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An Overview of Beginning Farms and Farmers

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An Overview of Beginning Farms and Farmers

This report uses information from the U.S. Department of Agriculture's Agricultural Resource Management Survey (ARMS, 2013 to 2017) to describe the structural and economic characteristics of beginning farms and illustrate how they differ from more established operations. A beginning farm or ranch is defined as one on which all the operators have had no more than 10 years of experience as a farm or ranch operator. The report provides information about the size and commodity specialization of beginning farms and describes the sources of income, borrowing, wealth, and indebtedness of beginning farm *principal operators*.

From 2013 to 2017, there was an average of 339,400 farms on which all operators were beginning farmers, according to the ARMS. These beginning farms and ranches accounted for 17 percent of all farms in the United States and 8 percent of agricultural production over that span. This report begins with a discussion of all farms; then, to focus on characteristics of farms responsible for most production, the remaining sections exclude farms with annual production value of less than \$10,000. The report also excludes nonfamily farms. Family farms, where the majority of the business is owned by an operator and individuals related to the operator, represented 98 percent of all U.S. farms in 2017.

What Is a Beginning Farm?

There are different ways to define a beginning farm or ranch. This study uses the USDA, Economic Research Service definition of a beginning farm as one on which all operators have had no more than 10 years of experience as an operator on any farm. USDA's National Agricultural Statistics Service (NASS), in its census publication (USDA-NASS, 2014), defines a beginning farm as one in which the principal operator (as opposed to all operators) has no more than 10 years of experience on the farm he or she is currently operating (as opposed to on any farm). As of 2017, NASS changed its census publication to define beginning farms as operations where any producer or principal producer has fewer than 10 years' experience (USDA-NASS, 2019). A greater number of farms are classified as beginning using either the 2014 or 2017 NASS definitions, relative to the ERS definition.



Beginning Farm Characteristics: All Farming Operations

Operators of beginning farms, who tend to be younger and have lower household income and net worth than more established farmers, report facing a number of challenges in expanding their farm business or remaining in business (Ackoff et al., 2017). These challenges include gaining access to land and farm equipment and financing the agricultural business.

Several USDA programs direct resources toward meeting the needs of beginning farmers. The Farm Service Agency (FSA) provides targeted loan programs to help beginning farmers acquire land and capital. These loan programs include the Direct Farm Ownership, Direct Down Payment, Microloans, Direct Operating, Direct Emergency, and Farm Storage Facility Loan programs, as well as loans in connection with an agricultural youth organization. Further financing assistance for agricultural businesses is available from USDA's Rural Development mission area under the USDA Business and Industry Loan and Value-Added Producer Grants programs.

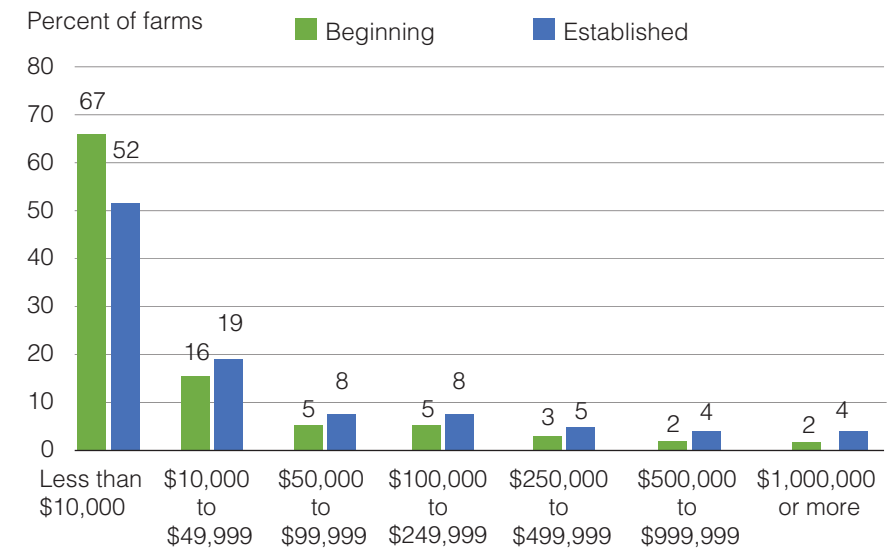
To facilitate access to land, the FSA administers the Transition Incentives Program, which provides retired or retiring landowners with additional payments for expiring Conservation Reserve Program contracts if they agree to sell or rent their land to a beginning or a socially disadvantaged farmer or rancher (American Indian, Alaskan Native, Asian, Black, Native Hawaiian/other Pacific Islander, Hispanic, or female producers are considered socially disadvantaged groups by the FSA). Beginning farmers and ranchers may also receive higher assistance rates if they apply for financial and technical assistance through USDA's Environmental Quality Incentives Program (EQIP) for the installation of select conservation measures. USDA's Risk Management Agency offers benefits to beginning farmers and ranchers who buy crop insurance. Those benefits include exemption from paying certain administrative fees, a higher premium subsidy, and less stringent yield and production history requirements. The USDA also funds a Beginning Farmer and Rancher Development Program to provide training, education, outreach, and technical assistance to beginning farmers.

