



Experience Counts

Farm Business Survival in the U.S.

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- Farming, like other businesses, exhibits high turnover, with many thousands of existing farms going out of business each year.
- As in other industries, new farm businesses enter at a high rate and new entrants subsequently exit at high rates, irrespective of the size of the farm or the age of the operator.
- Exit rates fall as businesses age to 5-9 years old, and then fall again, although modestly, for more experienced farm businesses. Experience seems to provide an important advantage to well-established businesses that can learn quickly and efficiently.

An author interview is featured online at:
www.ers.usda.gov/amberwaves/

New farm businesses exit the sector at a high rate. More specifically, recently started farm businesses are much less likely to remain in farming than farms that have been in business for 5 years, which are, in turn, less likely to survive than those that have been in business for 10 years or more. The pattern holds among large farms and small, independent of the separate impact of farm size, whereby large farms are more likely to last. The pattern also holds among young and old operators, again independent of the profound impact of operator age, whereby farms with middle-aged operators are more likely to survive.

It's not surprising that an operator's age has a strong link to the survival of a farm business. Most farms, even very large ones, remain family-operated businesses whose operators will often sell or close the business as they reach retirement. It's also not surprising to see farm size matter—production has been shifting sharply to much larger farms over the years. But we know far less about the links between a farm business's age and its chances for survival.

Why should we care about business age and survival? While not all farm exits represent business failures, for those that do, failure can be costly. Entrants to commercial farming commit substantial amounts of money and effort to the enterprise, and some of the costs of exiting might be avoided if the risks of entry and the causes of failure were better understood. It is exactly because the costs of exiting farming are high that several Federal programs, often in partnership with States, local agencies, and universities, target assistance at beginning farmers and ranchers. Some beginning farmer and rancher programs aim to improve skills by providing funding to universities and community groups that offer training in areas such as risk management, technical production, or financial management. Others provide support for farm practices, such as increased cost-sharing in conservation programs. Still others offer financing assistance through direct and guaranteed farm ownership and farm operating loans.

How We Analyze Business Age and Survival

A farm business is not the same as the set of physical assets (land, equipment, and buildings) that make up a farm site. When a business closes, the land farmed by that operator might go out of production, and the other assets might be sold or put to other uses. More commonly, the land operated by that business is rented by or sold to another farm business. And because farmers may rent land and other assets, farm businesses can start and close much more frequently than farmland can be converted to another use.

With data from the census longitudinal file, ERS linked farm records from five censuses of agriculture conducted in 1978, 1982, 1987, 1992, and 1997 (see box, "Data Used in the Analysis"). Researchers identified farms that were operating in 1992, and then noted whether they were still



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operating in 1997. Information from the file allowed the measure of several key factors that might have prompted farm exit by 1997:

- The size of the farm in 1992,
- The age of the principal farm operator in 1992, and
- The age of the farm business in 1992.

Farm businesses often exit farming—35 percent of those recorded in the 1992 Census were not there in 1997. This reflects, in part, the large share of very small farms, which enter and exit prolifically. But many observers might find the exit rates for other farms surprisingly high as well. For example, 17 percent of large, well-established farms with middle-aged operators exited during 1992-97.

The data were not designed to track businesses over time, and so errors in linking records may lead to an overstatement of exit. Still, these patterns closely match those observed for many other industries and countries. For example, during this period, about 27 percent of Canadian farms exited, while 39 percent of small U.S. manufacturing plants and 30

percent of chain retail stores closed. Across Italy, France, Germany, and the United States, between 27 and 40 percent of private businesses exited between 1992 and 1997.

The Effects of Farm Business Age on Survival

ERS assigns farms to 80 different classes, based on 5 categories of sales, 4 of operator age, and 4 of business age. Since farm size and operator age are expected to affect farm survival, the effects of farm business age on survival can be isolated by examining the exit rates for different farm size and age categories.

Each class has thousands of farms. That is, while one might expect large farms to be well established, many are new entrants, including dairy and poultry operations with newly constructed facilities and new crop operations that rent much of their land. Or, while one might expect older operators to have been in farming for many years, thousands of new businesses have operators who are at least 65 years old. Some older entrants may be farming part-time after retiring from

another occupation, but others are operating new and large farm businesses, sometimes with a younger partner. Longitudinal data show that several businesses started by an older operator as very small operations have grown into very large operations over a decade or more.

With many farms in each category, one can obtain meaningful measures of exit and survival. Operator age, farm sales, and age of business all have strong impacts on farm business exits.

As one would expect, the entire pattern of exit rates shifts up sharply among the oldest farm operators. Exit rates across all sizes and business ages exceed 30 percent when the operators are 65 or older.

