

Lending Trends for Kansas Farms, 2013-2020

Sylvanus Gaku, PhD Candidate
Jennifer Ifft, Flinchbaugh Agricultural Policy Chair and Associate Professor

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Outline

- Introduction
- Recent Lending Trends-KFMA
- Statistical Analyses



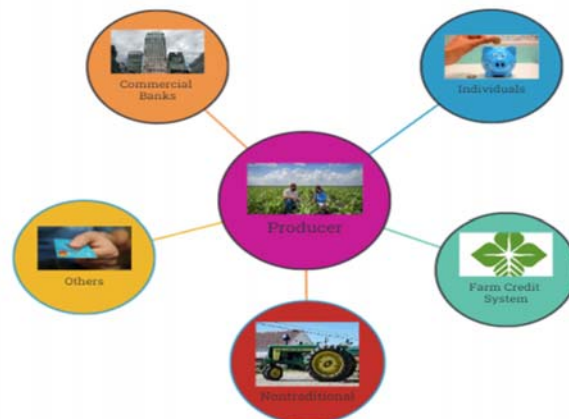
Introduction

- Multiple borrowing is the use of many lender types.
- This is a global phenomenon.
- Households borrow for vacation, school, among others



Introduction

- This borrowing behavior is also observed among producers.
- Producers obtain loans from multiple sources: Commercial banks, Farm Credit System lenders, Nontraditional lenders, Individual & Others.



Introduction

Producers have borrowed from multiple lenders from 2013 to 2020

Number of lenders	Frequency	Percent
1	2141	32
2	2138	32
3	1396	21
4	705	11
5+	312	5
Total	6692	101*

Note: *Not equal to 100 because of rounding. 5+ denotes five or more lenders

Source: Kansas Farm Management Association (KFMA)

Introduction

Several factors may account for this phenomenon.

Supply side determinants

- Competition among lenders
- Innovation
- Credit standards

Demand factors:

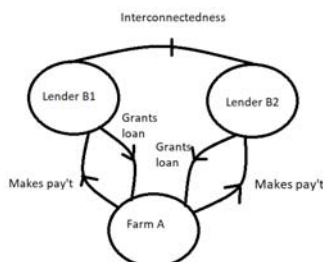
- Size: Large and small?
- Operators' preferences and features?
- Financial stress ?



Introduction

Why should we care: Multiple borrowing creates opportunity and risk, but not well understood

- Producers:
 - Additional loan imposes constraint on cash flow
 - Delay loan repayment
 - Over-monitoring
 - Coordination failures
- Lenders:
 - Default risk increases.
 - Threatens profitability.
- Policymakers:
 - Financial health of agricultural credit system
 - May spread to the overall financial sector



Recent research findings

- According to Brewer et al (2014 & 2019), many factors including the following drive multiple borrowing
 - Debt to asset ratio
 - Current ratio
- In short: more leveraged and liquid Kansas farms are more probable to engage in multiple borrowing.

Recent Trends

Data:

- Operators input farm level loan data using many ways
 - Other farm level characteristics
- Members of Kansas Farm Management Association (KFMA)
 - Provides high quality information on participating farms
 - six regional associations
- Period: 2013-2020
- Representative sample of commercial farms
- Loans were categorized by Luke Byers and others.



Recent Trends

- Average loan numbers increased.
- Share with more than one loan increased from 81% in 2015 to 85% in 2019.
- Farm numbers dropped.

Year	Number of Loans		Share with more than one loan	# of farms
	Average	Total #		
2013	4	4157	79	942
2014	5	4361	82	929
2015	5	3933	81	837
2016	5	4045	82	837
2017	5	4264	82	823
2018	5	4379	83	816
2019	6	4667	85	817
2020	6	3894	84	691

Note: # denotes number. Averages and probabilities are rounded.
Source: KFMA

Recent Trends

- Total Lending relationships peaked in 2014.
- Share with more than one lender
 - relatively stable
 - peaked in 2019 with 70%.
 - yet decreased slowly from 2014 to 2018.

