



Ongoing Research on Farmland Access for Socially Disadvantaged and Beginning Farmers

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Confronting Barriers to Entry into Midwest Agriculture: Stories and Policies

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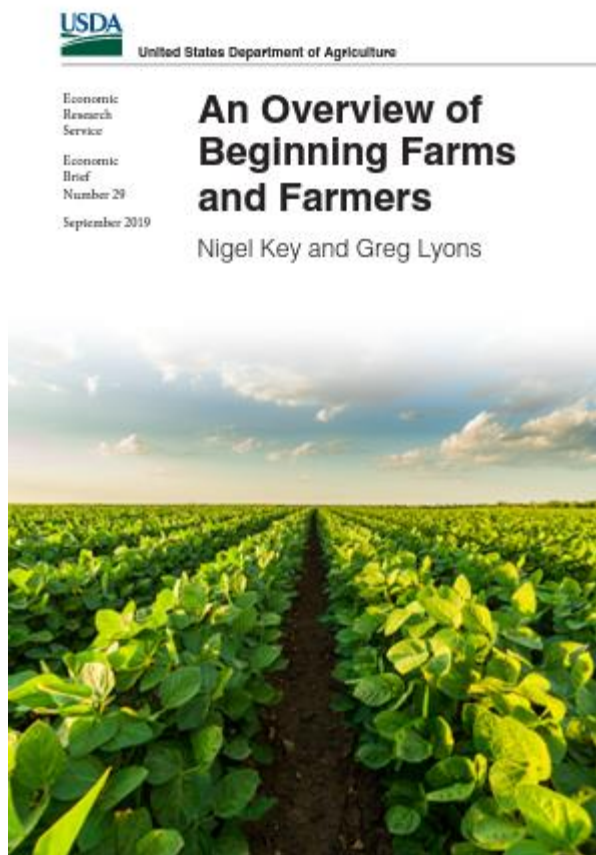
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Ongoing Beginning Farmers and Ranchers Research at USDA/ERS



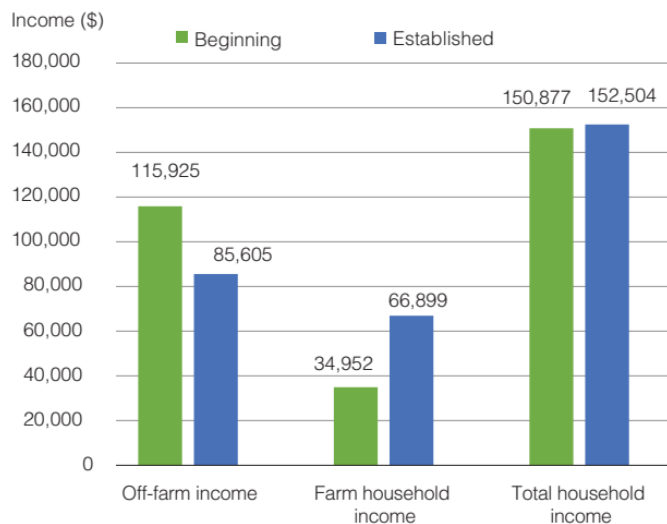
- April, 2022 Special issue of *Agricultural Finance Review* on barriers to entry and profitability for beginning farmers and ranchers, including 8 papers on:
 - *Credit Barriers*
 - *Land Barriers*
 - *Technology and market-based barriers*
- Additionally, multiple reports on beginning and historically underserved farmers and ranchers at various stages of peer review.



Emerging ERS Analysis Indicates

- Beginning farmers exhibit very high reliance on off-farm income
- Most popular beginning farm types in areas where they play a relatively minor role.

