



THE OHIO STATE UNIVERSITY

Farm Transitions in U.S. Agriculture

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Farm transitions: introduction

- Farm transitions are identified as a major upcoming structural change that concerns policy makers.
- Farm transitions are defined as:
 - **Changes in farm size or structure over the life-cycle** (growth or contraction of the farm business)
 - **Intergenerational transfers – ownership, control, participation**
 - **Entry and exit of farm operations** in the agricultural sector.
- Challenges of the aging farmer population and the need to transition ownership and control of farmland
- Need to provide support and training for beginning farmers to start their businesses



Farm transitions: introduction

- Significant challenges for young farmers (less than 35 years old) and beginning farmers (10 years or less of experience) to start their businesses and develop successful and profitable operations.
- Young farmer groups often state that their most significant challenge is acquiring access to farmland.
 - Most young and beginning farmers do not inherit their land but rather purchase or lease farmland to start their businesses and grow over time.



The Agricultural Act of 2014 (aka 2014 U.S. Farm Bill)

- Special programs and provisions supporting beginning farmers and ranchers
- Providing training programs and outreach
- Access to capital and land, crop insurance premium assistance and conservation programs
- Offering FSA microloans to new farmers
- Definition for beginning farmers (no more than 30% of average acres in the county)



Farm Bill: funding levels for beginning farmer programs (2014 funding, 5 year totals)

- Beginning Farmer and Rancher Development Program – \$100 million
- Federal crop insurance premium reductions for beginning farmers – \$84 million
- Outreach and assistance to socially disadvantaged and veteran farmers/ranchers – \$50 million
- USDA's CRP Transition Incentive Program – \$33 million



Our research

- We use data from the U.S. Census of Agriculture to address 3 issues on farm transitions:
- What is the age distribution of all farmers and beginning farmers?
- How do young and beginning farmers enter agriculture and grow over time in terms of owning and renting farmland?
- How many beginning farmers start operating every year? What are the exit rates for U.S. farms?



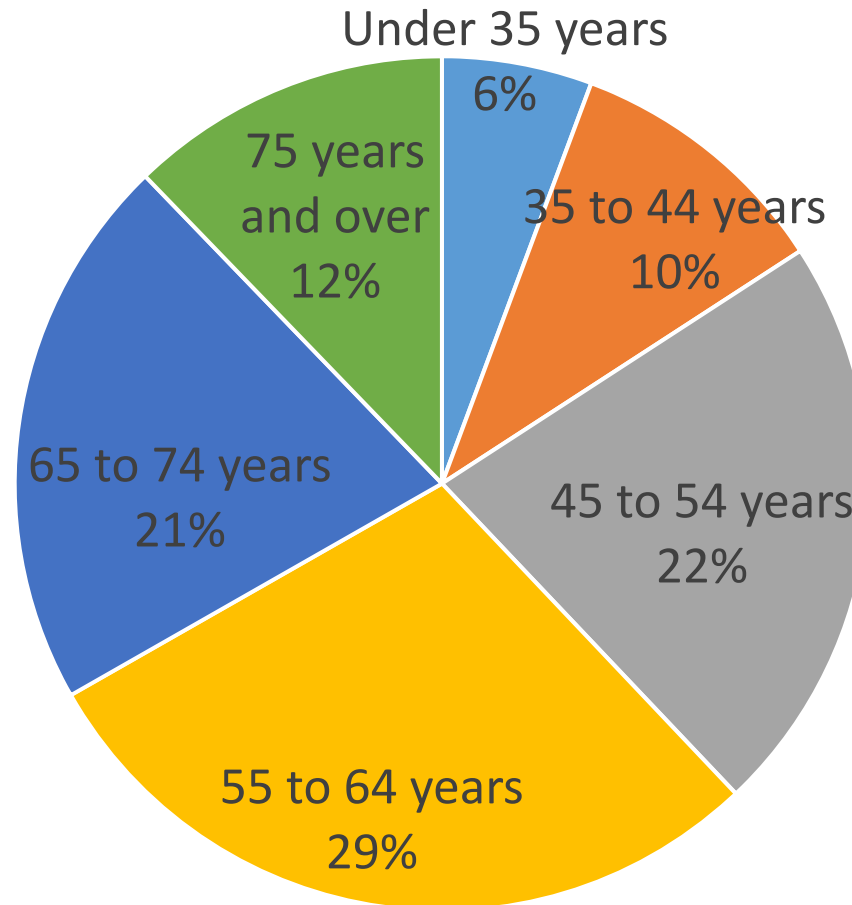
Age distribution for all farmers vs. beginning farmers

Provide insights into farmer's age distribution

- Farmers are aging (according to U.S. Census of Ag):
 - Average age of U.S. farmers is 57.1 in 2007 and 58.3 in 2012.
 - Average age of Ohio farmers is 55.7 in 2007 and 56.8 in 2012.
- Farmers don't retire from farming
- Fewer beginning farmers
- What is the age distribution for all farmers, young farmers, and beginning farmers?



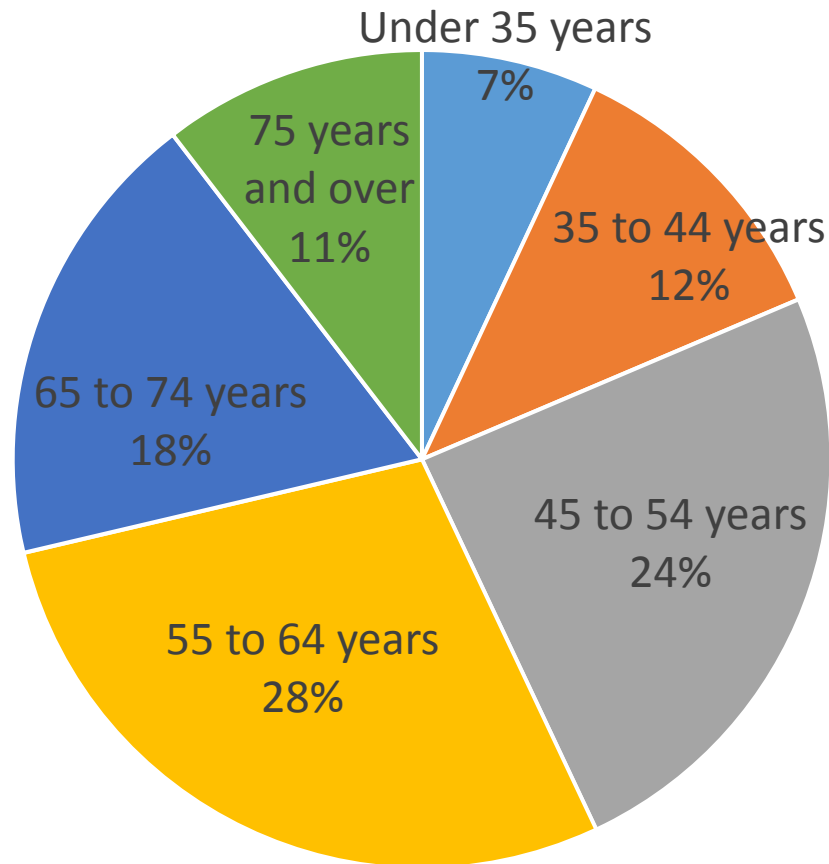
Percent U.S. farms in 2012 by age group



Among U.S. farmers, 6% are young (<35 years) and 33% are old (>65 years).