Year	Number of Lending Relationships		Share with more than one lender	# of farms
	Average	Total #		
2013	2	2102	67	942
2014	2	2130	69	929
2015	2	1888	68	837
2016	2	1848	68	837
2017	2	1828	68	823
2018	2	1764	65	816
2019	2	1920	70	817
2020	2	1623	69	691

Note: # denotes number. Averages and probabilities are rounded.
Source: KFMA

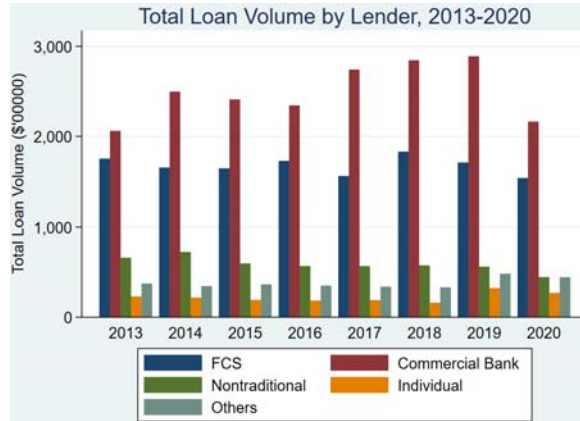
Recent Trends

- Loan volumes peaked in 2019 and declined significantly in 2020.
- Producers' loans are highly concentrated in commercial banks.
- Share of Nontraditional loans is on the decline since 2015.



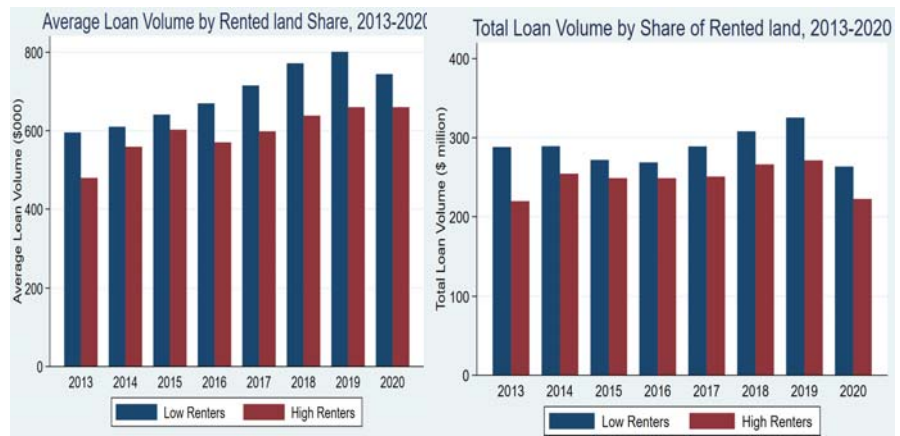
Recent Trends

- From 2019 to 2020, loan volumes per category declined.



Recent Trends

- High renters borrowed less than their counterparts.



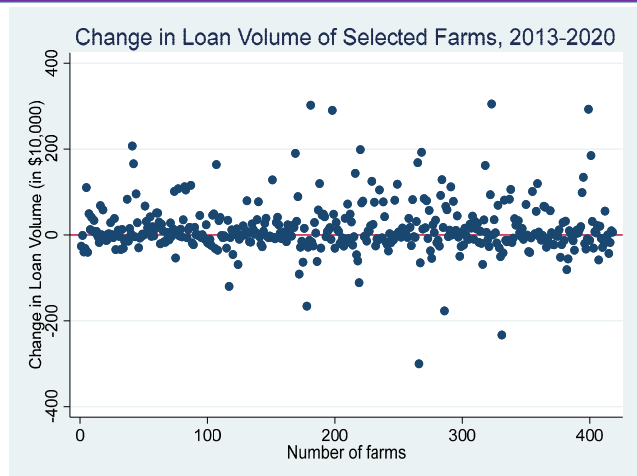
Recent Trends

- Loan volume per farm increased
 - from \$618,000 in 2016 to \$703,000 in 2019

Year	Number of Farms	Total Loan Volume (\$million)	Average Loan Volume (\$000)
2013	942	508	539
2014	929	543	585
2015	837	521	622
2016	837	517	618
2017	823	540	656
2018	816	574	704
2019	817	596	730
2020	691	486	703