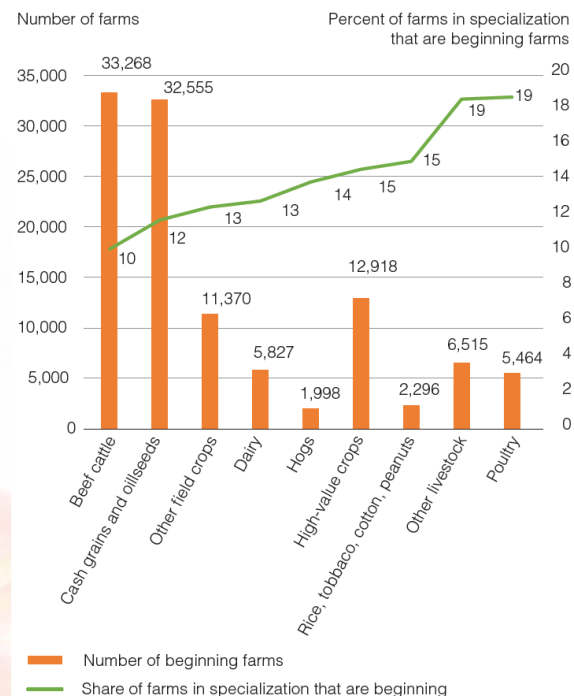
Figure 7
Average farm, off-farm and total household income for beginning and established farms, 2013-17



Note: Only family farms with production value greater than or equal to \$10,000 included in analysis. Off-farm household income includes earned income (wages, salary, non-farm business income) and unearned income (interest, dividend, transfer, and other income). Farm household income includes farm business income to the household (including from Government payments), farm rental income, and wages paid to operator and household for on-farm work.

Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2013-2017 Agricultural Resource Management Survey.

Figure 4
Number and share of farms in each commodity category that are beginning farms, 2013-2017 average



Note: Only family farms with production value greater than or equal to \$10,000 included in analysis. "Cash grain and oilseeds" include wheat, corn, soybean, sorghum; "other field crops" include other grains and oilseeds not included in "cash grain and oilseeds," dry beans, dry peas, hay, pasture, and other crops; "high-value crops" include fruits, vegetables, nursery, melons, potatoes, and sweet potatoes; "other livestock" includes sheep, goats, equine, aquaculture, and other animals.

Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2013-2017 Agricultural Resource Management Survey.

Source: USDA/ERS, Key and Lyons, EB-29



Ongoing Research Objectives

- Population of Interest
 - Socially Disadvantaged and Beginning Farmers
- Research Question
 - Identify what factors correlate with access to farmland for socially disadvantaged and beginning farmers.
- Factors we are studying
 - Landlord/tenant relationship characteristics
 - Land values/rents
 - Government programs
 - Crop shares
 - Demographics



Defining Socially Disadvantaged Farms

- Multiple definitions of “socially disadvantaged farmers” exist between USDA program agencies. Some include gender, while others don’t. We construct two definitions reflecting this.
- **Socially Disadvantaged Farms (Race/Ethnicity Definition)**
 - The race and ethnicity-based definition classifies a farming operation as socially disadvantaged if any operator is non-White or Hispanic.
- **Socially Disadvantaged Farms (Race/Ethnicity/Gender Definition)**
 - The race, ethnicity and gender-based definition classifies a farming operation as socially disadvantaged if any operator is non-White or Hispanic, OR all operators are female.



Defining Beginning Farms

- We define beginning farms are farms in which all operators have no more than 10 years of experience as an operator on any farm.
- This definition does not account for multigenerational family farms.



Data Availability

- Unit of Observation: County level
- 2017 Census of Agriculture
 - Percentage of operations classified as socially disadvantaged (SDA) or beginning operations.
 - Percentage of sales in certain product categories.
 - Cropland acreage, farmer age, etc.
- 2014 TOTAL Survey
 - Landlord/tenant relationships.
- REGSTATS
 - Participation by race and ethnicity in FSA Direct and Guaranteed Loan Programs.
- Administrative Data
 - Conservation Reserve Program
 - Agricultural Conservation Easement Program
 - Crop insurance
 - ARC/PLC
- American Community Survey
 - Population Demographics
- ERS
 - Rural classification