Percent Ohio farms in 2012 by age group



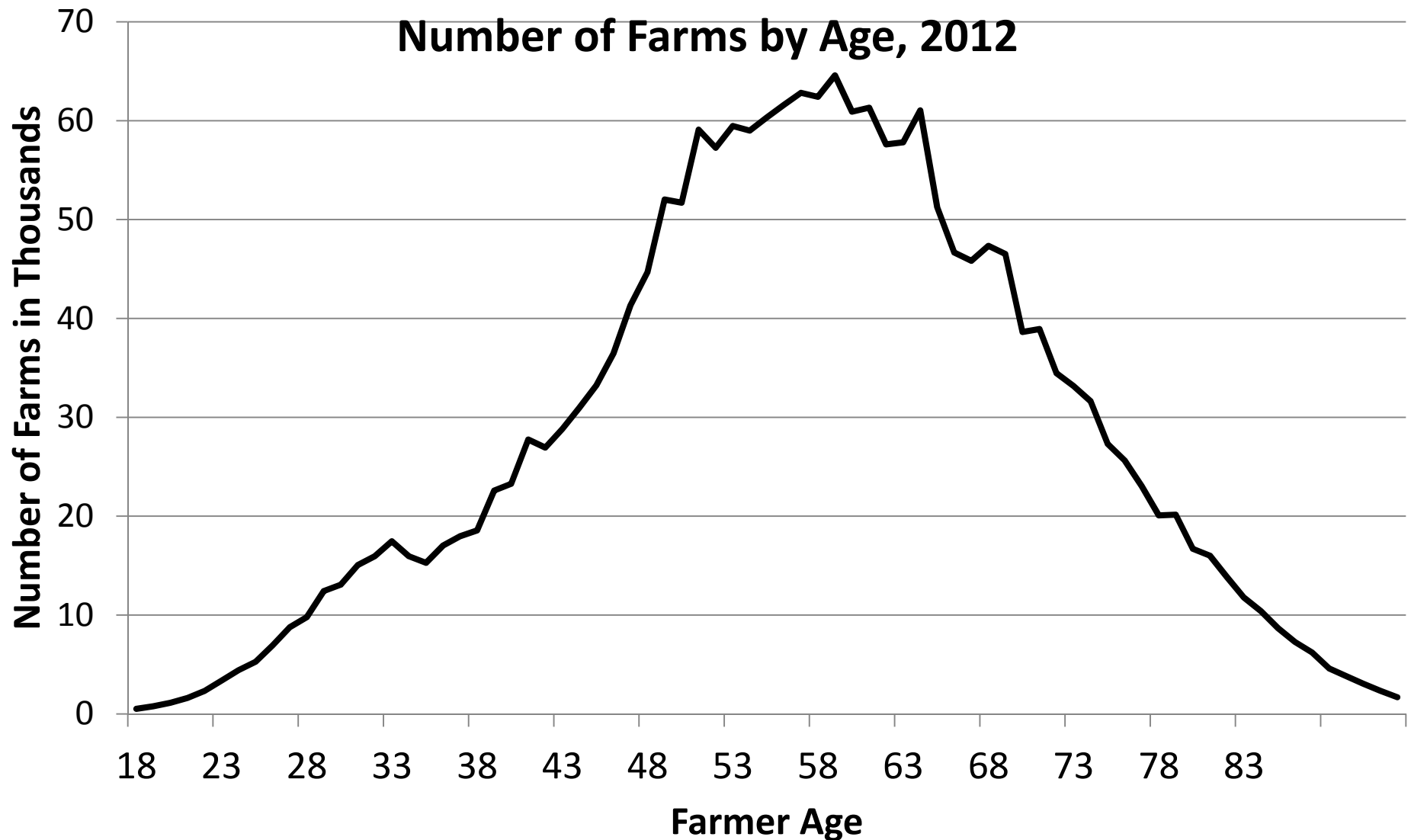
Among Ohio farmers, 7% are young (<35 years) and 29% are old (>65 years).



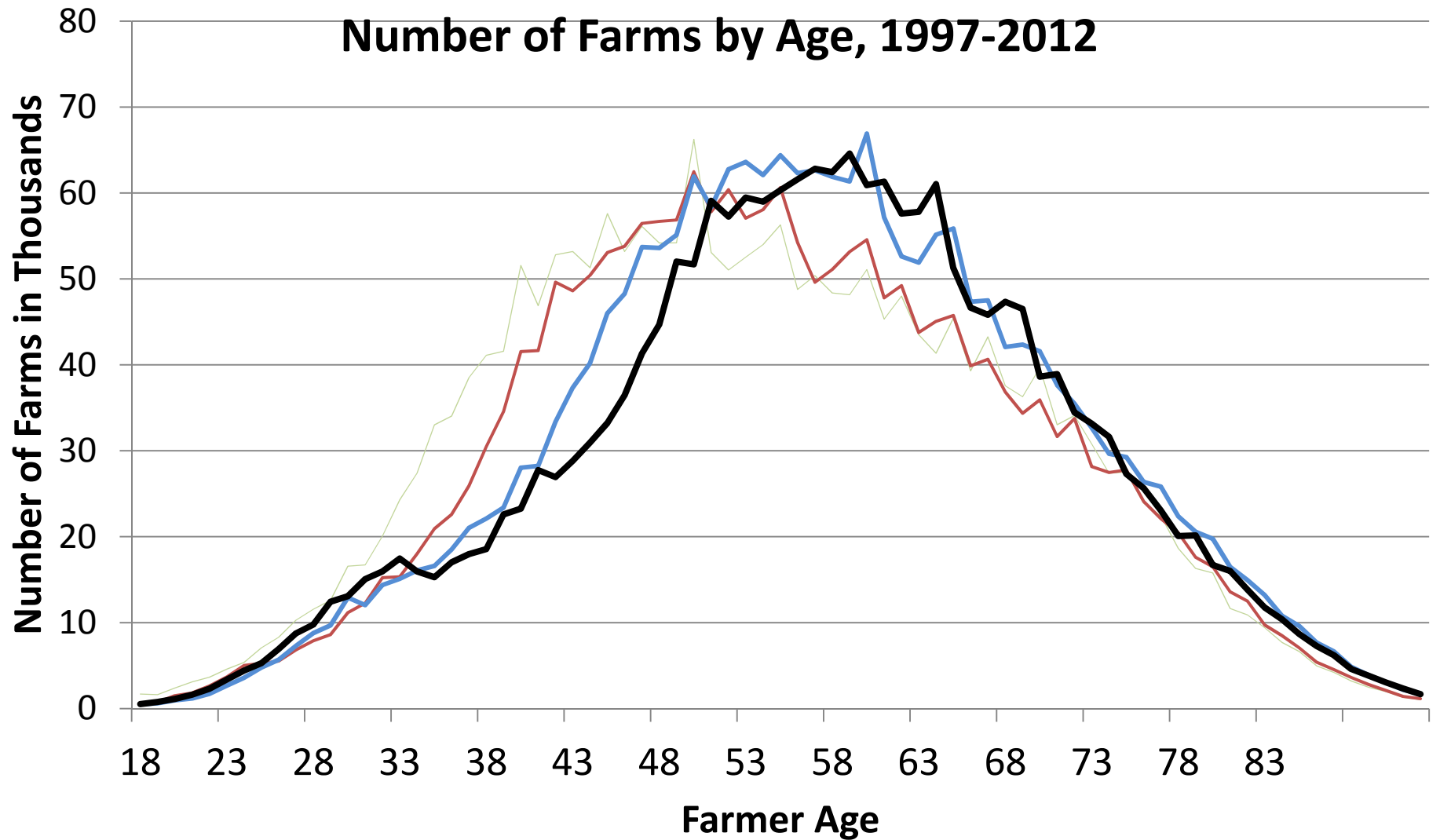
	US 2012		US 2007	
Age group	Number of farms	Percent farms	Number of farms	Percent farms
Under 35 years	119,833	6%	118,613	5%
35 to 44 years	214,106	10%	268,818	12%
45 to 54 years	466,036	22%	565,401	26%
55 to 64 years	608,052	29%	596,306	27%
65 to 74 years	443,571	21%	412,182	19%
75 years and over	257,705	12%	243,472	11%
All	2,109,303	100%	2,204,792	100%