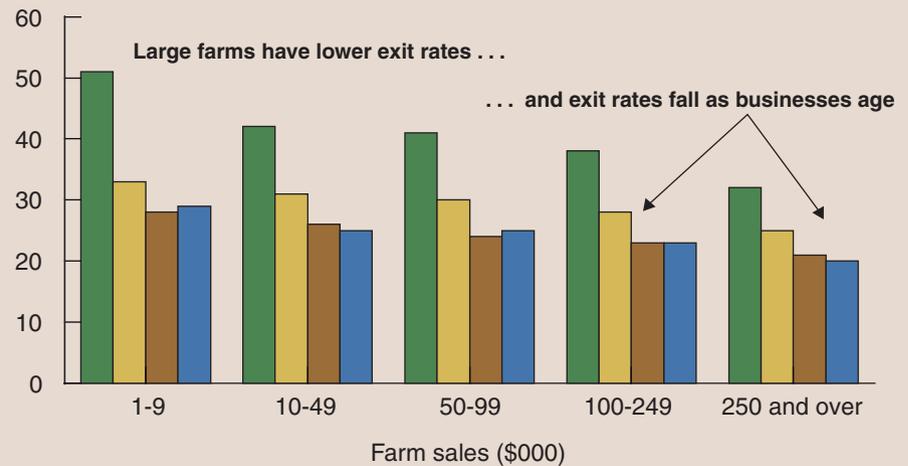
Farm size also matters. Across every operator and business age class, larger farms are less likely to exit, and the effects of size are great. What's more, the effects are continuous. In any given business and operator age category, the largest farms exit less often than the next largest class (\$100,000-\$249,999 in sales), which, in turn, exit less than the next smaller farm class (\$50,000-\$99,999), and so on.

But the primary interest here is in business age, and several clear patterns stand out.

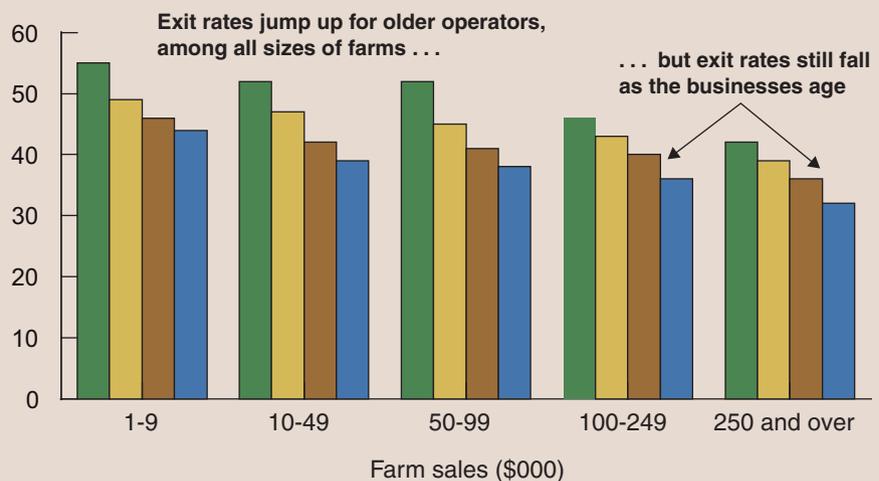
- For any farm size or operator age class, new entrants (0-4 years old) are more likely to exit.
- The effects of business age are generally even larger than the effects of farm size. For example, among the largest farms (at least \$250,000 in sales), the newest businesses are 60-90 percent more likely to exit than well-established farms, for each operator age class except the oldest (where the newest are 30 percent more likely to exit). By contrast, the smallest farms in every business and operator age category are 30-50 percent more likely to exit than the largest.

Exit rates fall as farm businesses age

Exit rate of operators under age 45 (percent)



Exit rate of operators age 65 and older (percent)



Source: USDA, Economic Research Service tabulations based on USDA, National Agricultural Statistics Service data.

- A little experience matters a lot for the youngest operators. Exit rates among young operators drop sharply as their businesses mature from 0 to 4 years old to 5 to 9 years old.
- Experience continues to matter, at a diminishing rate, as farm businesses age. That is, well-established businesses are more likely to survive, in most size and operator age classes, than those that are 10-13 years old, which, in turn, have greater survival prospects than those that are 5-9 years old.

