EXAMINING SHARE LEASE AGREEMENTS FOR COTTON OPERATIONS IN THE TEXAS PANHANDLE UNDER CHANGING MARKET CONDITIONS

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Abstract

Cotton producers on the Texas High Plains often incorporate rented land into their farming operations. Rental arrangements between landowners and producers can have a significant effect on farm risk and profitability. The most common type of cotton lease agreement on the Texas High Plains is a 25% or 33% crop share, with the landlord paying a portion of expenses, and receiving a corresponding portion of crop receipts and government payments. Typical expenses shared are fertilizer, chemicals, irrigation, and/or harvest. Technological changes over the past few years such as an increase in genetically engineered seed and a rise in conservation tillage adoption may necessitate new lease negotiations. However, rental arrangements often seem unresponsive to changes in production practices, and are generally slow to evolve.

Little data exist concerning the crop share percentage that achieves a fair and equitable rental arrangement for both the landlord and the producer. This analysis determines the optimal share arrangement for cotton operators and landlords in the Texas High Plains. It also decides whether this result is affected by changing market environments. The analysis examines the Net Returns above Variable Costs for the landlord and producer in five alternative share arrangements currently being used or considered in the region. Results are determined at the whole farm level assuming a mix of irrigated and dryland cotton crops. The analysis is first developed as a predominately irrigated farm and then as a predominately dryland farm. Results are analyzed in two significantly different market environments: 2005 (low prices and low input costs) and 2008 (higher prices and higher input costs).

Introduction

The Texas High Plains region (AgriLife Extension District 1) produces a sizeable amount of Texas cotton. Crop share lease agreements are a typical practice in this area. A crop share lease is characterized by the landowner and operator each sharing in the cost of growing the crop. In return, crop receipts are shared by both parties based on predetermined percentages. Most share leases are based upon what is customary for the area. Crop share agreements for cotton in the Texas High Plains typically involve a 33% or a 25% lease. The expenses shared differ greatly, and are based on negotiations between landlord and tenant. This study determines the profit maximizing share agreement for both landlords and tenants producing irrigated cotton in the Texas High Plains..

Materials and Methods

2009 Irrigated Cotton budgets for AgriLife Extension District 1 were entered into an Excel Spreadsheet. A sample 2009 budget for Roundup Ready Flex cotton can be seen in Table 1. Different lease agreements were simulated, assuming both a 33% lease and a 25% lease with various expenses shared. Simulated scenarios are shown in Table 2. The optimal lease was determined when the percentage of unshared expenses was equal to the percentage of total expenses, and when both parties received a similar return on investment.

Results and Discussion

The 33% lease agreement shows a distinct advantage for the landlord in most scenarios. The 25% lease agreement appears to be slightly more equitable. However, the landlord should share at least four production expenses in order for the return on investment to be comparable between both parties. The optimal scenario under a 33% lease (Scenario 5) and the optimal scenario under a 25% lease (Scenario 8) both involve sharing more expenses than is traditional for the Texas High Plains region. Renegotiation of existing leases may be necessary.

Table 1. Estimated Costs and Returns per Acre
Roundup Ready Flex Cotton, Sprinkler Irrigated
Projected for 2009

