

Land Purchase & Rental

Chapter 10

Farm Management: Principles and Strategies, Kent Olson, 2003

Purchasing Land

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Value of land comes from:

- Income from production
- Appreciation in market values

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Land values estimated by:

- Market value
- Income capitalization

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Income capitalization

- $PV = R / i$
- PV = present value of the future stream of income
- R = annual net returns to land
- i = income capitalization rate

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- For example:
- R = cash rent – taxes, insurance and other ownership expenses
= 85 – 23 = \$62 per acre
- i = 5% or 0.05
- $PV = 62 / 0.05 = \$1,240$ per acre
- Thus, the income capitalization value of this land is estimated to be \$1,200 per acre

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The Robinsons example, Table 10.1

- Estimated net return of \$98 per acre
- Income cap rate = 5%
- $PV = 98 / 0.05 = \$1,960$
- Based only on this income capitalization value of \$1,960 per acre, the offer price of \$2,500 is too high



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Value for a fixed number of years:

- $PV = \sum_{(t=1 \dots n)} [R_t / (1+i)^t] + AP / (1+i)^n$
- R = estimated net return for each year
- AP = anticipated price in year n
- i = discount rate (not cap rate)



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Example of value for 10 years:

- R = \$112.50 per acre for the next 10 years
- AP = \$1,700 in 10 years
- i = 0.08
- $PV = \sum_{(t=1 \dots 10)} [112.5 / (1+0.08)^t] + 1700 / (1+0.08)^{10}$
= 755 + 787
= \$1,542 per acre



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Land Rental



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Types of rental agreements

- Cash lease
- Crop share lease
- Flexible cash rent



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With a share lease:

The land owner:

- Pays a share of the direct growing costs
 - Typically seed, fertilizer, crop insurance, drying, & transportation costs
 - In addition to ownership costs
- Receives a share of the product at harvest
 - And markets it independently of the tenant

The tenant

- Pays a smaller share of the direct costs
- Receives a smaller share of the product



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With a cash lease:

- The tenant:
 - Pays a fixed cash payment to the land owner
 - Receives all the product at harvest
 - Regardless of weather, prices, and other events
- The landowner:
 - Receives the fixed cash payment
 - And no physical product
 - Pays only ownership costs

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Risk sharing

- The cash lease has more risk for the tenant than the crop share lease
- With a cash lease, the tenant pays a fixed amount and takes on all the risk and potential benefit of higher yields and prices
- With a crop share lease, the owner takes on more risk by paying more of the expenses and receiving a share of uncertain production instead of a fixed payment
- So, the fixed cash rent should be less than the expected value of the owner's share of production

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Flexible cash rental agreements

- Base rent multiplied by the ratio of current price to base price
- Base rent with adjustments for price changes
- Fixed amount of commodity
- Base rent multiplied by the ratio of current price to base price and by the ratio of current yield to base yield
- Stated percentage of the current crop's value
- Minimum base rent plus a percentage of increased value

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Tenant's vs Owner's costs, from Table 10.3

	Total	CASH RENT		SHARE RENT	
		Tenant	Owner	Tenant	Owner
Revenue	370	370	0		
Direct expenses	178	178	0	110	68
Overhead expenses	166	38	128	38	128
Labor & mgt	30	30	0	30	0
Total exp.	374	246	128	178	196
Net return before rent	-4	124	-128		

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So, for rent negotiation, from Table 10.3

	Total	CASH RENT		SHARE RENT	
		Tenant	Owner	Tenant	Owner
Total exp.	374	246	128	178	196
Net return before rent	-4	124	-128		
Maximum cash rent for tenant	124				
Minimum cash rent for owner	128				
Share of costs & thus fair share of revenues				48%	52%

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