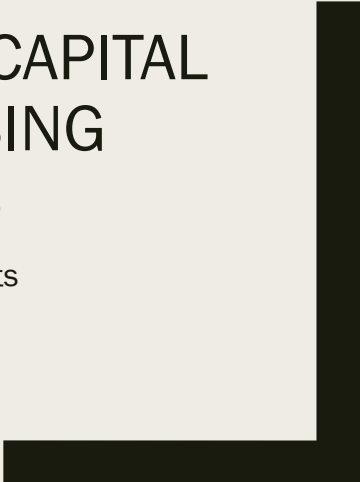




THE VALUE OF SOCIAL CAPITAL IN FARMLAND LEASING RELATIONSHIPS

By: Dr. Mykel Taylor and Allison Pitts



Outline

- Survey Overview
- Methods
- Summary Statistics
- Regression
- Discussion

Introduction

- Research team
 - *Mykel Taylor – Kansas State University*
 - *Simanti Banerjee – University of Nebraska-Lincoln*
 - *Leah Palm-Forster – University of Delaware*
- Questions of interest
 - *How do farmers and landowners engage to enable farmer participation in the Conservation Stewardship Program from NRCS?*
 - *Do farmers and landowners have similar ideas about working land programs, conservation, and land management?*
 - *Can insights from this research better inform NRCS in program design to promote participation of targeted lands?*

Motivation

- Participation in CSP and other working lands programs
 - *Requires all land a farmer operates to be enrolled*
 - *54% of Kansas cropland is leased to another person (USDA)*
 - *Therefore, farmers must gain the approval of all their landlords to participate in CSP*
- Transaction costs
 - *Average number of landowners is 2.7 in Kansas (USDA), but the range can be wide*
 - *Large farm operators, especially, will work with dozens of landowners*
- Philosophies of conservation
 - *Have farmers and landowners talked about type of conservation practices farmers would implement?*
 - *Is payment required to convince landowner(s) to participate? If yes, how much?*

Project Resources

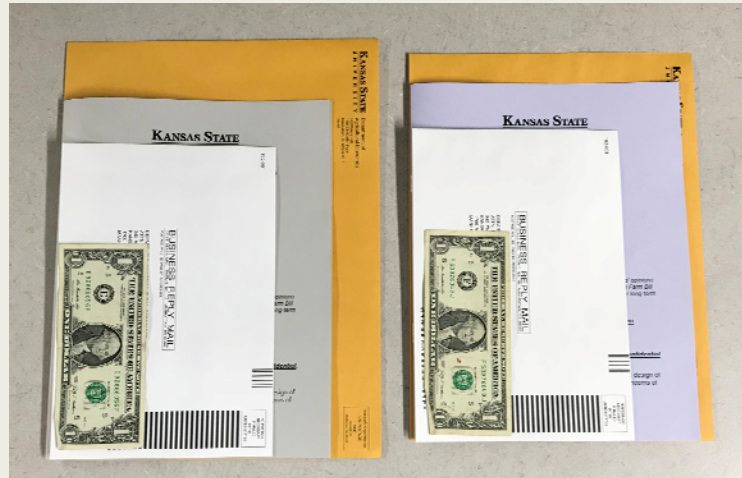
- ERS/USDA funding for two years
 - *Currently in a no-cost extension due to timing of winter meetings with farmers*
- Partnership with KS Farm Management Association (KFMA)
 - *Approximately 2,000 farmer members in Kansas*
 - *Work with KFMA economists to record information on production and finances*
 - *Membership a good representation of the family farm*
 - *Used membership roster for mailing of paper survey in winter 2018*
- Extension Agent network in Kansas
 - *Will use to recruit landowners and farmers for field experiment work in winter 2019*
 - *Collaboration with existing series of extension meetings on land leases*

Survey of Farmers & Landowners

- Paper survey sent out to farmers in winter of 2018
 - *Designed to learn about a farmer's owned and leased land, conservation preferences, characteristics of their landowners*
 - *Survey asked for specific information on their largest lease*
 - *Data gathered for comparison of production and conservation practices between owned and leased land*
- Landowners received survey directly from their tenant
 - *"Snowball" method of survey administration: asked the initial respondent to forward on a blank survey to the landowner of their largest lease*
 - *Method employed because we know the farmers, but do not know landowners*
 - *Snowball method allows us to generate unique data set with paired sets of landowner-tenant responses which can be jointly analyzed*

Survey of Farmers & Landowners

- Response rate:
 - 1,990 surveys sent out, 518 producer surveys returned (26%),
 - 405 landowner surveys returned
 - 317 matched pairs
 - Survey deployed in winter 2018



Producer Summary Statistics

Summary Statistics – Producer

Variables	Mean	Median	Min	Max
Total Cropland Operated (Q1a)	1692.05	1300	25	11666
Total Pastureland Operated (Q1b)	872.93	450	0	7300
Cropland Owned (A2a)	596.85	400	0	10000
Pastureland Owned (A2b)	379.39	160	0	4000

Summary Statistics – Producer

Variables	Mean	Median	Min	Max
Cropland Leased (B2a)	1383.25	936	18	41000
Pastureland Leased (B2b)	575.87	200	0	7300
Number of Landlords (B3)	7.39	6	1	70
How Many Acres is Your Largest Lease? (B5)	484.29	330.5	0	5000