See the [New Farmers](#) webpage on the USDA site or the [2018 Farm Bill](#) page on ERS' website for more information about USDA programs for beginning farms.

As with established farms, most beginning farms are small, but production is concentrated on large farms.

- From 2013 to 2017, there were 898,100 operators, on average, with no more than 10 years of farming experience on any operation. Of these beginning farmers, a little more than half (461,400) were operators of beginning farms. The rest were operators on farms where not all operators were beginning farmers.
- Beginning farms are more likely than established farms to be very small. Between 2013 and 2017, there was an average of 339,400 beginning farms and 1,691,400 established farms. Of these, 112,200 beginning farms (33 percent) and 808,400 established farms (48 percent) produced at least \$10,000 worth of output (fig. 1).

Figure 1
Share of all beginning and established farms in each production value category, 2013-2017

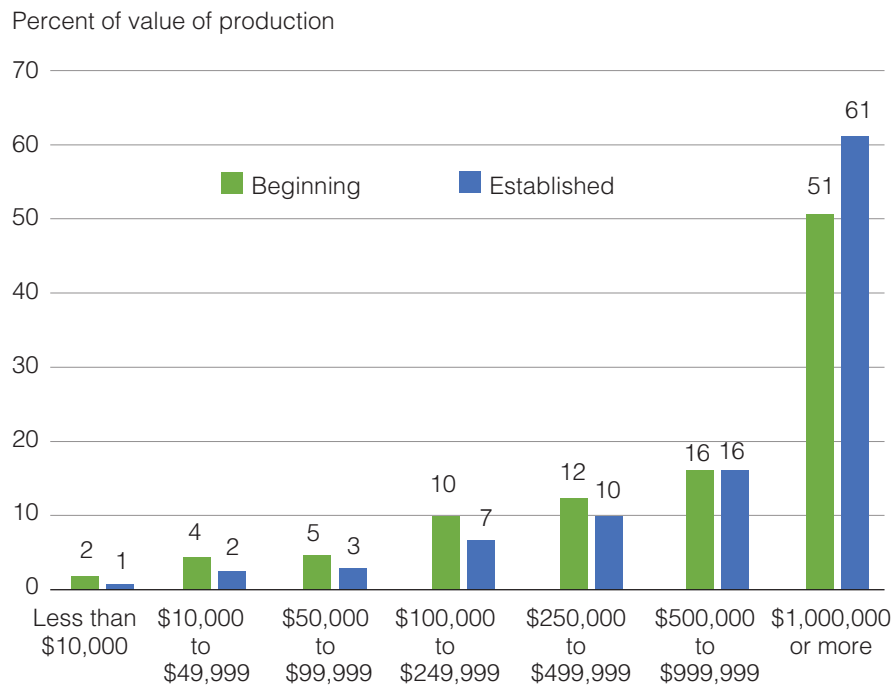


Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2013-2017. Agricultural Resource Management Survey. Categories may not add to 100 percent due to rounding.

Beginning Farm and Farmer Characteristics: Operations With Production Value of \$10,000 or More

- As with established farms, most beginning farms are small-scale operations that, in aggregate, contribute a relatively low share of production. While over two-thirds of beginning farms produce less than \$10,000 in output, these operations account for only 2 percent of all output from beginning farms (fig. 2). Only 18 percent of these small farms have principal operators who report farming as a primary occupation.
- At the other end of the size spectrum, only about 2 percent of beginning farms have annual production value of at least \$1,000,000. However, these large farms are responsible for 51 percent of all output produced by beginning farms.

Figure 2
Share of total value of production from beginning and established farms in each production value category, 2013-2017