	Total Budget			
	Quantity	Unit	Price	Amount
Income				
Cotton Lint	1100.00	lbs	$0.56	$616.00
Cotton Seed	0.83	ton	$235.00	$195.05
Total Income				**$811.05**
Direct Expenses				
Seed	0.22	bags	$280.00	$61.60
Insecticide + appl	1.00	acre	$13.44	$13.44
Herbicide	1.00	acre	$31.36	$31.36
Harvest Aid/Growth Reg + appl	0.75	acre	$28.00	$21.00
Fertilizer	125.80	lbs	$0.63	$79.25
Custom				
fert application	1.00	acre	$5.00	$5.00
crop consultant	1.00	acre	$7.50	$7.50
strip and module	11.00	cwt	$9.50	$104.50
ginning - cotton	40.48	cwt	$2.75	$111.32
Crop Insurance	1.00	acre	$28.00	$28.00
Boll Weevil Assessment	1.00	acre	$12.00	$12.00
Operator Labor	1.04	hours	$10.60	$11.02
Hand Labor	0.19	hours	$10.60	$2.02
Irrigation Labor	0.77	hours	$10.60	$8.14
Diesel Fuel - Tractors	2.77	gallons	$2.53	$7.00
Gasoline - Engines	3.52	gallons	$2.46	$8.65
Natural Gas - Pivot	12.00	mcf	$7.75	$93.00
Repair & Maintenance				
Implements & Tractors	1.00	acre	$14.55	$14.55
Center Pivot	12.00	acre	$2.03	$24.36
Interest-operating capital	1.00	acre	$15.77	$15.77
Total Direct Expenses				$659.50
Returns Above Direct Expenses				**$151.55**
Fixed Expenses				
Implements & Tractors	1.00	acre	$22.37	$22.37
Center Pivot	1.00	acre	$33.60	$33.60
Land	1.00	acre	$60.00	$60.00
Total Fixed Expenses				$115.97
Total Expenses				$775.47
Returns Above Total Expenses				**$35.58**
% Return on Investment				**4.59%**

Table 2. Simulated Lease Agreement Scenarios with Various Expenses Shared

Scenario 1	Scenario 2	Scenario 3	Scenario 4
Landlord Share %			
33%	33%	33%	33%
Input Costs Shared			
Fertilizer Chemicals/Application Irrigation	Fertilizer Chemicals/Application Irrigation Seed	Fertilizer Chemicals/Application Irrigation Harvest	Fertilizer Chemicals/Application Seed Harvest

Scenario 6	Scenario 7	Scenario 8	Scenario 9
Landlord Share %			
25%	25%	25%	25%
Input Costs Shared			
Fertilizer Chemicals/Application Irrigation	Fertilizer Chemicals/Application Irrigation Seed	Fertilizer Chemicals/Application Irrigation Harvest	Fertilizer Chemicals/Application Seed Harvest

Scenario 5
33%
Fertilizer Chemicals/Application Irrigation Seed Harvest

Scenario 10
25%
Fertilizer Chemicals/Application Irrigation Seed Harvest

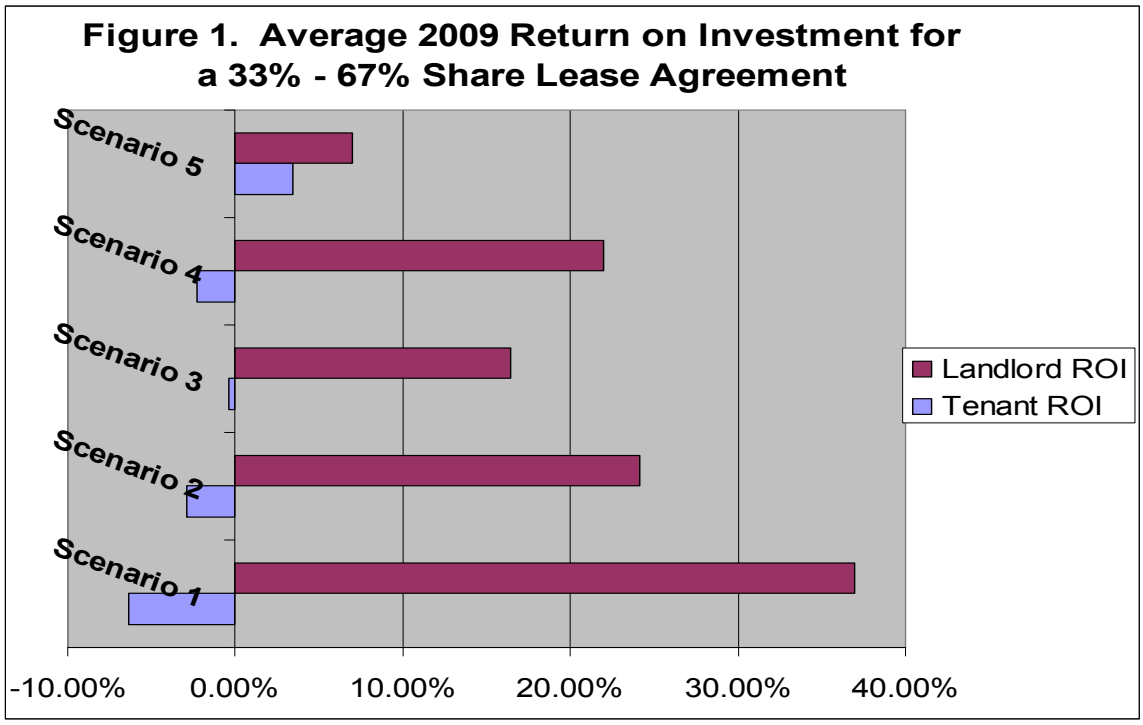
Figure 1. Average 2009 Return on Investment for a 33% - 67% Share Lease Agreement
Scenario 5
Scenario 4
Scenario 3
Scenario 2
Scenario 1
Landlord ROI
Tenant ROI
-10.00%
0.00%
10.00%
20.00%
30.00%
40.00%