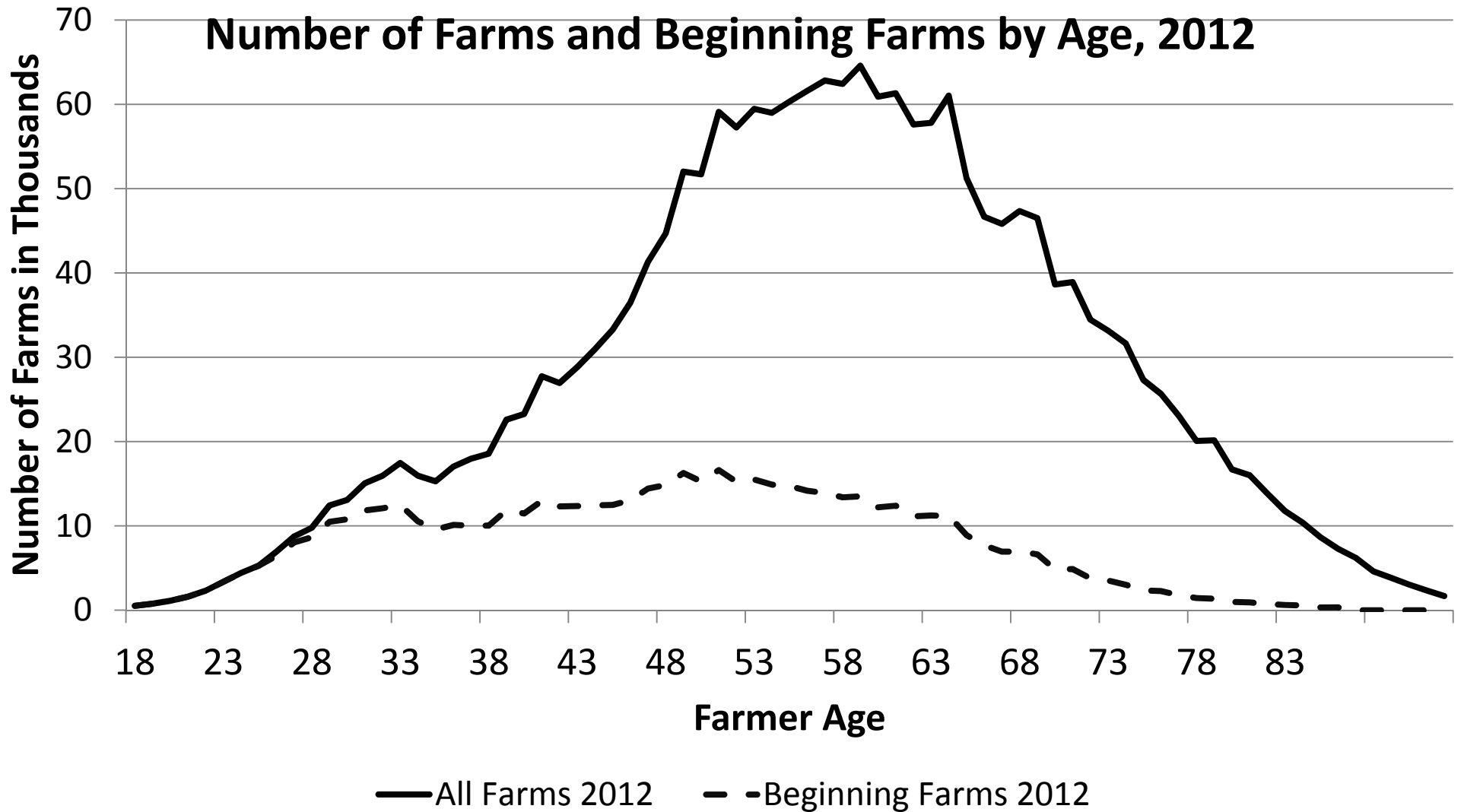


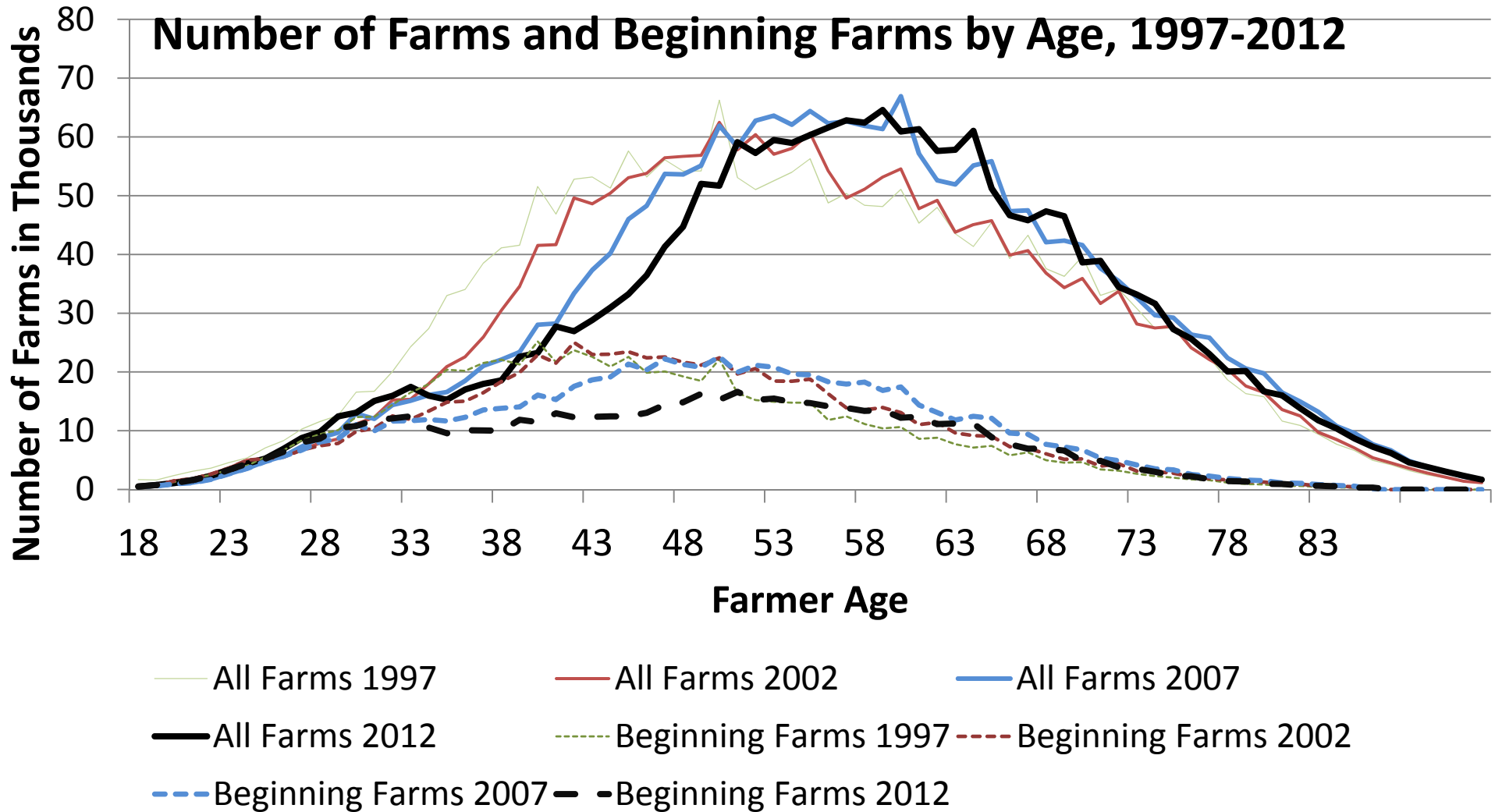
	Ohio 2012		Ohio 2007	
Age group	Number of farms	Percent farms	Number of farms	Percent farms
Under 35 years	5,251	7%	4,729	6%
35 to 44 years	8,793	12%	10,367	14%
45 to 54 years	18,401	24%	21,368	28%
55 to 64 years	21,380	28%	19,407	26%
65 to 74 years	13,773	18%	12,911	17%
75 years and over	7,864	10%	7,079	9%
All	75,462	100%	75,861	100%



— All Farms 2012









Findings about farmer age distribution

- Farmers' age distribution approximately normal
- Overall shift of distribution to the right (aging), fewer young farmers
- Beginning farmers' age distribution is also close to normal, but peaking a decade earlier than that for established farmers
- The age distribution for beginning farmers is also shifting to the right – beginning farmers are aging too

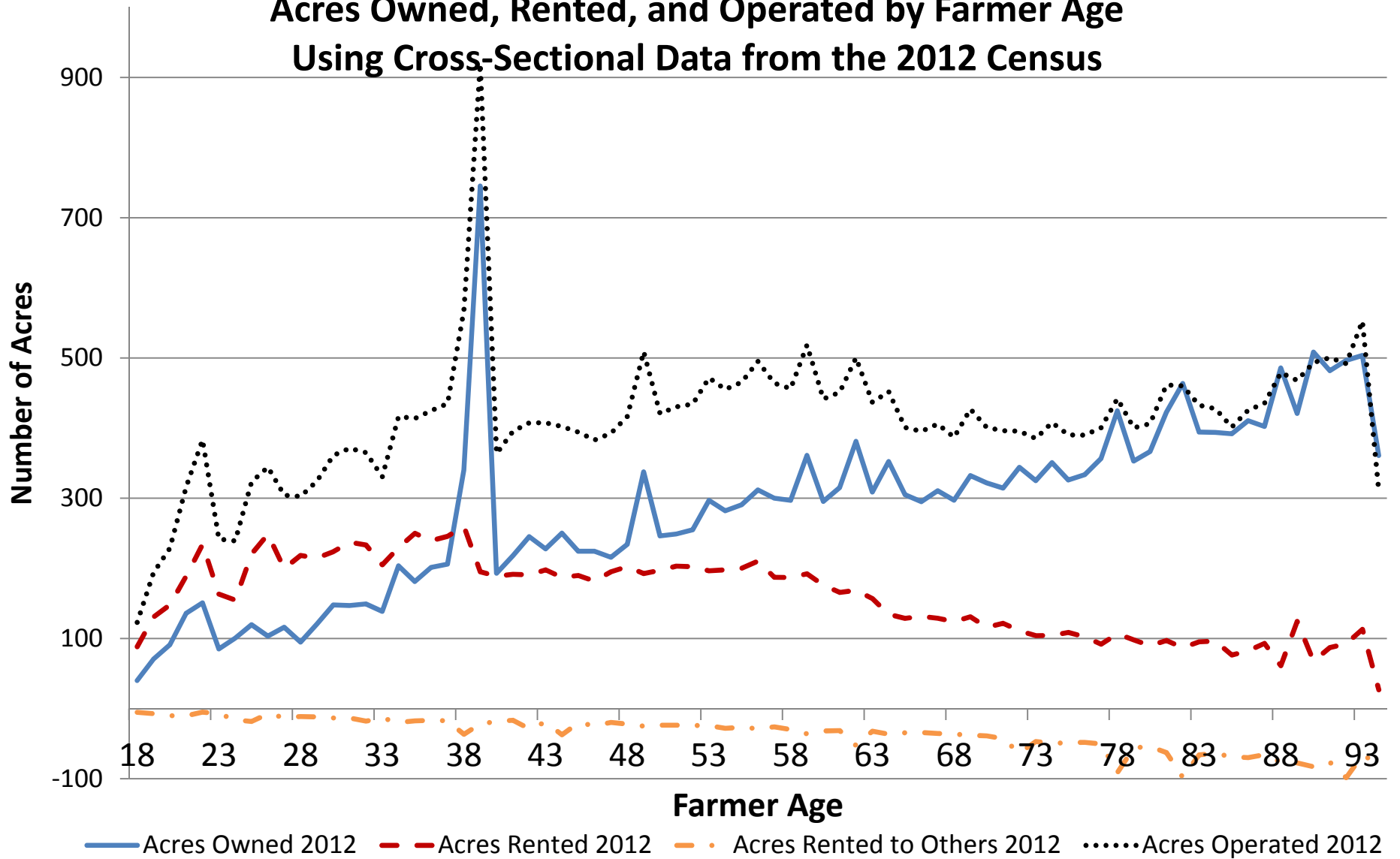


Farmland ownership and leasing

- How much farmland do farmers own and lease?
- How do young and beginning farmers enter agriculture and grow over time in terms of owning and renting farmland?