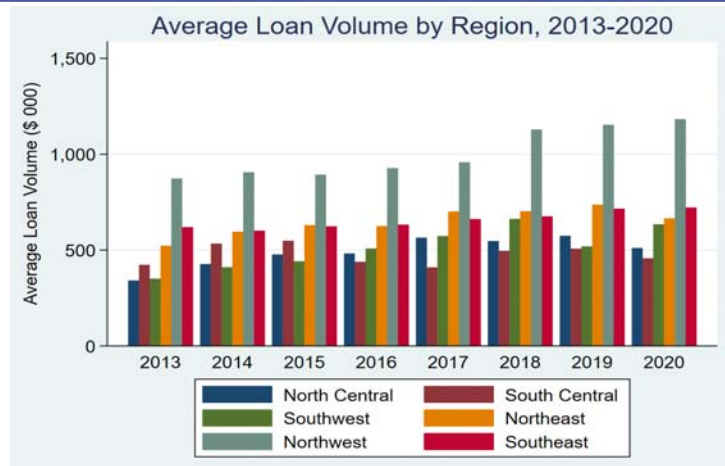
Recent Trends

- Majority of farms increase their loan volume from 2013 to 2020.
- A small number of farms did not increase their loan volume.



Recent Trends

- On average, NW KFMA producers tend to borrow more.
- Comparing 2013 & 2020 values:
 - Average loan volume comparatively higher in 2020.



Recent Trends

- Operators distribute their loans unevenly across lenders.
- To capture the relative loan size distribution, we use Herfindahl–Hirschman Index (HHI)
- Lower HHI implies more loans.

Recent Trends

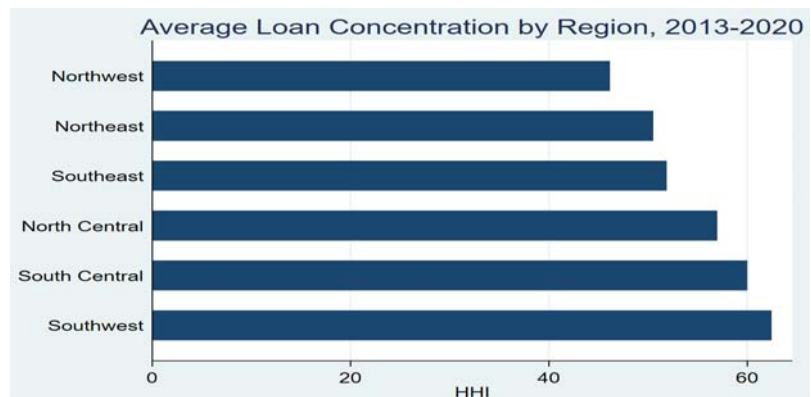
- Loan concentration has declined, consistent with increases in loan numbers.
- Similarly, lender concentration declined from 78 in 2018 to 74 in 2020.

Year	Concentration (HHI)	
	Loan	Lender
2013	56	75
2014	54	74
2015	54	76
2016	54	76
2017	53	77
2018	53	78
2019	51	74
2020	51	74

Note: The indices are multiplied by 100.

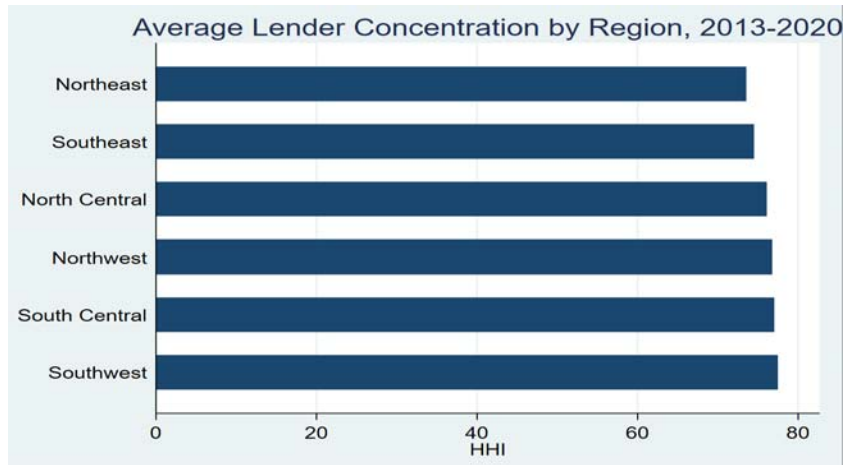
Recent Trends

- Loans are highly concentrated across regions.
- Largest-Southwest
- Smallest-Northwest.