Summary Statistics – Producer

Variables	Mean	Median	Min	Max
How Far Away is the Largest Lease from Your Home? (B7)	6.65	3.5	0	150
How Long Have You Been Leasing From this Person/Entity? (B13)	18.01	15	1	65

Summary Statistics – Producer

Variables	Mean
Who Do You Lease the Land From? (B8)	
Individual	40%
Family	31%
Trust	9.7%
Other	6%
Is This Landowner a Retired Farmer/Rancher? (B10)	41.6% (Yes)

Summary Statistics – Producer

Variables	Mean	Median	Min	Max
Type of Lease (crop share)	35%			
If You Paid Cash Rent:				
Cropland Rent in 2017 (B15a)	\$67.13/acre	58	0	250
Number of Installments (B15b)	1.77	2	1	12

Summary Statistics – Producer

Variables	Mean	Median	Min	Max
Years of Farming Experience (D1)	38.42	40	2	78
Age (D7)	59.83	62	26	94

Summary Statistics – Producer

Variables	Mean
Are/Were Your Parents or Grandparents Farmers? (D2)	98.8% (yes)
Highest Level of Education (D3)	41% (BS Degree or higher)
Gender (D7)	99% (Male)
Proportion of Gross Income in 2016 from Farming (D9)	52% (75% - 100% of income)

Landowner Summary Statistics

Summary Statistics – Landowner

Variables	Mean	Median	Min	Max
Cropland Owned (A1a)	697.38	420	25	6400
Pastureland Owned (A1b)	463.96	175	0	8100

Summary Statistics – Landowner

Variables	Mean	Median	Min	Max
Cropland Leased Out (B1a)	606.49	421	0	6400
Pastureland Leased Out (B1b)	278.41	80	0	6630
Number of Tenants (B2)	1.3	1	0	10
Length (Years) of Lease Relationship (B8)	11.99	10	1	50
Miles between Home and Leased Land (B4)	57.53	5	0	1600

Summary Statistics – Landowner

Variables	Mean	Median	Min	Max
Years of Farming Experience (You)	46.29	47	0	86
Years of Farming Experience (Spouse)	36.68	40	0	83
Age (D7)	68.55	69	31	96

Summary Statistics – Landowner

Variables	Mode
Are/Were Your Parents or Grandparents Farmers? (D3)	84% (Yes)
Highest Level of Education (D4)	38% (Bachelor's Degree)
Gender (D7)	86% (Male)
Proportion of Gross Income in 2016 from Farming (D10)	46% (75% - 100%)

Research Results (preliminary)

Social Capital

- The idea that personal relationships can affect economic outcomes
 - *Family relationships, long-run business relationships*
- Farming is a repeat game of outcomes where the landowner see both the returns from the land and the care given to the land
 - *Conservation practices, mowing the ditches*
- Previous research found that longer run relationships had a negative impact on cash rental rates
 - *The longer you rented from the same person, the lower the rent relative to market*
 - *Likely reflects both a trust factor and complacency in negotiating new rates*

Social Capital Regression - Preliminary

Variable	Coefficient	SE
Dependent Variable: ln(cash rent)		
Yield relative to county average	0.391***	(0.141)
Length of leasing relationship	-0.030	(0.048)
Tenant is related to landowner	-0.212**	(0.089)
Size of leased parcel (logged)	-0.080*	(0.049)
Land was inherited by landowner	-0.201**	(0.089)
Observations	96	
R-squared	0.185	

Conservation and Leasing

- Part of survey was a choice experiment looking for willingness to participate in conservation programs and characteristics of those program leases
- Use results to inform NRCS on future policies

Choice experiment **Step 1:** Review the alternative lease scenarios described below.

- 12 survey versions
- 4 choice sets per survey
- 3 alternative scenarios per choice set, including a “do not enroll” scenario
- 4 attributes
- D-efficient design with priors from pilot survey
- Tenant/landowner pairs were given the same choice sets.

Attribute of the lease	Scenario A	Scenario B	Scenario C
Minimum portion of the total operation acreage (<i>land you own and lease</i>) that must be enrolled in the CSP.	50%	100%	Do not enroll
Division of the CSP base payment (average payment per acre)	\$4.00/acre to producer \$4.00/acre to landowner	\$20.00/acre to producer \$0.00/acre to landowner	
CSP Application Time (includes time talking with your landlord(s) and filling out forms)	4 hours	4 hours	

*Note: The lease scenarios discuss only base payments, which represent the average payment per acre. Through the CSP, additional payments are available to support the adoption of new practices.



Step 2: Choose your most preferred and your least preferred lease scenarios.

	Scenario A	Scenario B	Scenario C
Pick the lease scenario that you prefer the MOST (check one box on this row)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pick the lease scenario that you prefer the LEAST (check one box on this row)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Preliminary results – rank-ordered logit

Covariate	Mean	Robust SE	MWTA
Payment to tenant	0.044***	(0.007)	
Payment to landowner	-0.023***	(0.007)	0.52
Proportion of land in CSP	-0.003**	(0.001)	0.07
Application time	-0.024***	(0.007)	0.55
Alternative specific constant	-0.690***	(0.148)	
Observations	3,264		
Number of groups	1,088		
LL	-1626.57		

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