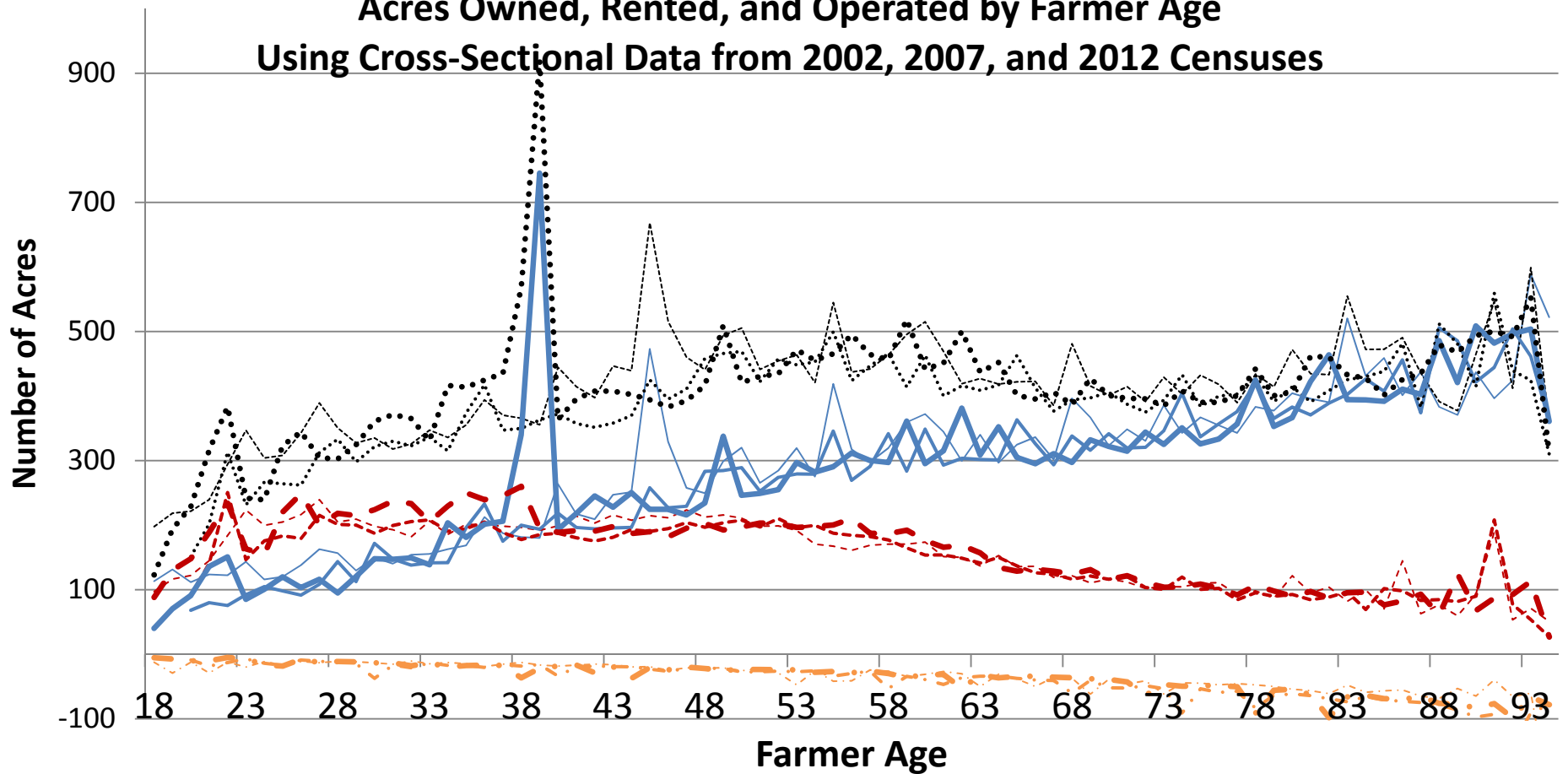


Acres Owned, Rented, and Operated by Farmer Age Using Cross-Sectional Data from the 2012 Census





Acres Owned, Rented, and Operated by Farmer Age
Using Cross-Sectional Data from 2002, 2007, and 2012 Censuses



- Acres Owned 2002
- Acres Rented 2002
- - - Acres Rented to Others 2002
- Acres Owned 2007
- Acres Rented 2007
- - - Acres Rented to Others 2007
- Acres Owned 2012
- Acres Rented 2012
- - - Acres Rented to Others 2012
- Acres Operated 2002
- Acres Operated 2007
- Acres Operated 2012



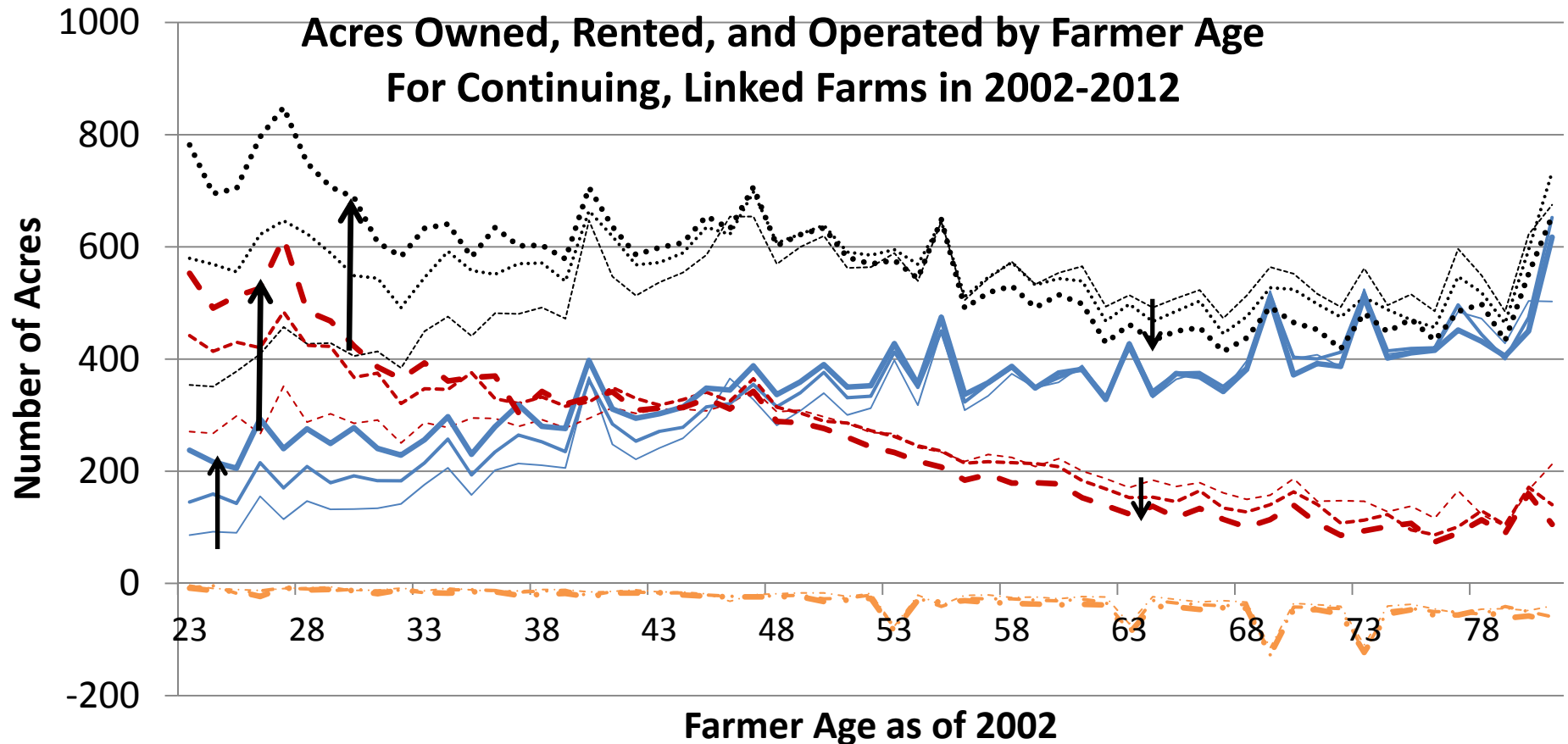
Summary results for farmland ownership and leasing - using repeated cross-sectional data

- Across the age distribution, younger farmers own less land and older farmers own more land
- Rented acres are similar for younger farmers; less rented land for farmers older than 50
- Land rented to others is not much
- Farm size (total acres operated) is higher across the age distribution (driven by more ownership) and is more stable for farmers 50 years and older
- Can't notice trends over time from repeated cross-sectional data (similar graphs for all three Censuses)