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

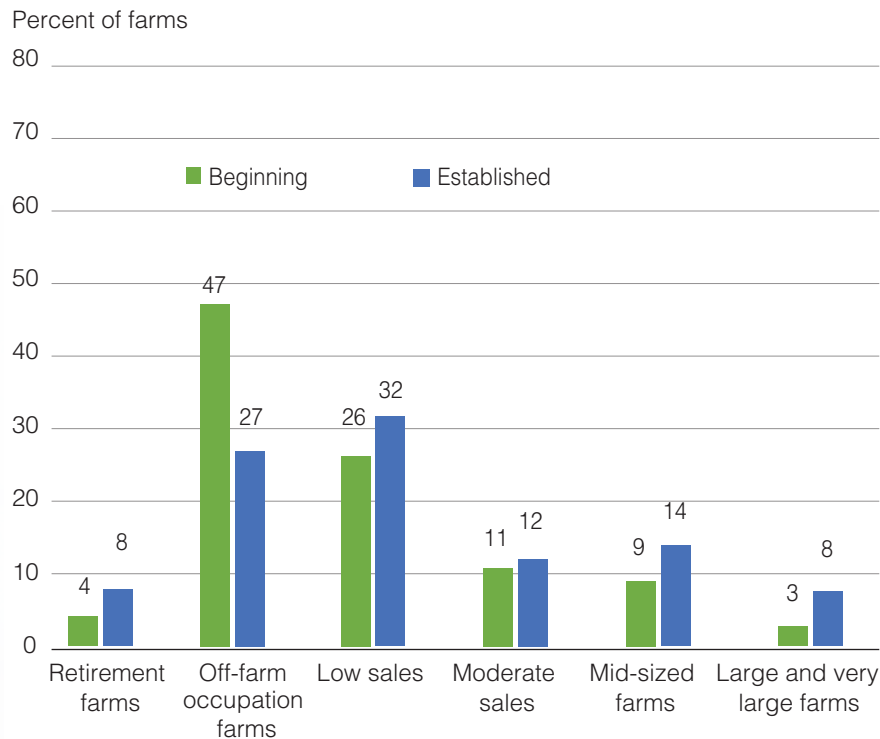
Beginning farms are generally smaller than established farms.

- Beginning farms can be compared to established farms using the ERS farm typology, which disaggregates farms based on the principal operator's major occupation and the operation's gross cash farm income (GCFI) (fig. 3). Gross cash farm income is annual income before expenses, and includes cash receipts, farm-related income, and Government farm program payments.
- Beginning farms generally earn less farm income and operate at a smaller scale. Only 12 percent of beginning farms producing at least \$10,000 in output have a GCFI greater than \$350,000 (compared to 22 percent of established farms), and only 3 percent of these beginning farms are classified as large or very large farms (GCFI of at least \$1,000,000), compared to 8 percent of established farms.

Most beginning farms specialize in beef cattle and row crops.

- As with established farms, beef cattle and cash grains and oilseeds (corn, soybeans, wheat, and sorghum) are the most common commodity specializations for beginning farms (fig. 4).
- Beginning farms comprised about 19 percent of poultry and other livestock (sheep, goats, aquaculture, and other) producers (2013-17) but only about 10 percent of beef cattle producers.
- Beginning farms comprised 12 to 15 percent of cash grain/oilseed, field crop, high-value crop (fruits and vegetables), and rice/tobacco/cotton/peanut (one category) producers.

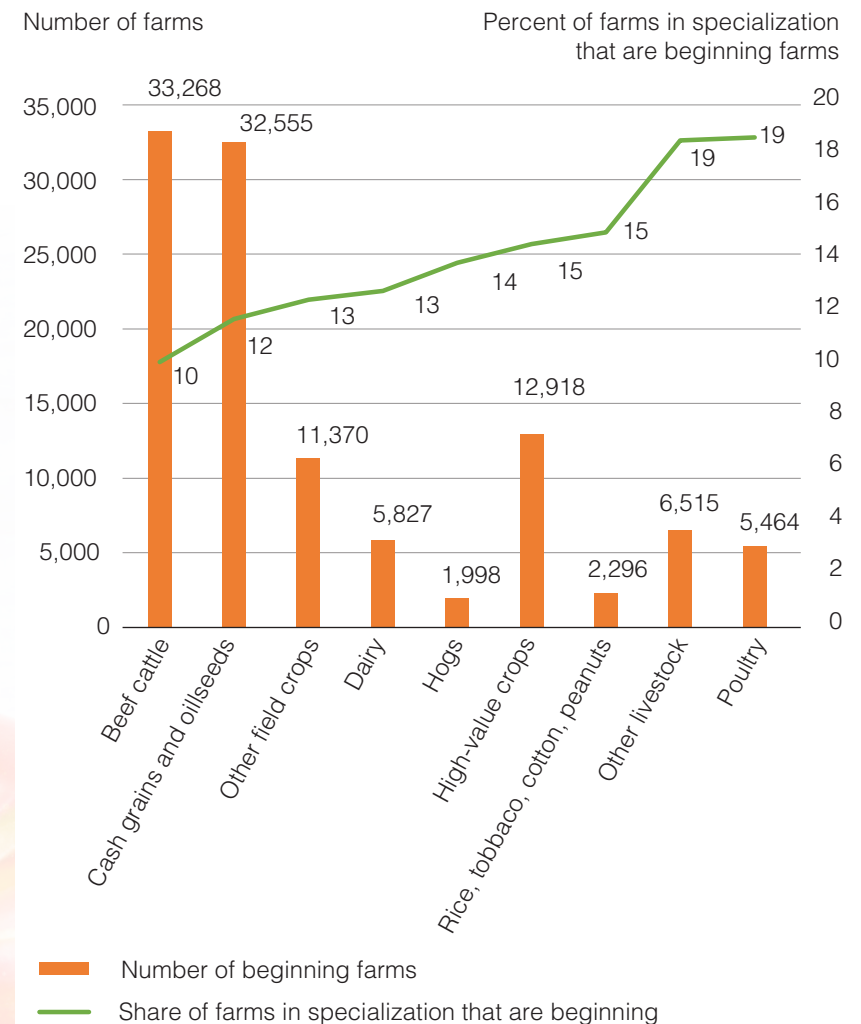
Figure 3
Share of beginning and established farms by ERS farm type, farms producing at least \$10,000 of output, 2013-2017