New farm businesses that survive also grow, as evidenced by changes in acreage operated by surviving field crop farms in each size and age class. This part of the analysis is confined to field crop farms, where acreage is a useful measure of size. On average, well-established farm

businesses with operators under 65 years old operated the same amount of acres in each census. That is, some of those farms grew and some shrank, but the total farmland in well-established surviving farms remained the same in succeeding census years. But, surviving new businesses (0-4 years old) grew, on average. Again, some grew and some shrank, but in total these farms added 10 percent more acreage as they aged to the 5-9 year category, and another 10 percent as they reached 10-13 years.

U.S. farmland acreage has declined little over time, falling by about 1.4 percent between 1992 and 1997 and by about 7.5 percent over 1978-2002. If, on average, well-established farms retained acreage, then the acreage added to new businesses must come from exiting farms. Indeed, the acreage operated by field crop farms that left farming between 1992 and 1997



Data Used in the Analysis

Every 5 years, the U.S. Department of Agriculture’s National Agricultural Statistics Service (NASS) administers the census of agriculture, which records information on location, acreage, production, sales, expenses, and operator characteristics for all farms in the United States. NASS summarizes census findings at: www.nass.usda.gov/Census_of_Agriculture/index.asp.

The census longitudinal file links individual farm-level census records over time by using a code, the census file number (CFN), to link census forms to operator names and addresses in each census year. Because ongoing farm businesses retain the same CFNs, while new farm businesses receive new ones, a farm business’s responses to different censuses can be assembled together using its CFN. Specifically, statisticians linked CFNs and associated farm records for the 1978, 1982, 1987, 1992 and 1997 censuses.

We defined five classes of farm size based on gross sales. The largest, with \$250,000 or more in annual sales, accounted for

6.5 percent of U.S. farms in 1992, but 62.5 percent of farm sales. The smallest, farms with less than \$10,000 in 1992 sales, accounted for 47 percent of all farms and 2 percent of farm production.

Next, we defined four classes for the principal operator’s age in 1992: 44 years or younger; 45-54; 55-64; and 65 years or older. Finally, we developed four classes of business age, depending on when the business was first recorded in the longitudinal file. A farm business that first appeared in the 1992 census was 0-4 years old in 1992. If it were an older business, it would have appeared in the 1987 census. By similar reasoning, farms that first appeared in 1987 would be 5-9 years old, and those that first appeared in 1982 would be 10-13 years old, in 1992. Of course, farms that first appeared in 1978 were at least 14 years old in 1992, and could be much older. We refer to the youngest farms as “new entrants” and farms in existence since at least 1978 as “well-established” farm businesses.



Ron Nichols, USDA

shrank sharply prior to exit, by 15 to 20 percent during 1987-92.

Why Does Business Age Matter?

Many preharvest crop decisions (such as the timing and extent of soil preparation, seeding, and pest management) vary with local soil and weather conditions, and operators often learn through trial and error as much as through training, extension services, and suppliers. Similarly, successful livestock enterprises require breeding, feeding, and culling savvy that improves with experience. Marketing decisions—when to sell, how much, to whom, and under what kind of arrangement—also benefit from experience and new information. Moreover, the relevant experience is specific to a particular farm business (encompassing the commodities being produced, the services pro-

vided, and the resources available to that business), which is why business age matters, and not simply the operator's age and personal experience.

The total number of U.S. farms has changed little in recent years. High exit rates are offset by high rates of entry into farming. There is no apparent shortage of people willing to try farming, but the challenge is in creating a viable farm business.

Some Federal programs are directed at beginning farmers and ranchers, in part because of concerns about the high cost of entry into farming. ERS's analysis suggests that exit rates are significantly higher for businesses with less than 5 years of experience. Challenges lie in understanding the types of businesses that specific programs ought to target and in identifying the appropriate mix of services that programs should deliver. That is, do new and

prospective entrants have different needs than businesses that have survived the first few years? Who is best targeted by information and training programs, and who is best targeted by cost-share and financial assistance programs?

This tailoring of aid is important because some turnover among new entrants may be a strength of U.S. agriculture and an important source of productivity growth. New farmers who can realize high levels of productivity survive and expand, while those who cannot exit quickly, freeing resources for subsequent entrants. Farm businesses that survive often apply new techniques and equipment, and their operators have learned how to make effective decisions, further amplifying farm productivity. \mathbb{W}

This article is drawn from ...

Understanding U.S. Farm Exits, by Robert A. Hoppe and Penni Korb, ERR-21, USDA, Economic Research Service, June 2006, available at: www.ers.usda.gov/publications/err21/

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"Small Farms Can Grow Into Large Enterprises," by Doris Newton, in *Amber Waves*, Vol. 3, Issue 2, April 2005.

"Productivity and Firm Dynamics: Evidence from Microdata," Organisation for Economic Co-operation and Development, *OECD Economic Outlook* 69 (June 2001): 209-223.