _____	_____	_____	_____
\$ _____	_____	_____	_____
\$ _____	_____	_____	_____

Worksheet 2. Determining whether land debt can be serviced

A. Estimate net cash flow available

(Cash available for land debt repayment
without jeopardizing rest of business)

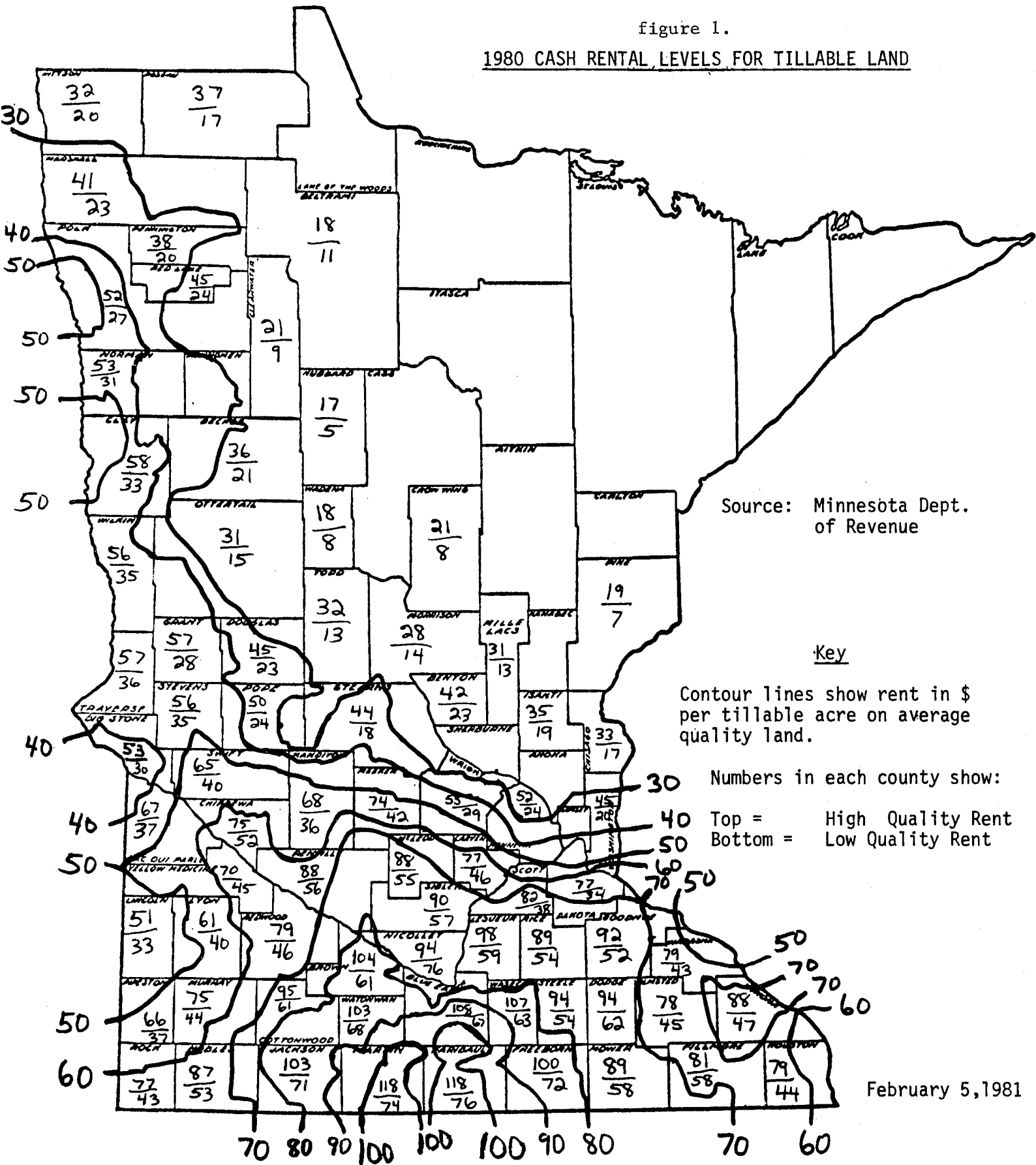
	<u>Expected</u>	<u>Optimistic</u>	<u>Pessimistic</u>
1. Net cash returns from land	_____	_____	_____
2. Building rental, etc.	_____	_____	_____
3. Other cash earnings available	_____	_____	_____
4. Total expected annual cash available	_____	_____	_____
5. Cash available per acre (4 ÷ acres)	_____	_____	_____
B. Calculate debt per acre that can be amortized			
1. Cash available per acre (A, 5)	_____	_____	_____
2. Times debt repayment factor (see table)	_____	_____	_____
3. Equals debt per acre can be carried	_____	_____	_____
C. Compare asking price with debt that can be carried			
1. Debt per acre can be carried (B, 3)	_____	_____	_____
2. Plus per acre downpayment available	_____	_____	_____
3. Price per acre could be paid	_____	_____	_____
4. Present asking price per acre	_____	_____	_____
5. Difference	_____	_____	_____