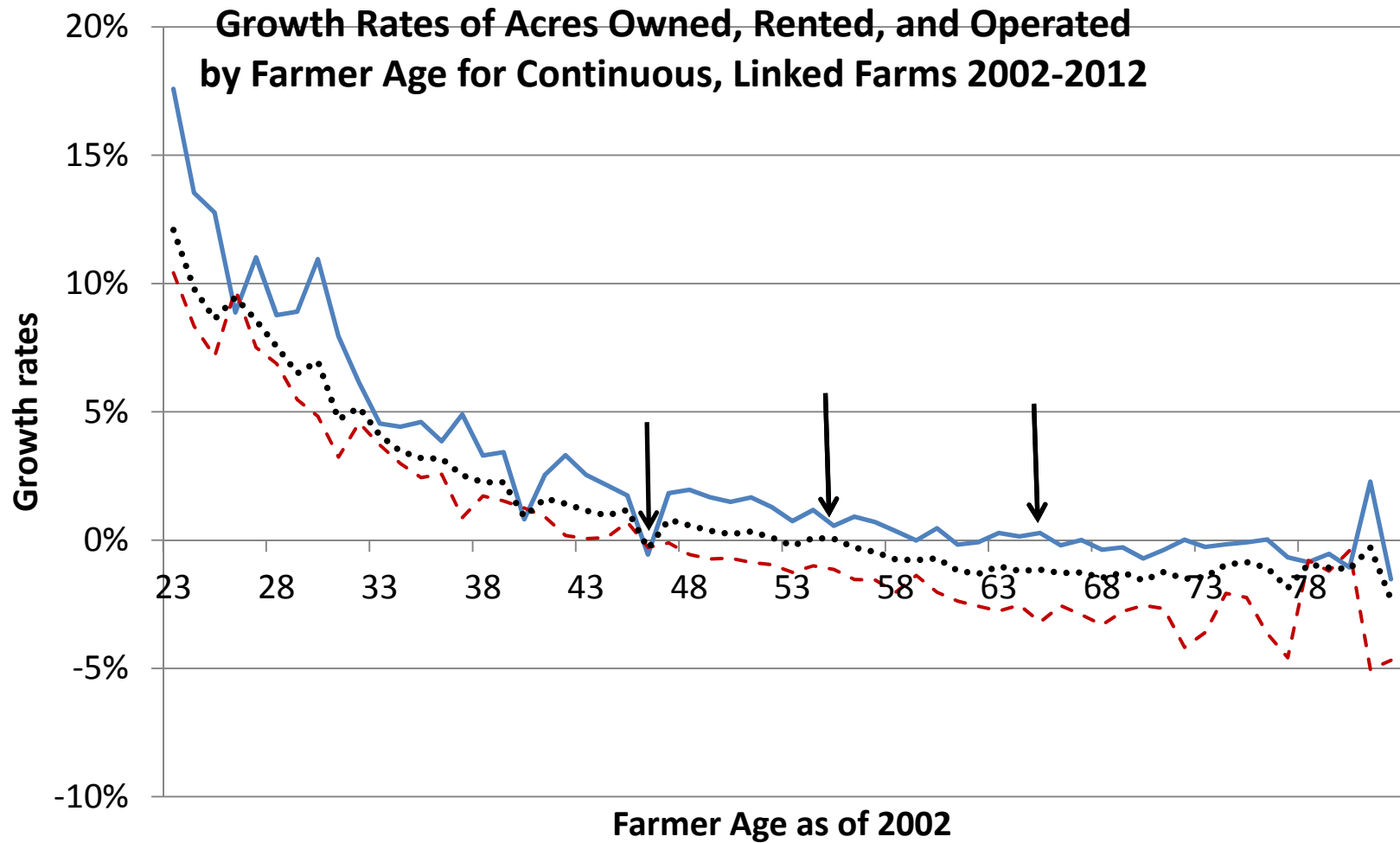


Farmland ownership and leasing: growth over time for linked farms

- Same farmers tracked in all three Censuses
- Horizontal axis is farmer's age as of 2002, also representing the same farmers as 5 years older in 2007 and 10 years older in 2012
- Vertical difference between graphs represents changes over time for linked farms



- Acres Owned 2002
- Acres Operated 2002
- - - Acres Rented 2002
- Acres Operated 2007
- - - Acres Rented 2007
- Acres Operated 2007
- - - Acres Rented 2012
- Acres Operated 2012
- Acres Rented to Others 2002
- Acres Rented to Others 2007
- Acres Rented to Others 2012
- Acres Operated 2012
- Acres Owned 2007
- Acres Owned 2012