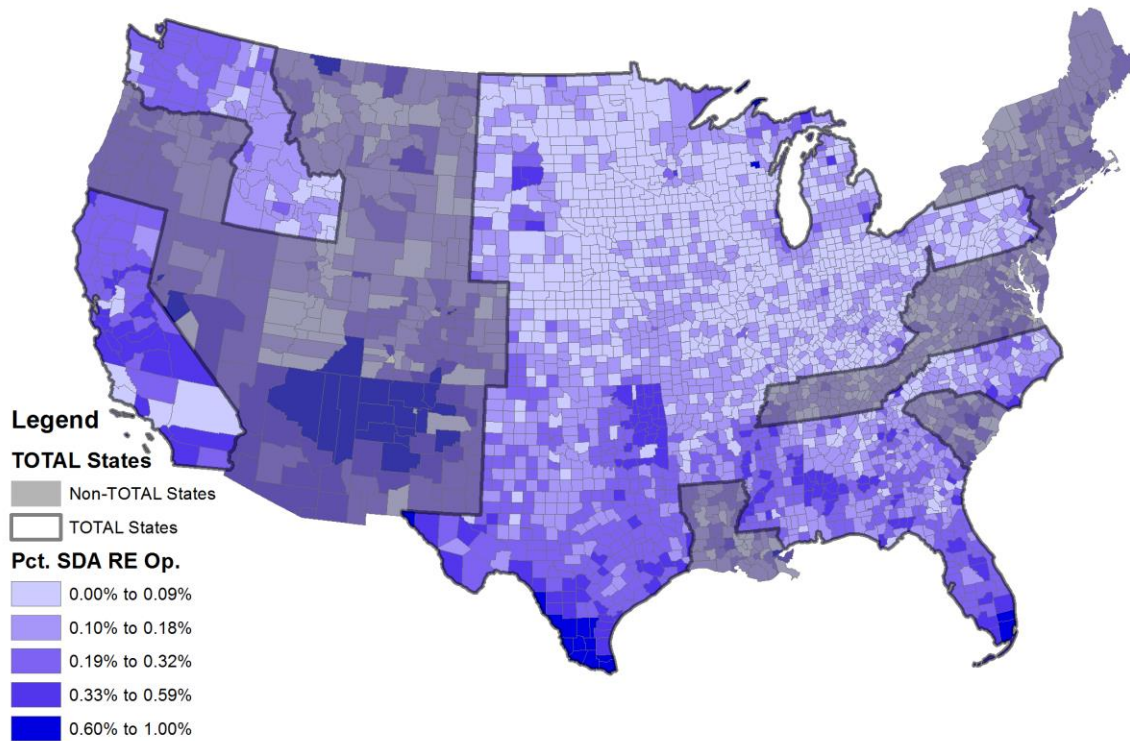


Empirical Strategy

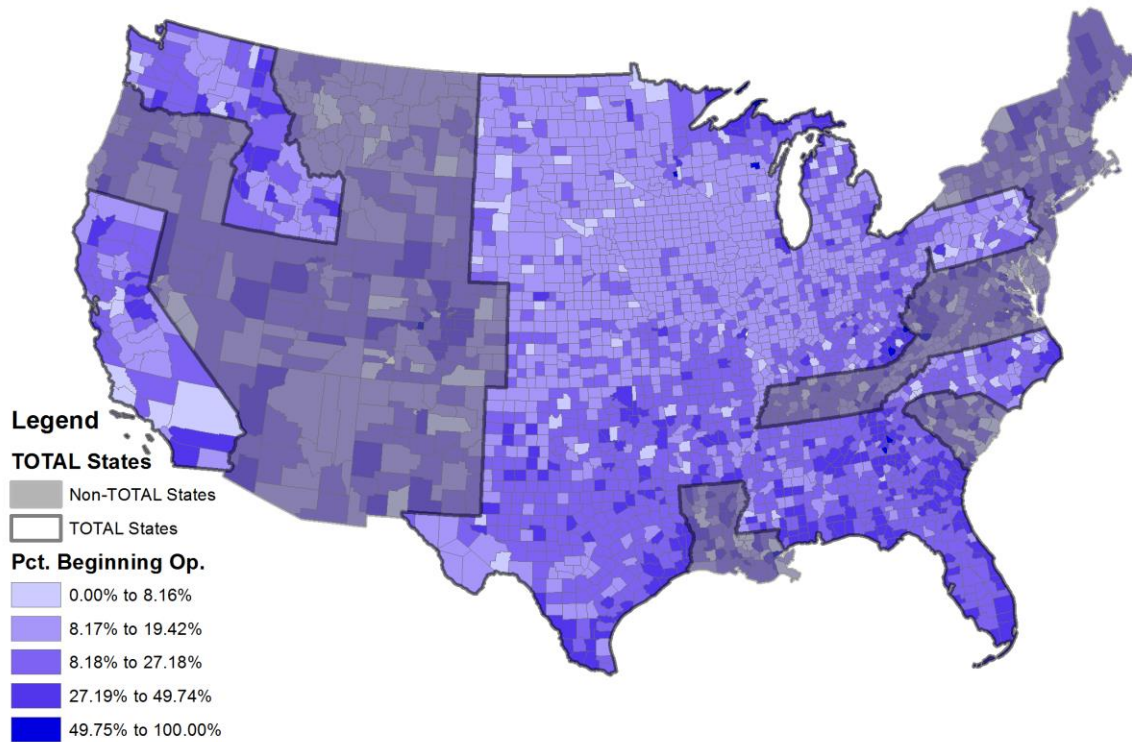
- Empirical Model
 - Fractional Probit model to account for dependent variables in percentage terms.
- Dependent Variables
 - Percentage of farming operations that are SDA (race/ethnicity definition).
 - Percentage of farming operations that are SDA (race/ethnicity and gender definition).
- Independent Variables
 - Land access measures
 - Government programs
 - Crop shares
 - Demographics
- Interpretation
 - We are using the empirical model to measure how the independent variables are correlated with the percentage of farming operations classified as SDA or beginning operations.
 - Statistically significant coefficients suggest measures are significantly correlated with our dependent variables, not that there is necessarily a casual relationship.