Debt repayment factors
Amount of debt \$1 per year will cover—even payment

Repayment period in years	Annual interest rate					
	6%	6.5%	7%	8%	9%	10%
10	\$ 7.36	\$ 7.19	\$ 7.02	\$ 6.71	\$ 6.42	\$ 6.14
20	11.47	11.02	10.59	9.82	9.13	8.51
30	13.76	13.06	12.41	11.26	10.27	9.43
40	15.05	14.15	13.33	11.92	10.76	9.78
forever (interest only)	16.67	15.38	14.29	12.50	11.11	10.00

figure 1.

1980 CASH RENTAL LEVELS FOR TILLABLE LAND



February 5, 1981

BUYLAND, Part I
Land Bid Analysis Input Form

<u>Input No.</u>		<u>First Run</u>	<u>Second Run</u>	<u>Third Run</u>
1	Annual net income per acre to pay for land (\$)	_____	_____	_____
2	Anticipated annual increase in net income (%)	_____	_____	_____
3	Anticipated inflation rate in land values (%)	_____	_____	_____
4	Desired rate of return on after-tax dollars (%)	_____	_____	_____
5	Total marginal tax rate (federal plus state) (%)	_____	_____	_____
6	Marginal tax rate on capital gains income (assumes sale of land at the end of the planning span) (%)	_____	_____	_____
7	Decision planning span in years (yrs)	_____	_____	_____
8	Current price of comparable land in area (\$/A)	_____	_____	_____
10	Equity cash down payment as a percent of purchase price (%)	_____	_____	_____
16	Loan amortization period in years (yrs)	_____	_____	_____
17	Interest rate on borrowed funds (%)	_____	_____	_____

(over)

BUYLAND, Part II

Cash Flow Analysis Input Form

Input No.		First Run	Second Run	Third Run
1	Annual net income per acre to pay for land (\$)	_____	_____	_____
2	Anticipated annual increase in net income (%)	_____	_____	_____
5	Total marginal tax rate (federal plus state) (%)	_____	_____	_____
7	Decision planning span in years (yrs)	_____	_____	_____
9	Actual price per acre of land being purchased (\$)	_____	_____	_____
Arrangements For Financing Down Payment				
11	Total down payment as a percent of purchase price (%)	_____	_____	_____
12	Proportion of down payment financed with borrowed money (%)	_____	_____	_____
	(lines 13, 14 and 15 are not necessary if none of down payment is borrowed; i.e. 12=0)			
13	Loan repayment period on down payment loan (yrs)	_____	_____	_____
14	Interest rate on down payment loan (%)	_____	_____	_____
15	Principal payment method on down payment (1 or 2) (1 = amortized; 2 = equal principal)	_____	_____	_____
Arrangements For Financing Balance Of Land Debt				
<u>Arrangements 1-3: Amortized, Equal Principal And Increasing Payment Plans</u>				
16	Loan repayment period on balance of land debt (yrs)	_____	_____	_____
17	Interest rate on balance of land debt (%)	_____	_____	_____
	(line 18 will be set automatically but can be changed later)			
18	Annual percent increase for increasing loan payment method (%)	_____	_____	_____
<u>Arrangement 4: Contract/Balloon Payment Plan (optional input)</u>				
19	Length of contract (yrs)	_____	_____	_____
<u>Contract Repayment Terms:</u>				
20	Loan repayment period on which contract terms are based (yrs)	_____	_____	_____
21	Interest rate on contract (%)	_____	_____	_____
22	Principal payment method (1 = amortized; 2 = equal principal) (1 or 2)	_____	_____	_____
<u>Balloon Repayment Terms:</u>				
23	Loan repayment period on balloon (yrs)	_____	_____	_____
24	Anticipated interest rate on balloon loan (%)	_____	_____	_____
<u>Arrangement 5: Minnesota Farm Security Act (optional input)</u> (program assumes 20 year amortized loan repayment basis)				
25	Interest rate on amortized loan (%)	_____	_____	_____
26	Expected number of years before net worth will reach \$135,000. (yrs)	_____	_____	_____
<u>Deffered Interest Repayment Terms:</u> (interest due state)				
27	Loan repayment period for interest loan. (yrs)	_____	_____	_____
28	Anticipated interest rate on interest loan (%)	_____	_____	_____