— Acres Owned Growth - - - Acres Rented Growth Acres Operated Growth

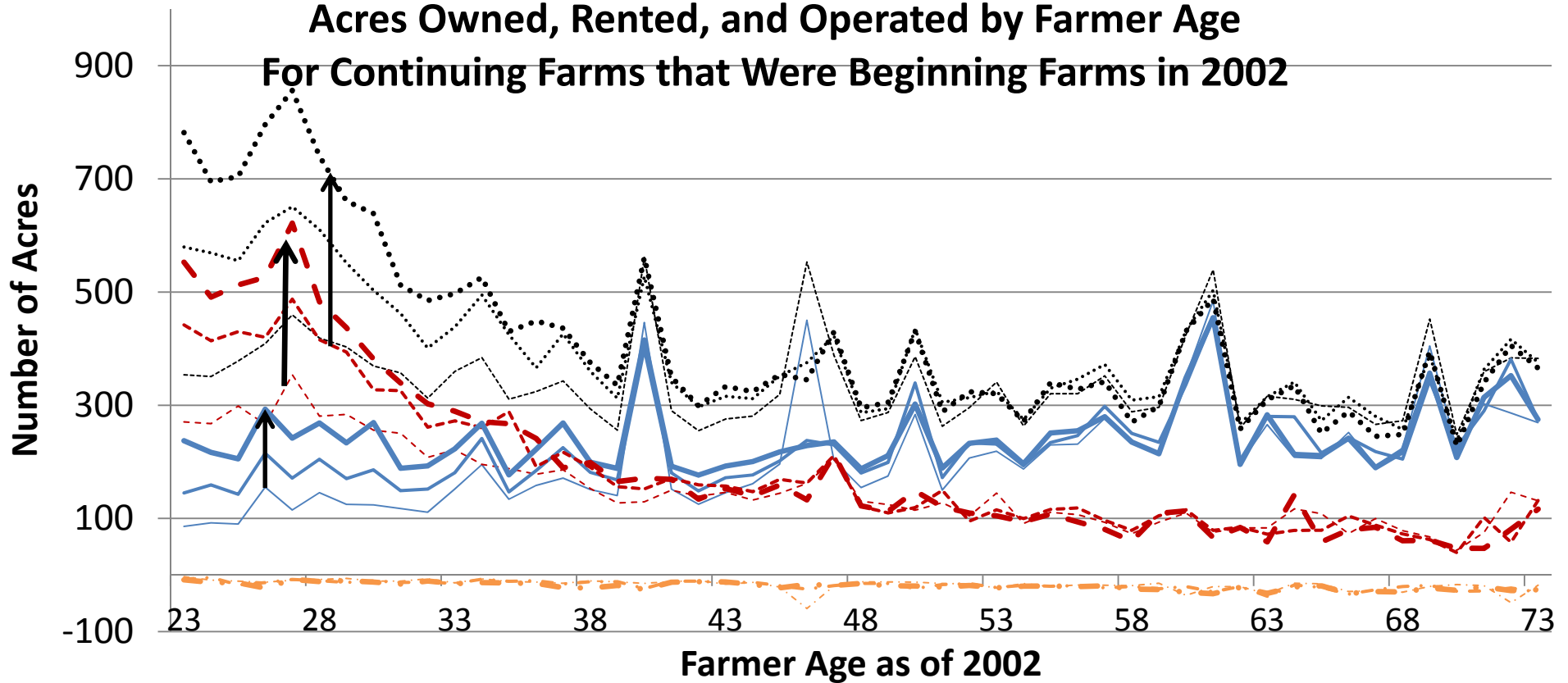


Summary results for land positions using linked-farms longitudinal data

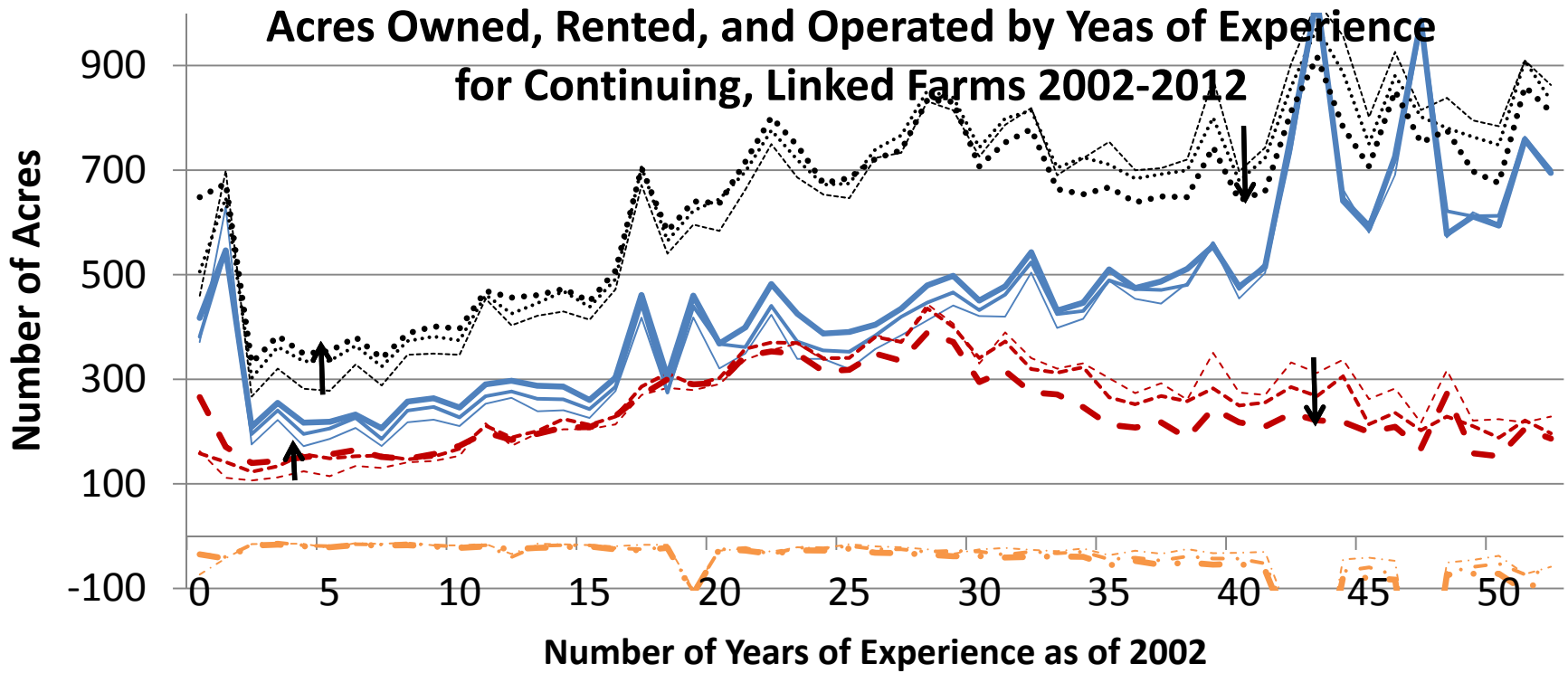
- Young farmers rapidly expand their operations by both owning more and renting more
- Older farmers don't change their operation size much; small reduction of acres rented
- Farmers increase owned acres until age 65
- Farmers increase rented acres until age 45
- Overall, operated acres increases until age 55 then decreases



Acres Owned, Rented, and Operated by Farmer Age For Continuing Farms that Were Beginning Farms in 2002



- Acres Owned 2002
- Acres Operated 2002
- . - Acres Rented to Others 2002
- - - Acres Rented 2002
- Acres Owned 2007
- Acres Operated 2007
- . - Acres Rented to Others 2007
- - - Acres Rented 2007
- Acres Owned 2012
- Acres Operated 2012
- . - Acres Rented to Others 2012
- - - Acres Rented 2012



- Acres Owned 2002
- - - Acres Rented 2002
- Acres Operated 2002
- Acres Owned 2007
- - - Acres Rented 2007
- Acres Operated 2007
- Acres Owned 2012
- - - Acres Rented 2012
- Acres Operated 2012
- - - Acres Rented to Others 2002
- - - Acres Rented to Others 2007
- - - Acres Rented to Others 2012



Annual growth rates over 2002-2012 for continuing farms

Groups	Acres Owned Growth Rates	Acres Rented Growth Rates	Acres Operated Growth Rates
All	0.8%	-0.2%	0.3%
Younger than 35	7.5%	5.6%	6.3%
Age 35-64	1.2%	-0.5%	0.3%
Older than 65	-0.2%	-2.9%	-1.3%
Beginning farmers	1.3%	2.2%	1.7%
Established farmers	1.0%	-0.9%	0.0%



Farm entry and exit rates

- Farmers are aging, do we need more new farmers?
- Secretary of Agriculture Tom Vilsack's goal of 100,000 new farmers
- How many beginning farmers start operating every year?
- What are the exit rates for U.S. farms?



Number of Beginning and Established Farmers in the U.S.

	US 2012		US 2007	
	Number of farms	Percent farms	Number of farms	Percent farms
Years on present farm				
2 years or less	68180	3%	84883	4%
3 or 4 years	103370	5%	138858	6%
5 to 9 years	297548	14%	359545	16%
10 years or more	1640205	78%	1621506	74%
All	2109303	100%	2204792	100%

Source: U.S. Census of Agriculture

Fewer beginning farmers in the U.S.: 26% in 2007 and 22% in 2012.



Number of Beginning and Established Farmers in Ohio

Years on present farm	Ohio 2012		Ohio 2007	
	Number of farms	Percent farms	Number of farms	Percent farms
2 years or less	2216	3%	2411	3%
3 or 4 years	3287	4%	4168	5%
5 to 9 years	9595	13%	11087	15%
10 years or more	60364	80%	58195	77%
All	75462	100%	75861	100%

Source: U.S. Census of Agriculture

Fewer beginning farmers in Ohio: 23% in 2007 and 20% in 2012.



Calculating entry and exit rates

Methodology

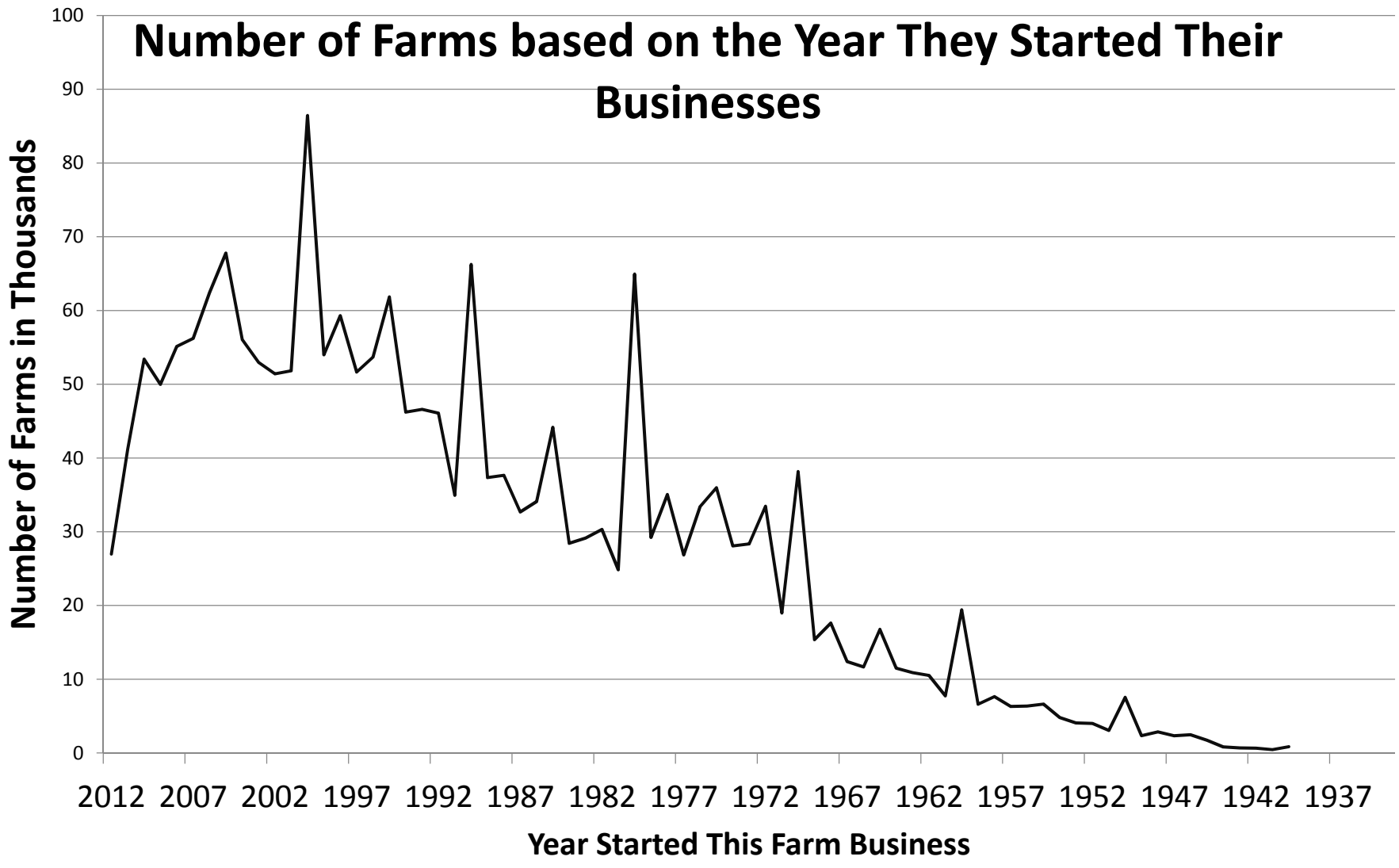
- Use farmers' responses for "the year they started farming this farm business"
- Of all farmers that start in a given year, check how many farmers are remaining in subsequent Censuses to calculate exit rates

Problem

- There is no requirement for new farmers to report their farmer status to NASS
- Beginning farmers are less likely to be known to NASS