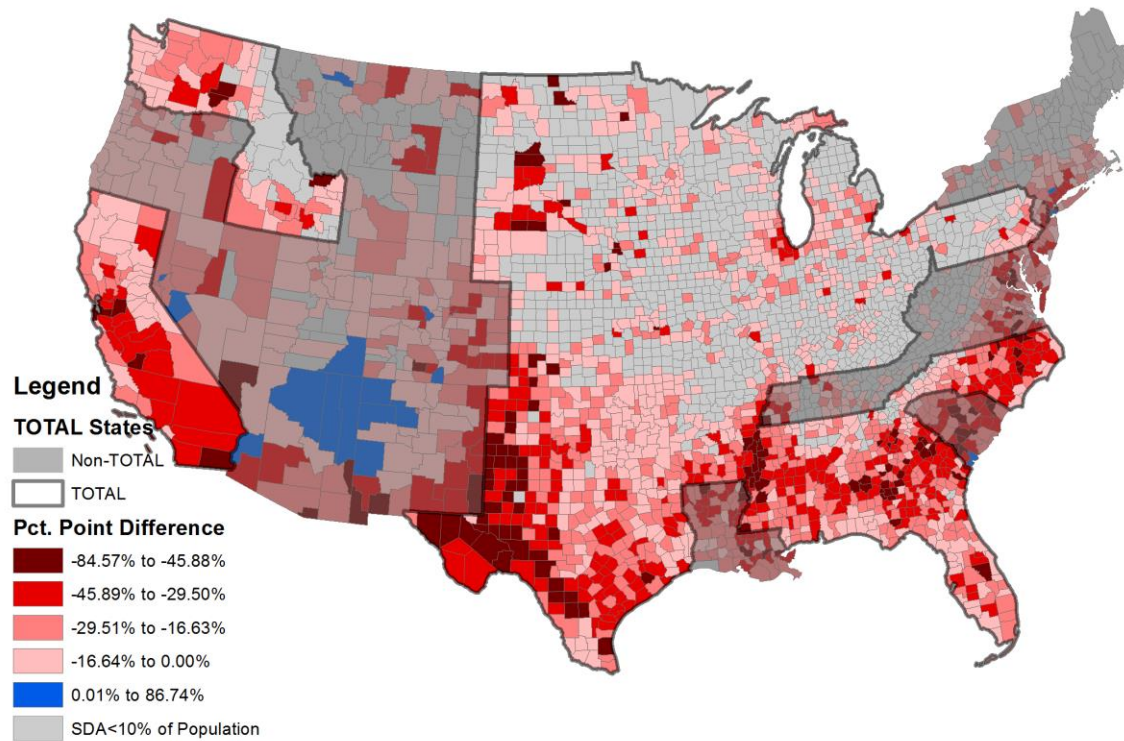
Distribution of socially disadvantaged operations based on race and ethnicity (SDA-RE) criteria