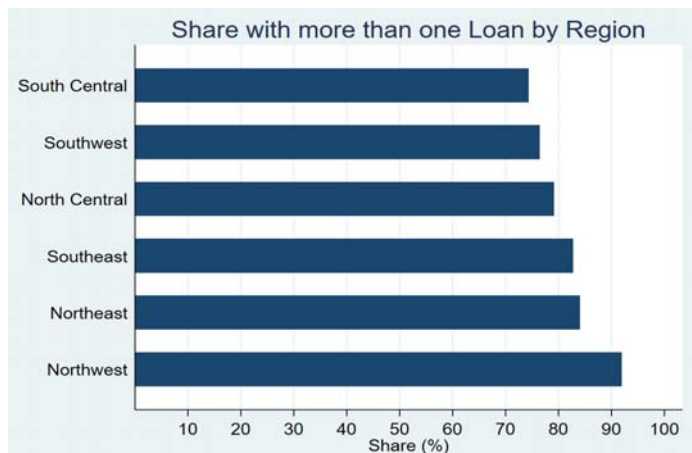
Recent Trends

- Lender concentration are remarkably similar across regions.
- Largest index- Southwest
- Smallest index- Northeast



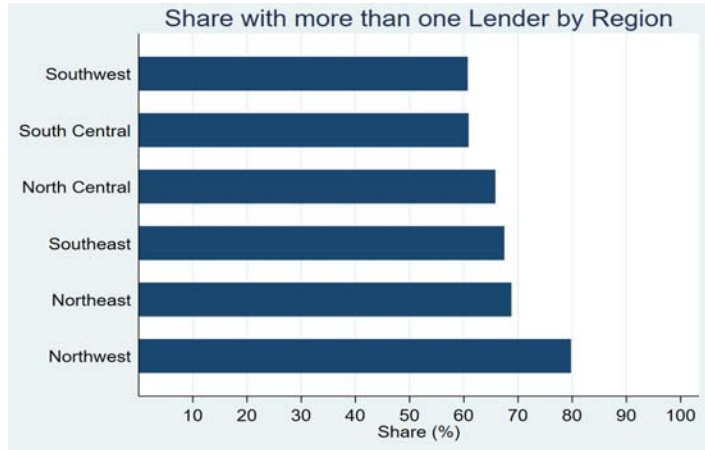
Recent Trends

- Share varies across regions over the study period.
- Northwest-largest share
- South Central-smallest share



Recent Trends

- Share varies across regions
- Northwest-largest share
- Southwest-smallest share



Recent Trends

- Low renters (Rent0) are less likely to have more than one lender
- High renters (Rent1) are more likely to obtain more than one loan.

Year	Share with more than one			
	Lender		Loan	
	Rent0	Rent1	Rent0	Rent1
2013	65	69	77	81
2014	65	72	79	84
2015	64	72	77	84
2016	65	71	80	84
2017	68	68	82	82
2018	63	66	84	83
2019	68	73	85	85
2020	68	71	84	85

Note: Rent0 implies share of rented land less than 73%.
Cutoff splits the sample into 2 equal parts.

Recent Trends

- Except in 2017, low renters' lender concentration consistently higher than that of high renters
- Low renters' Loan concentration > high renters' loan concentration

Year	Concentration			
	Lender		Loan	
	Rent0	Rent1	Rent0	Rent1
2013	77	73	59	52
2014	76	72	58	50
2015	78	74	58	51
2016	78	75	56	52
2017	77	77	54	53
2018	79	77	53	52
2019	76	73	53	50
2020	76	71	53	49

Note: Rent0 implies share of rented land less than 73%.

Statistical Analyses

What factors are associated with loan concentration (measured by HHI)?

- Operator's age (+)
- Debt to asset (-)
- Return to asset ratio (-)
- Agric bank (+)
- Farm size (-)
- Labor force
- Other factors

Statistical Analyses

What factors are associated with the share of having more than one loan?

- Operator's age (-)
- Return to asset ratio (+)
- Herd size (+)
- Farm size (+)
- High rent (-)
- Labor force (+)
- Other factors

Preliminary findings

- Producers obtain loan from several sources
 - Commercial banks
 - Farm credit
- Multiple borrowing is associated with several factors including
 - Size, Age and Profitability
- Insight: Larger farms or farms that want to grow
 - find it advantageous to add a new lender

Questions?
Comments?
Thank you!



Dr. Jennifer Ifft

Associate Professor

Email: jiff@ksu.edu

Phone: 785-532-4468

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