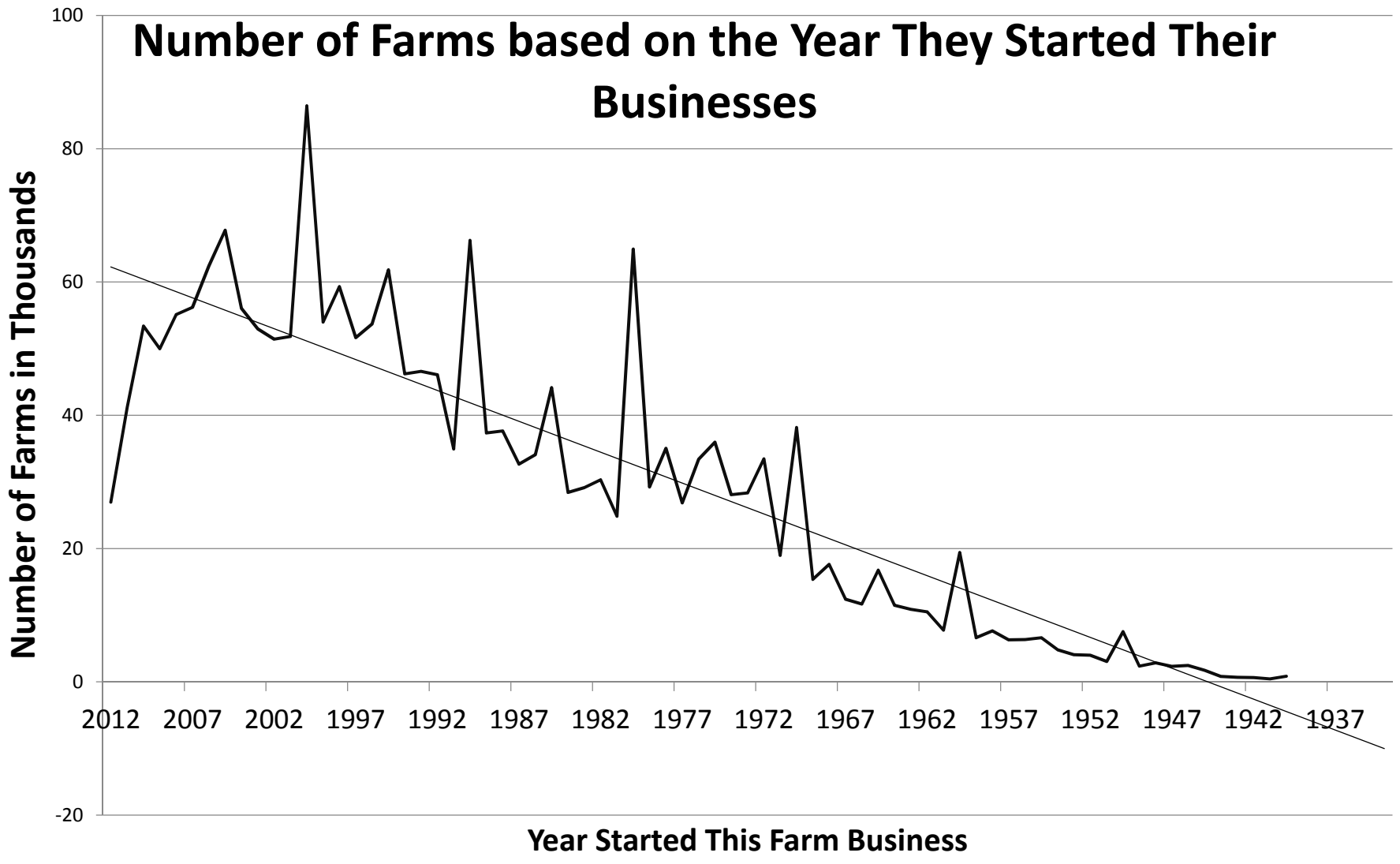
Reported year started this business	2002 Census, 1,000 farms	2007 Census, 1,000 farms	2012 Census, 1,000 farms
2012			27
2011			41
2010			53
2009			50
2008			55
2007		28	56
2006		57	62
2005		70	68
2004		69	56
2003		68	53
2002	30 →	64 →	51
2001	45	66	52
2000	68	96	86
1999	75 →	67 →	54
1998	78	70	59
1997	71	63	52
1996	78	62	54
1995	83	69	67

Number of Farms based on the Year They Started Their Businesses



—Census2012

Number of Farms based on the Year They Started Their Businesses



— Census2012 — Linear (Census2012)



Graphs about the number of farms that start farming by year

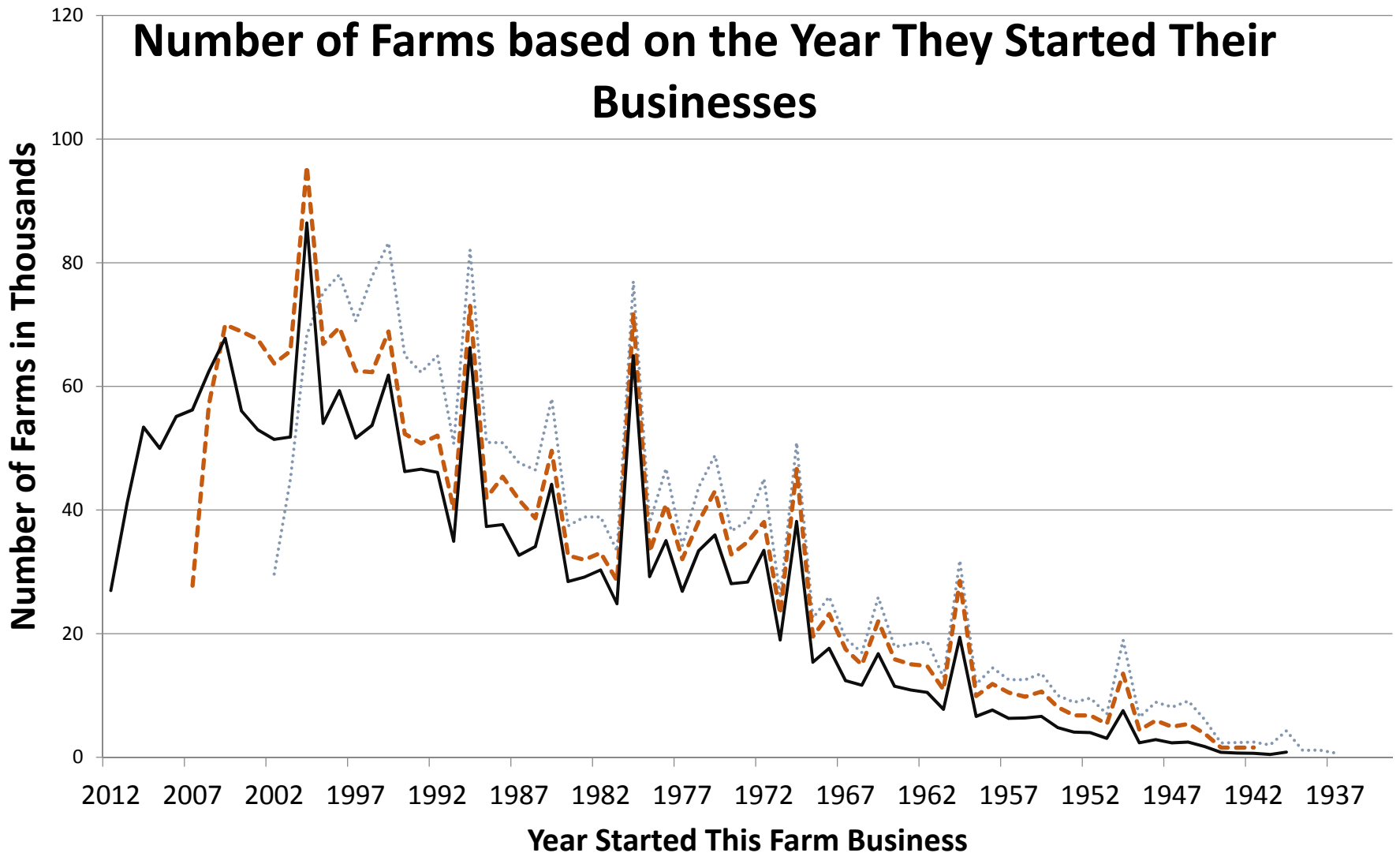
- Spikes indicate that some farmers may recall round numbers (i.e. started farming in 1970)
- Generally decreasing trend – showing farm exits over time
- Lower number of farmers than trend would indicate for farmers that started in the 1980s.
- The number of farms in the first 3 years need to be adjusted as it takes time for new farmers to be “discovered” by NASS
- Estimating about 70-80,000 farmers starting their farm business every year.
- Compare to Secretary Vilsack’s goal of 100,000