Note: The figure shows the percent of beginning and established farms by ERS farm type. Only family farms with annual production value greater than or equal to \$10,000 included. Gross cash farm income (GCFI) is annual income before expenses and includes cash receipts, other farm-related income, and Government farm program payments. Retirement farms are farms with GCFI less than \$350,000 for which the principal operator reports being retired. Off-farm occupation farms are farms with GCFI less than \$350,000 for which the principal operator reports a major occupation other than farming. Low- and moderate-sales farms are those on which the principal operator reports farming as his or her major occupation and GCFI is less than \$150,000, and between \$150,000 and \$350,000, respectively. Mid-sized, large, and very large farms are those having GCFI between \$350,000 and \$999,999, \$1,000,000 and \$4,999,999, and \$5,000,000 or more, respectively.

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.

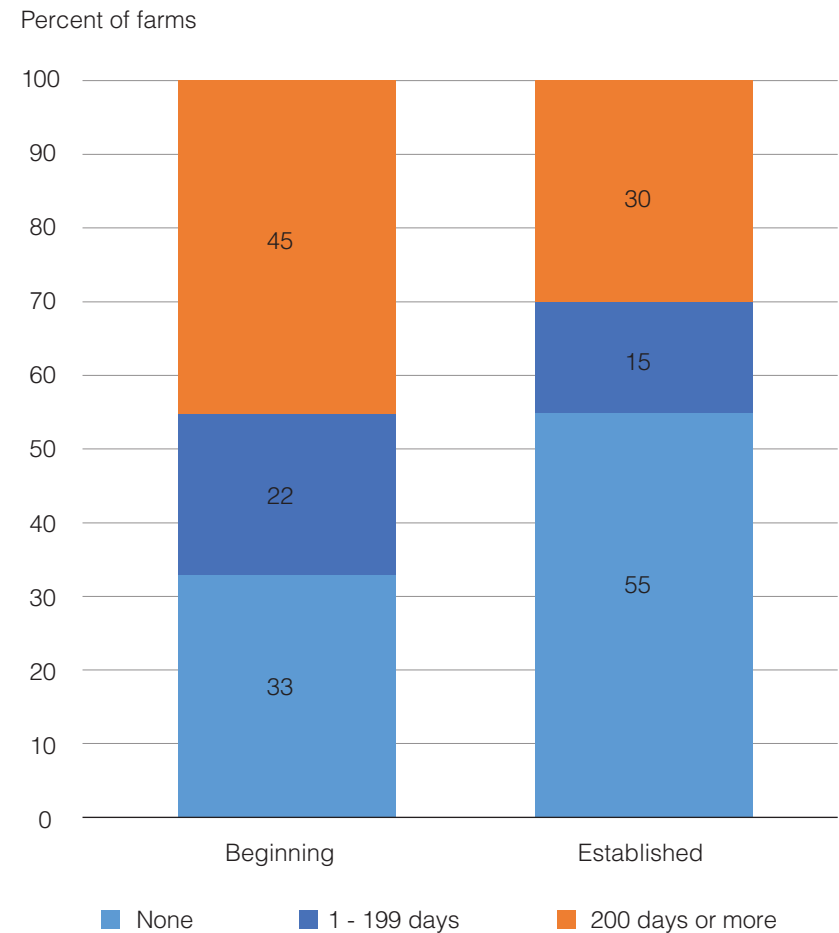
Principal operators of beginning farms are more likely to work off-farm and less likely to be retired from farming than more established operators.

- From 2013 to 2017, only 4 percent of beginning farms were classified as retirement farms (GCFI less than \$350,000 and a principal operator who is retired from farming or ranching), versus 8 percent of established farms.
- 47 percent of beginning farms were classified as an off-farm occupation farm (GCFI less than \$350,000 per year and a principal operator who reports a major occupation other than farming) over 2013-17 versus 27 percent of established farms.
- In 2017, 67 percent of beginning farm principal operators worked off-farm, compared to only 45 percent of established farm operators (fig. 5).
- In 2017, 22 percent of beginning farm principal operators worked off-farm part time (1-199 days) compared to 15 percent of established farm operators. Some 45 percent of beginning farm operators worked off-farm full time (200+ days) compared to 30 percent of established farm operators.

Principal operators of beginning farms tend to be younger than principal operators of established farms.