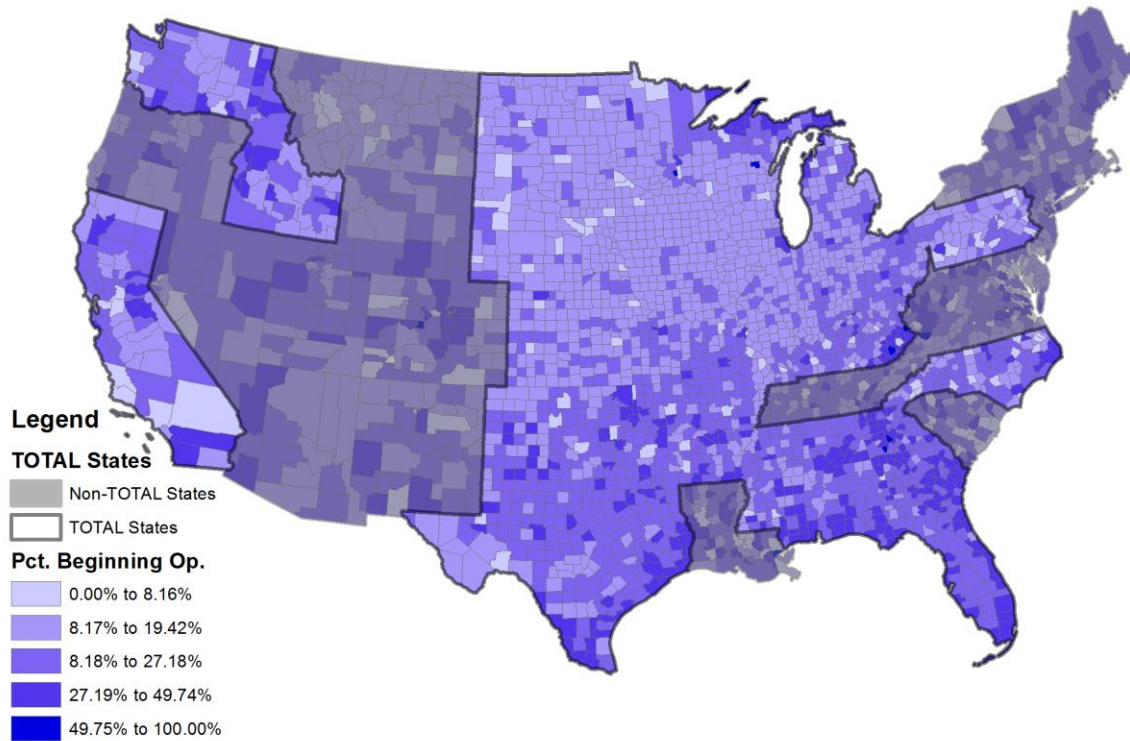
Distribution of socially disadvantaged operations based on race, ethnicity, and gender criteria (SDA-REG)



Percentage point difference between socially disadvantaged (race and ethnicity) operations and underlying population



Distribution of Beginning Operations



Selected Results: Land Access and Government Programs

Explanatory Variables	Dependent Variable		
	SDA-RE	SDA-REG	Beginning
Log of average lease size in acres	-	-	-
Percentage of leases renewed annually	0	+	0
Percentage of rented farmland acres	+	+	+
Percentage of cropland acres	-	-	-
Percentage of SDA (race/ethnicity) DLP/GLP applications granted	+	na	na
Percentage of SDA (race/ethnicity/gender) DLP/GLP loan applications that are granted	na	+	na
Log of total crop insurance premium per acre	-	0	-
Percentage of cropland acres enrolled in General Signup CRP	+	0	0
Percentage of cropland acres enrolled in Continuous Signup CRP	+	0	0



Selected Results: Crop Shares and Demographics

Explanatory Variables	Dependent Variable		
	SDA-RE	SDA-REG	Beginning
Percentage of sales in field crops	-	-	-
Percentage of sales in specialty crops	0	-	0
Percentage of sales in livestock	-	-	-
Percentage of direct to consumer sales	+	+	0
Percentage of total population that is SDA (race/ethnicity)	+	+	na
Average age of farmers (in county)	0	-	-
Percentage change in average age of farmers (2012– 17)	0	0	-
Rural-Urban Continuum Code (2013)	-	-	-



Discussion

- We have identified several measures of land access and government program participation, along with other factors which correlate with the percentage of socially disadvantaged and beginning operations.
- The relationship these factors have with socially disadvantaged and beginning operations is worthy of future research as new data becomes available.
- **Note: these findings are correlative and not causal; a statistically significant relationship is best thought of as an indication that the possible relationship is worthy of future research, and not as definitive proof a causal relationship exists.**



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