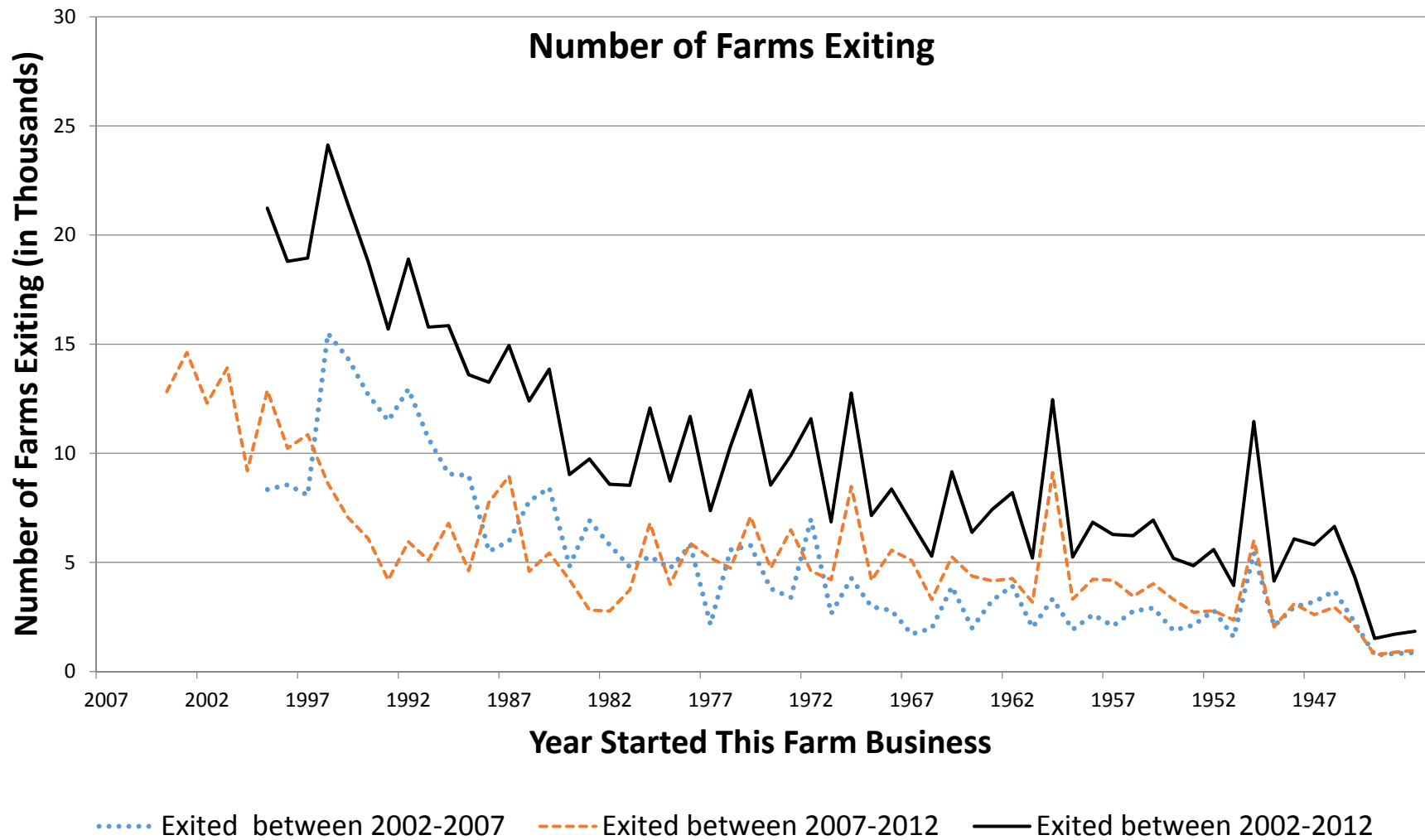
Graphs for 3 Censuses

- Because of farm exits, number of farms that started farming in a given year should always be smaller in subsequent censuses.
- 5-year exit rate from farming – difference in number of farms that started farming in a given between two Censuses
- 5-year exit rate in numbers or percent change

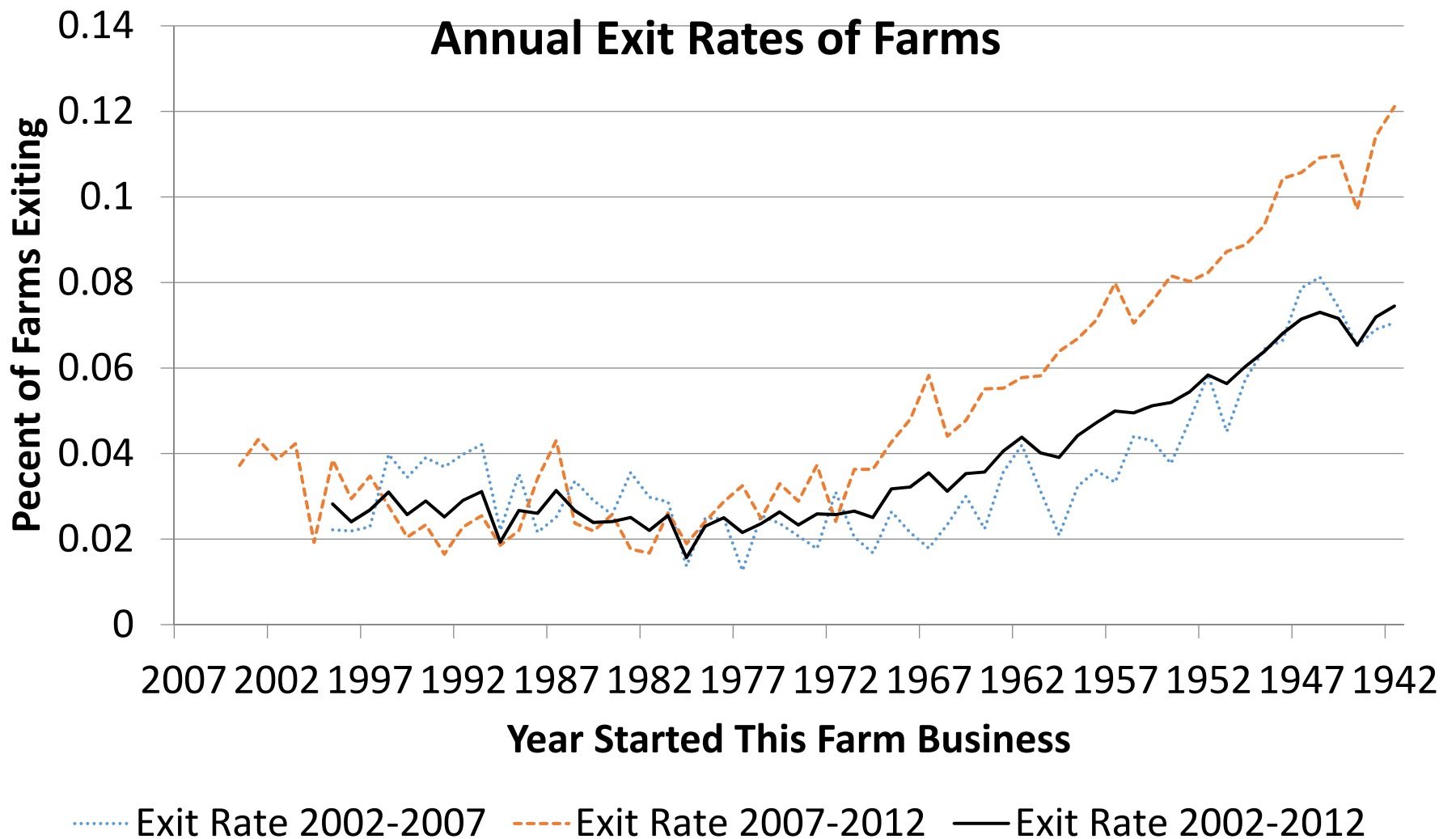
Number of Farms based on the Year They Started Their Businesses



..... Census 2002 - - - - - Census 2007 ——— Census 2012



Number of farms exiting = difference in number of farms that started in a particular year between the two Censuses



Exit rates = percent differences in number of farms between two Censuses
 Exit rates depending on the year farm started business.

Findings about farm exit rates

Number of years farming	Annual exit rates
6-10	4.0%
10-19	2.8%
20-29	2.5%
30-39	2.8%
40-49	4.9%
50-59	7.5%

- Exit rates depend on the number of years in business
- Can't calculate exit rates for first 3 years of farming
- Years 3-6 – rates still unreliable



Summary results for land positions for beginning farmers

- Beginning farmers expand their operations only if they are young
- Young beginning farmers expand by owning more and renting more
- Old beginning farmers enter at farm sizes similar to young farmers, but they do not expand much
- If analysis is by years of experience rather than age:
 - Beginning farms expand slightly (influenced by young farmer trends)
 - Established farms decrease slightly by renting less



Shifting age distribution of U.S. farmers

- Farmers no longer “retiring” from farming
- Age distribution for beginning farmers also normal and shifting to the right

Entry and exit rates for U.S. farms

- Informing Secretary Vilsack’s goal of 100,000 new farmers
- Estimated 70-80,000 farmers enter every year
- It is difficult to measure entry rates within first 3 to 6 years of farming
- Exit rates are in the range of 2.5% to 7.5% but depend on years of experience



Land ownership and tenancy growth strategies of U.S. farms

- Both young and beginning farmers need financing as they enter farming
- Similar farm sizes for young and all beginning farmers
- It's mostly young beginning, not all beginning farmers that expand their operations
- Young farmers need additional capital after entering
- Informing debate among farm management professionals about renting vs. buying farmland



Policy implications

- Historically, farm bill policy has been supporting beginning farmers with 10 years or less of experience, regardless of their age.
- Young farmers may be motivated to expand their operations and significantly contribute to agricultural production.
- Older beginning may be entering farming for the lifestyle and/or financial benefits and may be helping to revitalize rural communities.



Policy Implications

- Informing debate among farm management professionals about renting vs. buying farmland
- Ag lenders are interested in inter-generational farm transfers (capital requirements)
- Policy makers and programs supporting young and beginning farmers



For more information, please contact:

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