- Among farms with at least \$10,000 in production, principal operators of beginning farms were 43 years old on average between 2013-17; operators of established farms were on average 63 years old.
- Thirty percent of beginning farm principal operators were age 35 or younger, compared to only 2 percent of principal operators of established farms (fig. 6).
- While beginning farm principal operators are more likely to be young, 10 percent are age 65 or older, compared to 36 percent of established farm operators.

Figure 5
Days worked off-farm by the farm operator, beginning and established farms, 2017

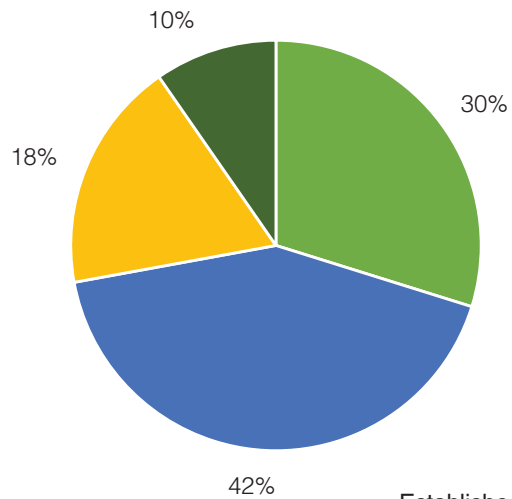


Note: Only family farms with production value greater than or equal to \$10,000 included in analysis. Figure uses data from the 2017 ARMS only. The question on which the figure is based was not asked in the 2013-16 ARMS.

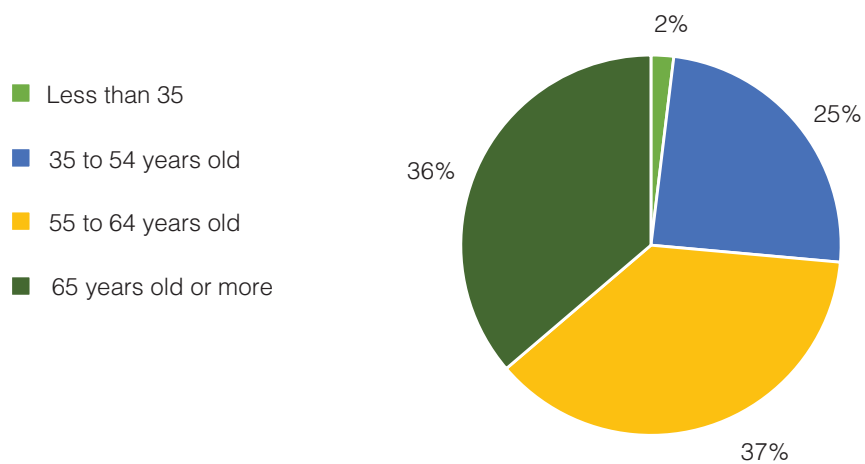
Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2017 Agricultural Resource Management Survey (ARMS).

Figure 6
Age distribution of principal operators of beginning and established farms producing at least \$10,000 of output, 2013-17

Beginning farms



Established farms



- Less than 35
- 35 to 54 years old
- 55 to 64 years old
- 65 years old or more

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, other farm business income, and wages paid to operator and household for on-farm work.

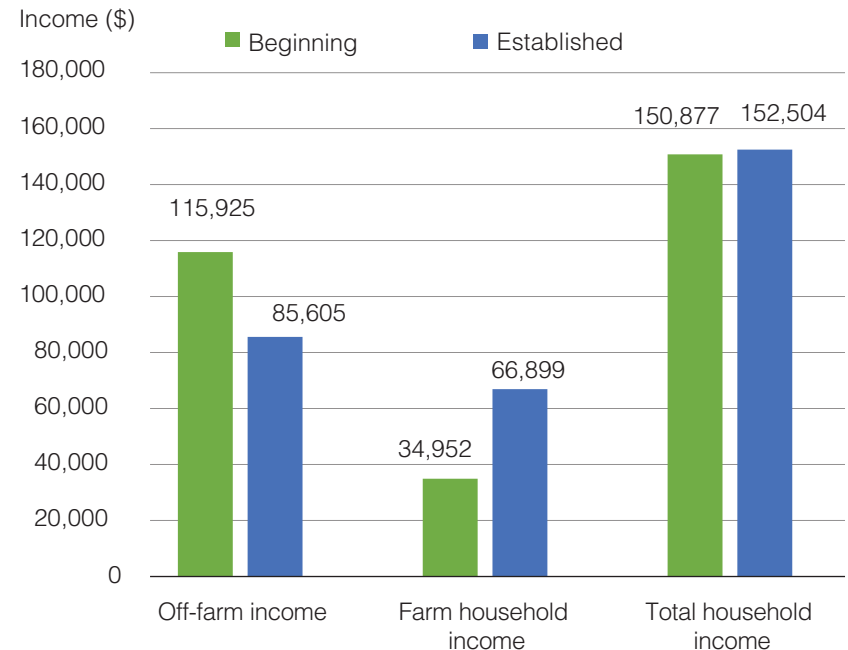
Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2013-2017 Agricultural Resource Management Survey.