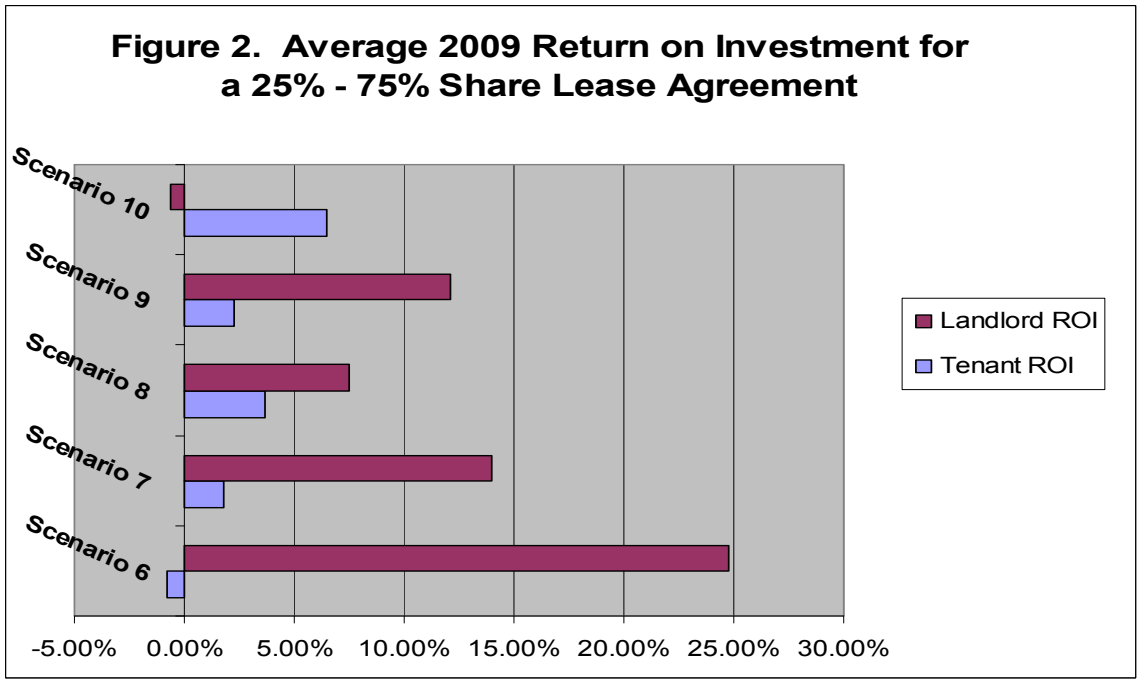
Figure 2. Average 2009 Return on Investment for a 25% - 75% Share Lease Agreement
Scenario 10
Scenario 9
Scenario 8
Scenario 7
Scenario 6
Landlord ROI
Tenant ROI
-5.00%
0.00%
5.00%
10.00%
15.00%
20.00%
25.00%
30.00%