Beginning Farm Household Finances

Beginning farm households are more reliant on off-farm income.

- Beginning farm households earned almost as much total household income (\$150,877, on average) as established farms when averaged over 2013-17 (fig. 7).
- Off-farm income represents a greater share of total income for beginning farms (77 percent) than for established farms (56 percent).
- The spouse of a beginning farm operator is more likely to work off-farm than the spouse of an established farm operator. The principal operator's spouse worked off-farm on 60 percent of beginning farms over 2013-17 versus 41 percent of established farms (fig. 8).

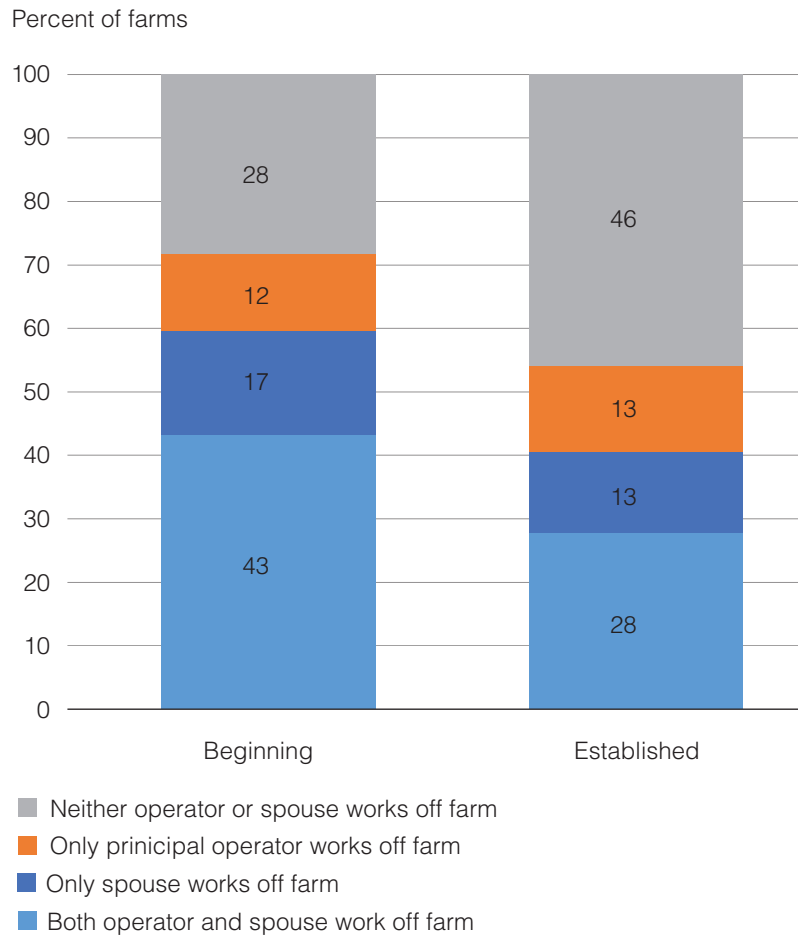
Figure 7
Average farm, off-farm and total household income for beginning and established farms, 2013-17



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 8
Off-farm work choices by operator and spouse, beginning and established farms with married operators, 2013-17



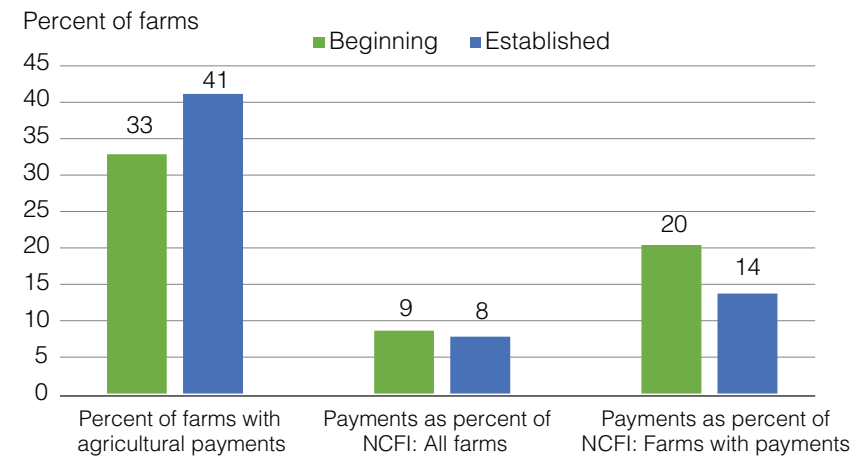
Note: Only family farms with production value greater than or equal to \$10,000 included in analysis. Includes only households with a married principal operator. An operator/spouse is considered to have worked off-farm if he or she received income from wages, salaries and tips (other than farm business income) or off-farm business income.

Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2013-17 Agricultural Resource Management Survey.

A smaller share of beginning than established farm households receive agricultural payments, but the payments represent a larger share of farm income for those who do.

- A third of beginning farms received payments from Federal agricultural programs over 2013-17, compared to 41 percent of established farms (fig. 9). Beginning farms are smaller than established farms, and smaller farms are less likely to receive agricultural payments (Key and Roberts, 2007).
- Beginning farms are less likely to receive payments, but beginning farms receiving payments rely more on those payments than established farms. Of farms receiving payments, those payments accounted for 20 percent of net cash farm income (NCFI) for beginning farms compared to 14 percent for established farms.
- Averaged over all farms in each category, agricultural payments represent a similar share of NCFI for beginning and established farms (9 percent versus 8 percent, respectively).

Figure 9
Share of beginning and established farms with agricultural payments and payments as a percent of net cash farm income (NCFI), 2013-17



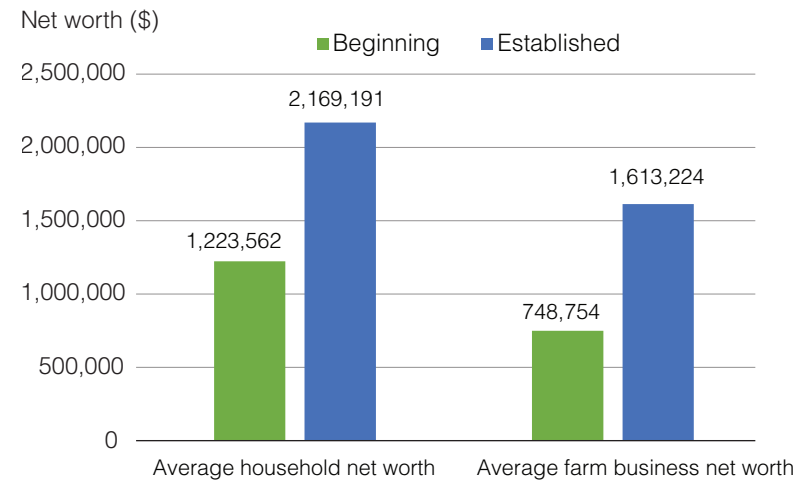
Note: Only family farms with production value greater than or equal to \$10,000 included in analysis. Net cash farm income (NCFI) is gross cash farm income (from crop and livestock sales, Government payments, and other farm-related income) net of costs. Agricultural payments include direct, counter-cyclical, commodity, conservation, and other government payments.

Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2013-17 Agricultural Resource Management Survey.

Beginning farm households have less wealth and a higher debt-to-asset ratio than established farms.

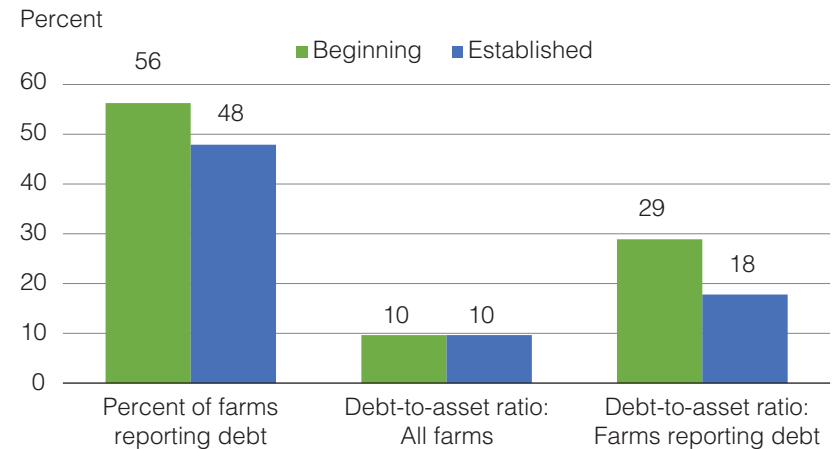
- Consistent with the fact that beginning farms are generally smaller operations with younger principal operators, an average beginning farm household has about half the net worth (farm and non-farm) of an average established farm (\$1.2 million versus \$2.2 million, on average, over 2013-17) (fig. 10).
- Beginning farms are more likely to have some debt: 56 percent of beginning farmers reported having some farm business debt over 2013-17 compared to 48 percent of established farms (fig. 11).
- Beginning farm operators may be more likely to borrow because they (1) generally have less net worth (fig. 10) with which to self-finance production expenses and capital investments, (2) tend to be smaller (fig. 1) with greater incentive to expand to a more efficient scale, and (3) tend to be younger (fig. 6) and further from retirement with a longer time horizon for investments.
- Consistent with having smaller farms, beginning farmers who borrow have less farm business debt than established farms (about \$329,000 versus \$472,000, on average, over 2013-17). However, beginning farms with debt are more highly leveraged, with a debt-to-asset ratio of 29 percent versus 18 percent for established farms with debt (fig. 11).

Figure 10
Average net worth of beginning and established farm households and farm businesses, 2013-17



Note: Only family farms with production value greater than or equal to \$10,000 included in analysis. Household net worth includes all farm and nonfarm assets less farm and nonfarm debt. Farm business net worth includes only farm assets (land, buildings, equipment, etc.) less farm debt (real estate and non-real estate).
Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2013-17 Agricultural Resource Management Survey.

Figure 11
Share of beginning and established farms with farm debt and average debt-to-asset ratio, 2013-17

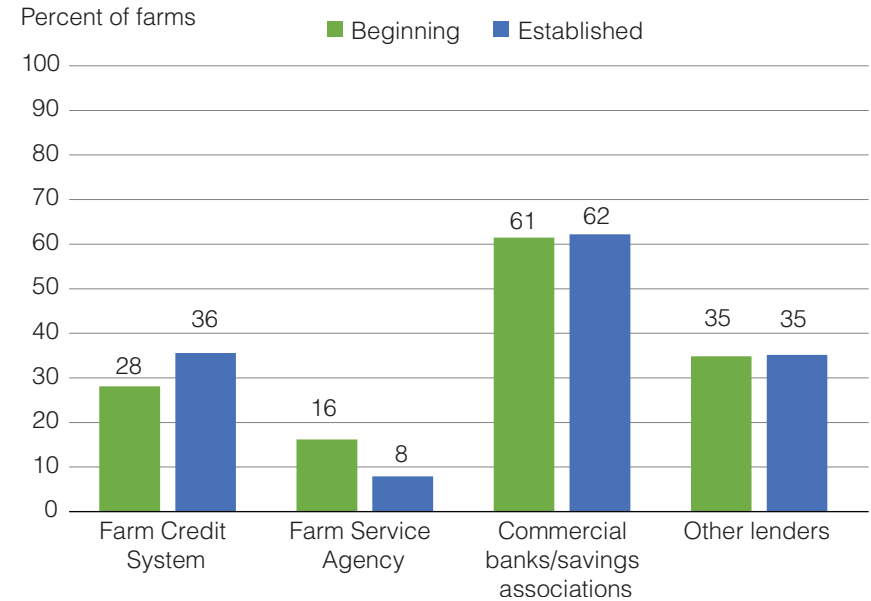


Note: Only family farms with production value greater than or equal to \$10,000 included in analysis. Debt refers to farm business debt.
Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2013-2017 Agricultural Resource Management Survey.

Beginning farms with farm business debt are more likely than established farms to obtain loans from USDA's Farm Service Agency (FSA).

- Among farms with farm business debt, both beginning and established farms are most likely (61 and 62 percent, respectively, of all loan sources to farms) to borrow from commercial banks (fig.12).
- Only 28 percent of beginning farms with farm business debt obtained loans from Farm Credit System institutions over 2013-17, compared to 36 percent of established farms. Larger, and thus more established, farms are generally more likely to borrow from the Farm Credit System (Key et al., 2019).
- In contrast, 16 percent of beginning farms (versus only 8 percent of established farms) obtained loans from USDA's Farm Service Agency (FSA). FSA operates several loan programs that target beginning farmers.

Figure 12
Share of beginning and established farms borrowing by loan source, 2013-17



Note: Only family farms with production value greater than or equal to \$10,000 included in analysis. Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2013-17 Agricultural Resource Management Survey.

Conclusions

- **Between 2013 and 2017, the U.S. farm sector included an average of 339,400 beginning farms and 898,100 beginning operators.** These beginning farms and ranches accounted for 17 percent of all farms in the United States and 8 percent of agricultural production.
- **Most beginning farms are small, but production is concentrated on large farms.** Over two-thirds of beginning farms produce less than \$10,000 in output, and are responsible for only about 2 percent of all output from beginning farms. In contrast, the 2 percent of beginning farms with at least \$1,000,000 in output are responsible for over half of all beginning farm output.
- **Beginning farms generally operate at a smaller scale and earn less farm income than established farms.** Among farms producing at least \$10,000 in output, only 12 percent of beginning farms earn more than \$350,000 in GCFI, compared to 22 percent of established farms.
- **Principal operators of beginning farms tend to be younger and are less likely to be retired.** Among farms with at least \$10,000 in production, principal operators of beginning farms are age 43, on average, compared to 63 for operators of established farms.
- **Beginning farm households work more off-farm and are more reliant on off-farm income.** Among farms producing at least \$10,000 in output, off-farm income represents 77 percent of total income for beginning farms versus 56 percent for established farms.
- **Beginning farm households have less wealth and have more debt relative to their assets than established farms.** On average among farms producing at least \$10,000 in output, a beginning farm household has \$1.2 million in net worth compared to \$2.2 million for established farms. Beginning farms with debt have a debt-to-asset ratio of 29 percent versus 18 percent for established farms with debt.

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